

Criterion 1	Vision, Mission and Program Educational Objectives	60M
1.1	State the Vision and Mission of the Department and Institute	5M
1.2	State the Program Educational Objectives (PEOs)	5M
1.3	Indicate where and how the Vision, Mission and PEOs are published and disseminated among stakeholders	10M
1.4	State the process for defining the Vision and Mission of the Department, and PEOs of the program	25M
1.5	Establish consistency of PEOs with Mission of the Department	15M

Criterion 1	Vision, Mission and Program Educational Objectives	60M
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1. VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (60)

1.1. State the Vision and Mission of the Department and Institution (5)

(Vision statement typically indicates aspirations and Mission statements states the broad approach to achieve aspirations)

(Here Institution Vision and Mission statements have been asked to ensure consistency with the department Vision and Mission statements; the assessment of the Institution Vision and Mission will be taken up in the Criterion 10)

VISION OF THE INSTITUTE

To be a leading institution of women empowerment producing internationally accepted professionals with psychological strength, emotional balance and ethical values.

MISSION OF THE INSTITUTE

M1: To empower women engineers through innovative teaching learning practices.

M2: To encourage higher education and research with well-equipped laboratories.

M3: To promote entrepreneurship through creativity and innovation.

M4: To promote environmental sustainability and inculcate ethical, emotional and social consciousness.

VISION OF THE DEPARTMENT

To be a center of excellence for producing proficient and socially responsible women electrical engineers for industry outreach through quality education and research

MISSION OF THE DEPARTMENT

M1: To empower the students with skills in current trends through effective teaching- learning process for professional growth.

M2: To foster an eco-system for higher education and research in Electrical Engineering through constant industry interaction.

M3: To facilitate practical expertise in enterprise development and energy environment by promoting innovation and social consciousness.

1.2. State the Program Educational Objectives (PEOs) (5)

(State the PEOs (3 to 5) of program seeking accreditation)

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

The program is expected to enable the students after three to five years of their graduation.

Graduates will be able to

PEO1: Possess strong educational foundation in Electrical Engineering for making successful careers in core and allied industry.

PEO2: Develop solutions for realistic problems in the society through innovation and lifelong learning.

PEO3: Exhibit communication skills, leadership qualities, social and environmental responsibility, ethical values in successful career.

1.3. Indicate where and how the Vision, Mission and PEOs are published and disseminated among stakeholders (10)

(Describe where websites, curricula, posters, etc.) the Vision, Mission and PEOs are published and detail the process which ensures awareness among internal and external stakeholders with effective process implementation).

(Internal stakeholders may include management governing body members, faculty, support staff, students etc. and external stakeholders may include employer, industry, alumni, funding agencies, etc.).

Dissemination of information of Vision, Mission and PEOs is done through institute Website and Newsletters. To ensure its wide spread to every nook and corner of the college; posters are prominently displayed at important locations like HoD Chamber, Staff Rooms and at highly accessible areas like Classrooms, Notice Boards, at the main entrance of the department.

Some of the means are listed below:

➤ **Vision and Mission of the Institute are -**

Published in	Disseminated through	Displayed at
<ul style="list-style-type: none"> • Institution Website • Institution Level Newsletter • Institution Magazine • Institution Brochure • Placement Brochure • Lab Manuals • Assignment Books 	<ul style="list-style-type: none"> • FDPs • Seminars • Workshops • Student Chapter Events • Alumni Meetings • Parents Meeting • First Year Orientation Program 	<ul style="list-style-type: none"> • Institution Library • Principal Chamber • Canteen • Classrooms • Laboratories • Administrative office • Seminar Hall • Notice Boards

➤ **Vision and Mission of the Department are –**

Published in	Disseminated through	Displayed at
<ul style="list-style-type: none"> • Department Webpage • Department Newsletter • Department Magazine • Department Event Brochure • Department Placement Brochure • Lab Manuals • Assignment Books 	<ul style="list-style-type: none"> • FDPs • Seminar • Workshops • Student Chapter Events • Alumni Meetings • Parents Teacher Meeting • First Year orientation program 	<ul style="list-style-type: none"> • Department Library • HoD Chamber • Department Notice Boards • Classrooms • Labs • Seminar Hall

➤ **Department PEOs are –**

Published in	Disseminated through	Displayed at
<ul style="list-style-type: none"> • Department Website • Department Newsletter • Department Magazine • Dept. Event Brochure • Dept. Placement-brochure • Lab Manuals • Assignment Books 	<ul style="list-style-type: none"> • FDPs • Seminar • Workshops • Student Chapter Events • Alumni Meetings • Parents Teacher Meeting 	<ul style="list-style-type: none"> • Department Library • HoD Chamber • Department Notice Boards • Classrooms • Labs • Seminar Hall

1.4. State the process for defining the Vision and Mission of the Department, and PEOs of the program (25)

(Articulate the process for defining the Vision and Mission of the department and PEOs of the program)

A.The department established the Vision and Mission through a consultative process involving the stakeholders of the department.

Process of defining the Vision and Mission of the Department

- Vision and Mission of the institution is taken as the reference point.
- After series of meetings, discussions with internal stakeholders (Governing Body Members, Faculty Members and Students) and external stakeholders (Parents, Employers, Industry, Alumni) by the Program Advisory Committee (HoD, Program Coordinator, and two senior faculties), the views and feedback are collected.
- The views are reviewed and analyzed in line with the Vision and Mission of the Institute.
- A preliminary copy is prepared by the Program Advisory Committee.
- An extensive interactive session is conducted with the Governing Body Members and the drafted copy of Vision and Mission is presented for approval.

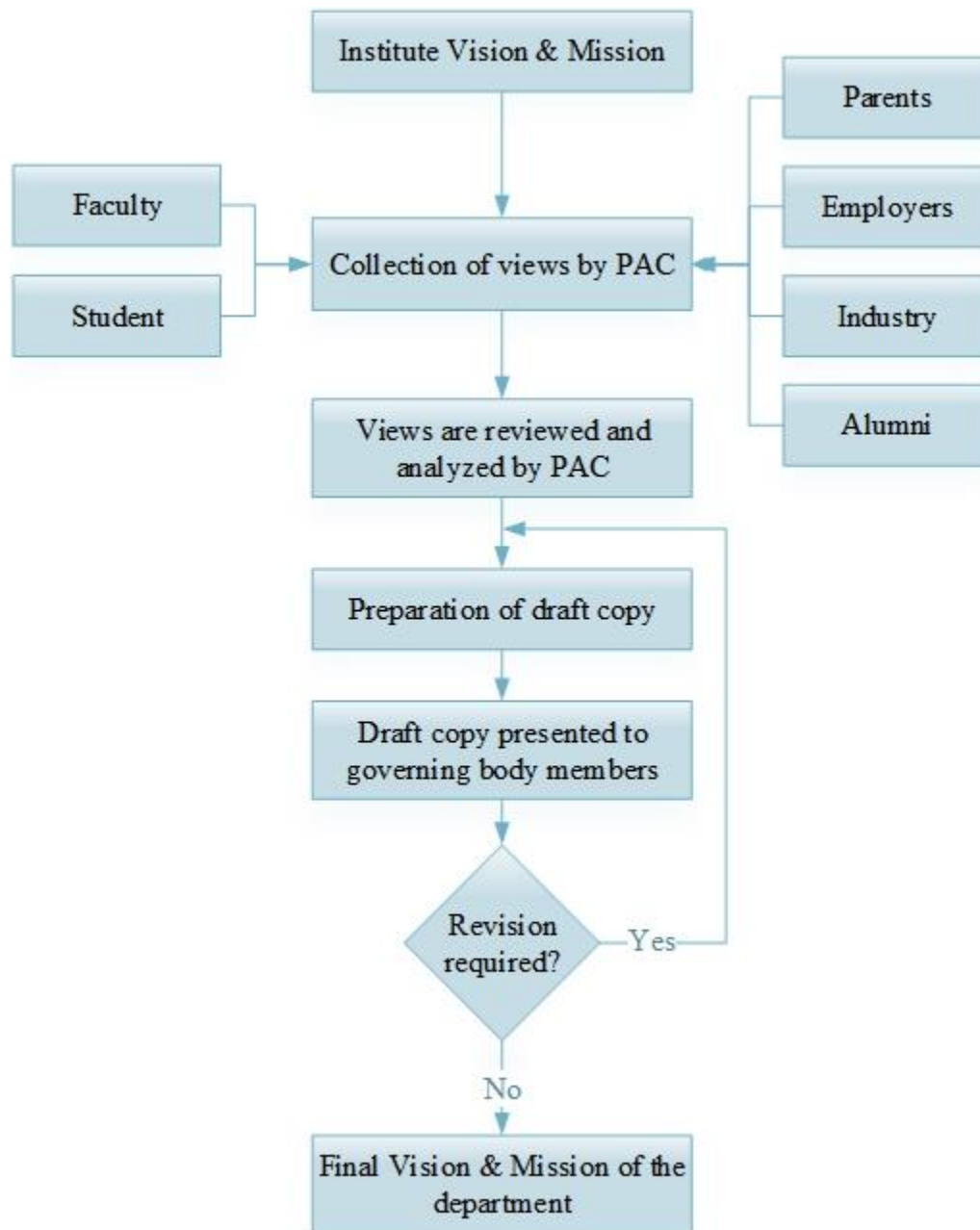


Figure 1.4.1 Flow chart for defining department vision and mission

B. The Program Educational Objectives (PEOs) was established through a consultative process involving all stakeholders such as Students, Alumni, Industry, Faculty and Employer.

Process of defining the PEOs of the Department

- Vision and Mission of the Department and POs defined by NBA are taken as reference.
- Views are collected from internal stakeholders (Governing Body Members, Faculty Members and Students) and external stakeholders (Parents, Employers, Industry, Alumni) for analysis by Program Advisory Committee (HoD, Program Coordinator and two senior faculties) after series of discussions and meetings.
- Based on the views collected by Program Advisory Committee (PAC), a draft copy is formulated.
- An extensive interactive session is conducted and the draft copy is presented to Governing Body Members for approval.

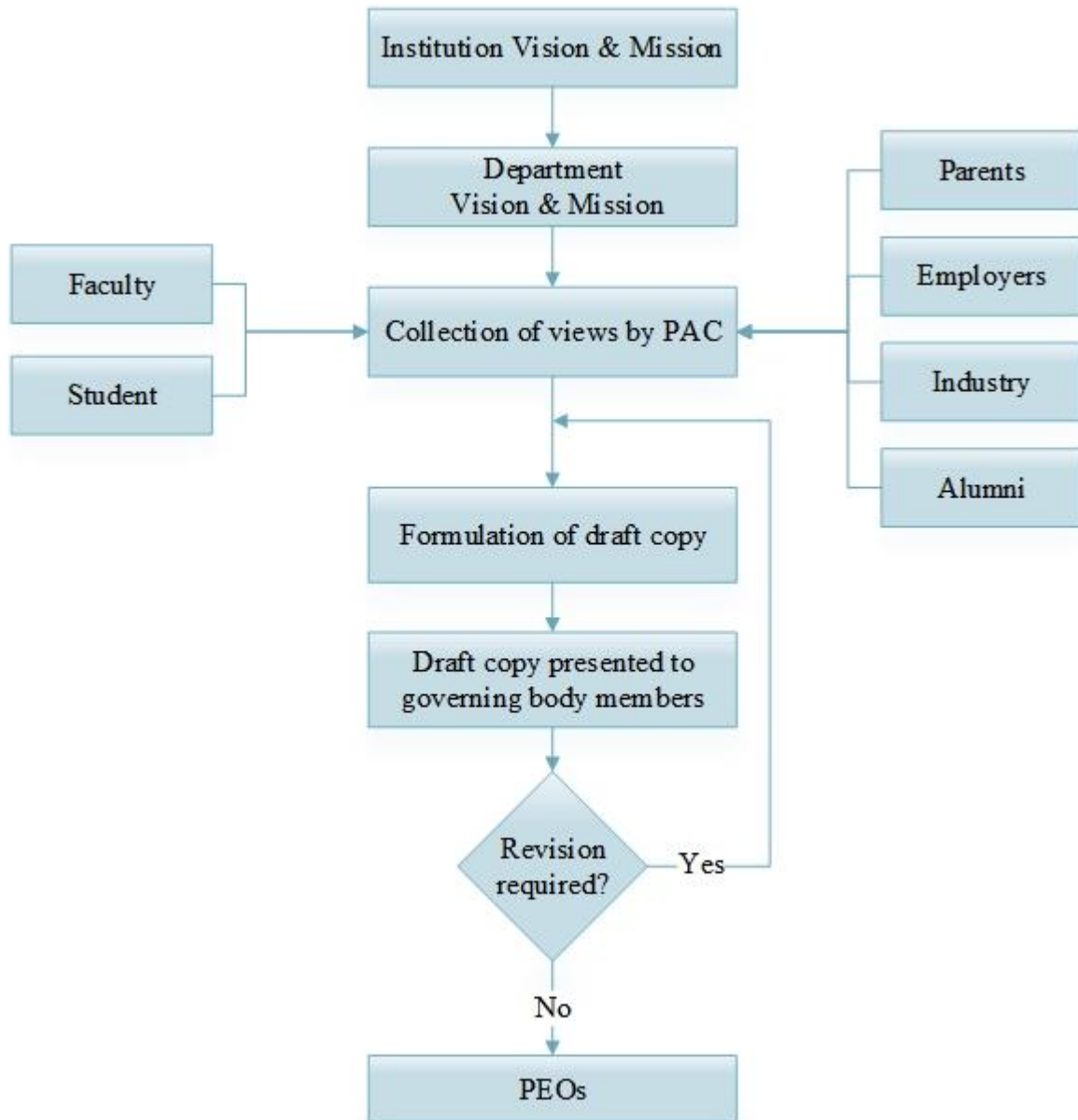


Figure 1.4.2 Flow chart for defining PEOs

1.5 Establish consistency of PEOs with Mission of the Department (15)

(Generate a Mission of the department- PEOs matrix with justification and rationale of the mapping)

There are three Mission statements of the Department and three PEOs of Electrical and Electronics Engineering Program. The consistency between PEOs and Mission of the department was established by the faculty members of the Department.

PEOs \ Mission Key elements	M1 Skills in Current Trends	M2 Higher Education & Research	M3 Personality Skills, Leadership Qualities, Ethical values
PEO1: Possess strong educational foundation in Electrical Engineering for making successful careers in core and allied industry.	3	3	1
PEO2: Develop solutions for realistic problems in the society through innovation and lifelong learning.	2	3	1
PEO3: Exhibit communication skills, leadership qualities, social and environmental responsibility, ethical values in successful career.	1	1	3

Table 1.5.1: Mapping of Department Missions with PEOs

PEO1	M1 Skills in Current Trends	M2 Higher Education & Research	M3 Personality Skills, Leadership Qualities & Ethical Values
Possess strong educational foundation in Electrical Engineering for making successful careers in core and allied industry.	3	3	1
<p>M1: PEO1 has substantially high correlation with Mission1 as the empowerment comes from practical knowledge which is provided through courses offered by the Program and Bridge Courses.</p> <p>M2: PEO1 has substantially high correlation with Mission 2 as the strong education skills enhance lifelong learning skills and improve research.</p>			

Table 1.5.2a PEO1 Justification with Department Mission key elements

PEO2	M1 Skills in Current Trends	M2 Higher Education & Research	M3 Personality Skills, Leadership Qualities, Ethical Values
Develop solutions for realistic problems in the society through innovation and lifelong learning.	2	3	1
<p>M1: PEO2 has moderate correlation with Mission1 as the empowerment can be achieved through lifetime learning and developing solutions to real time problems in society.</p> <p>M2: PEO2 has substantially high correlation with Mission 2 as the solutions to the real problems of society can be investigated through innovation with the cooperation of industry.</p>			

Table 1.5.2b PEO2 Justification with Department Mission key elements

PEO3	M1 Skills in Current Trends	M2 Higher Education & Research	M3 Personality Skills, Leadership Qualities & Ethical Values
Exhibit communication skills, leadership qualities, social and environmental responsibility, ethical values in successful career.	1	1	3
M3: PEO3 has substantially high correlation with Mission 3 as the leadership characteristics; communication skills facilitate practical expertise in enterprise development and energy environment.			

Table 1.5.2c PEO3 Justification with Department Mission key elements

Note: *M1, M2.... Mn are distinct elements of Mission statement. Enter correlation levels 1, 2 or 3 as defined as below.*

1: Slight (Low)

2: Moderate (Medium)

3: Substantial (High)

Criterion 2	Program Curriculum and Teaching-Learning Processes	120M
2.1	Program Curriculum	20 M
2.2	Teaching – Learning Processes	100 M

2. Program Curriculum and Teaching-Learning Processes

2.1. Program Curriculum (20)

2.1.1. State the Process Used to Identify Extent of Compliance of The University Curriculum for Attaining the Program Outcomes (POs) And Program Specific Outcomes (PSOs) As Mentioned in Annexure I. Also Mention the Identified Curricular Gaps, If Any (10)

(State the process details; also mention identified curricular gaps).

Vignan's Institute of Engineering for Women is affiliated to Jawaharlal Nehru Technological University, Kakinada. So, the program curriculum is as per the scheme and syllabus described by JNTUK, Kakinada. Jawaharlal Nehru Technological University (JNTUK) updates the syllabus every three years, by taking feedback from retired professors and senior faculty from university, eminent persons from industry, principals & faculty of affiliated colleges. Four year undergraduate program is designed for a span of 8 semesters. Lateral entries are to be studied 3 years (6 semesters), from second year onwards.

JNTUK follows R-13 regulations for 2013, 2014 and 2015 admitted batches similarly R-16 regulations for 2016, 2017 and 2018 admitted batches.

The year of study and their respective regulation for each academic year mentioned is given in the below table.

Academic year	I Year	II Year	III Year	IV Year
CAY (2019-20)	R-19	R-16	R-16	R-16
CAYm1 (2018-19)	R-16	R-16	R-16	R-13
CAYm2 (2017-18)	R-16	R-16	R-13	R-13

Table B: 2.1.1.a: Academic year wise regulations for each year

The curriculum of Electrical and Electronics Engineering program given by the university is a composition of courses related to basic engineering courses, software-related courses, value/attitude related courses, program basic core and contemporary courses that make the students apply theoretical concepts learnt for practical implementation with social consciousness and ethics. The course modules of R-13 and R-16 regulations of the Electrical & Electronics Engineering program are given in Table B: 2.1.1.b and compared in Figure B: 2.1.1.a

Sl. No.	Types of courses	No. of Courses R13-Regulations	No. of Courses R16-Regulations
1	Humanities Sciences including Management Courses (HS)	8	6
2	Basic Sciences (BS)	7	7
3	Engineering Sciences (ES)	6	6
4	Professional Core Courses (EE)	37	40
5	Professional Electives (EE*)	4	3
6	Open Subjects- Electives (OE)	1	1
7	Project Work and Seminar	1	2
8	Non- Credit Based (NCB)	1	2
Total		65	67

Table B: 2.1.1.b: Contribution of course modules to the program curriculum

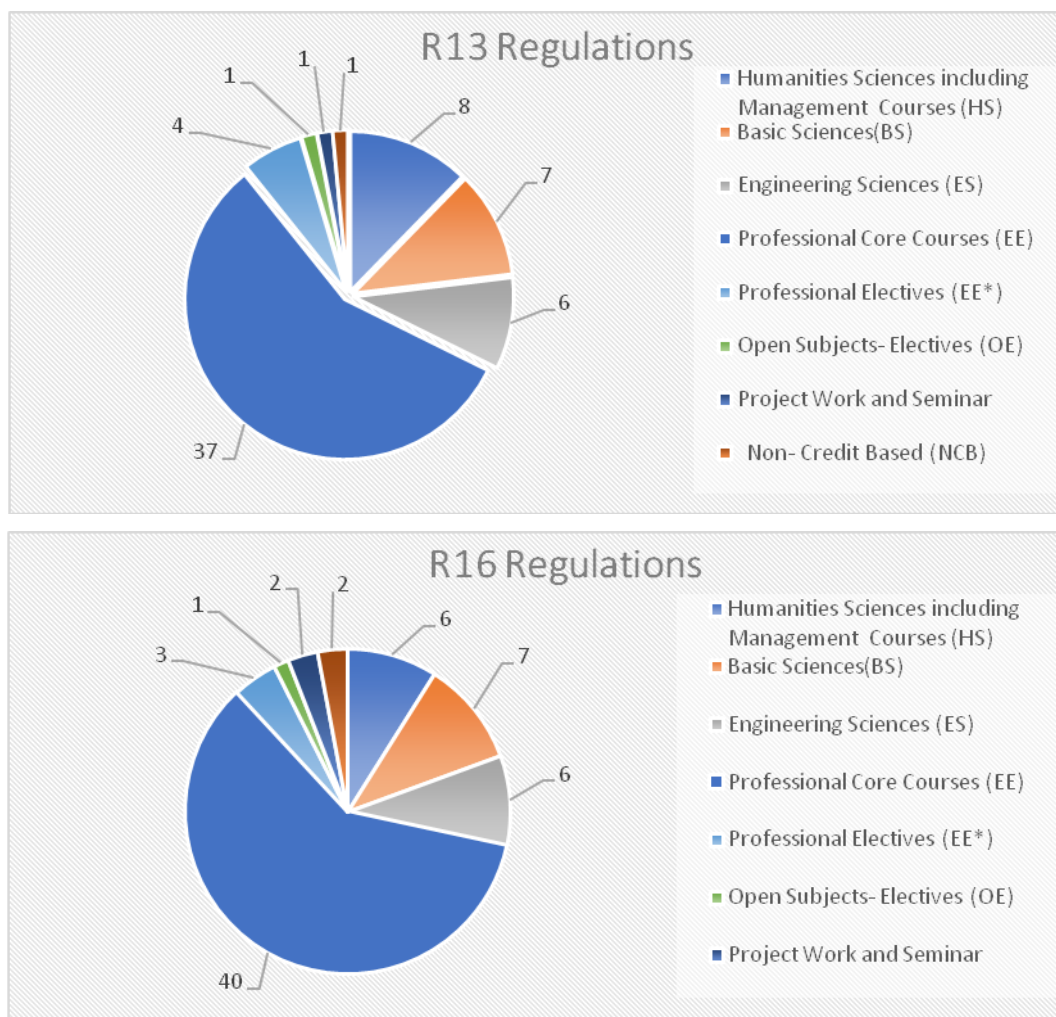


Figure B: 2.1.1.a: Contribution of course modules to the program curriculum

The university curriculum ensures the course structure recommended by AICTE and constructs the scheme as described in Table B: 2.1.1.c, The university curriculum for R13 regulations is shown below in Table B: 2.1.1.d and The university curriculum for R16 regulations is shown in Table B: 2.1.1.de

AICTE curriculum.

Sl. No.	Course work - subject area	Semester								Total credits
		I	II	III	IV	V	VI	VII	VIII	
1	Humanities Sciences including Management Courses (HS)	6	8	-	-	-	-	-	-	14
2	Basic Sciences (BS)	7	6	5	7	4	2	-	-	31
3	Engineering Sciences (ES)	9	8	6	1	-	-	-	-	24
4	Professional Core Courses (EE)	-	-	11	14	15	14	6	-	60
5	Professional Electives (EE*)	-	-	-	-	3	6	6	3	18
6	Open Subjects-Electives (OE)	-	-	-	-	-	-	6	3	9
7	Project Work, Seminar and/or Internship	-	-	-	-	-	-	4	16	20
TOTAL		22	22	22	22	22	22	22	22	176
8	Mandatory /Non-Credit (NC) Courses	3	3	3	-	-	-	-	-	9

Table B: 2.1.1.c: AICTE Scheme of Instruction-Summary

The university curriculum for R-13 regulations credits shown in the below table.

Sl. No.	Course work – subject area	Semester								Total credits
		I	II	III	IV	V	VI	VII	VIII	
1	Humanities Sciences including Management Courses (HS)	8	5	-	-	5	3	-	-	21
2	Basic Sciences (BS)	8	11	-	-	-	-	-	-	19
3	Engineering Sciences (ES)	8	5	-	3	-	-	-	-	16
4	Professional Core Courses (EE)	-	3	22	19	19	19	15	3	100
5	Professional Electives (EE*)	-	-	-	-	-	-	3	9	12

6	Open Subjects- Electives (OE)	-	-	-	-	-	-	3	-	3
7	Project Work, Seminar and/or Internship	-	-	-	-	-	-	-	9	9
TOTAL		24	24	22	22	24	22	21	21	180

Table B: 2.1.1.d: JNTUK Scheme of Instruction-Summary (R13 Regulations)

University curriculum for R-16 Regulations with credits shown in the below table.

Sl. No.	Course work - subject area	Semester								Total credits
		I	II	III	IV	V	VI	VII	VIII	
1	Humanities Sciences including Management Courses (HS)	5	5	3	3	-	-	-	-	16
2	Basic Sciences (BS)	11	8	-	-	-	-	-	-	19
3	Engineering Sciences (ES)	8	6	-	-	-	-	-	-	14
4	Professional Core Courses (EE)	-	5	19	19	21	18	16	9	107
5	Professional Electives (EE*)	-	-	-	-	-	-	6	3	9
6	Open Subjects- Electives (OE)	-	-	-	-	-	3	-	-	3
7	Project Work, Seminar and/or Internship	-	-	-	-	-	-	-	12	12
TOTAL		24	24	22	22	21	21	22	24	180

Table B: 2.1.1.e: JNTUK Scheme of Instruction-Summary (R16 Regulations)

Credits recommended by AICTE curriculum is compared with University curriculum for R-13 Regulations and R-16 Regulations compared in below table.

Sl. No.	Course work – subject area	Credits recommended by AICTE	Credits as per university curriculum	
			R13 Regulations	R16 Regulations
1	Humanities Sciences including Management Courses (HS)	14	21	16
2	Basic Sciences (BS)	31	19	19
3	Engineering Sciences (ES)	24	16	14
4	Professional Core Courses (EE)	60	100	107

5	Professional Electives (EE*)	18	12	9
6	Open Subjects-Electives (OE)	9	3	3
7	Project Work, Seminar and/or Internship	20	9	12
TOTAL		176	180	180

Table B: 2.1.1.f: Comparison of credits with AICTE curriculum

The instructional hours required and credits allotted to the course as per curriculum for the categorized courses are tabulated in below-Table B: 2.1.1.g

Course modules for EEE program

The course structure for R-13 Regulations is as given below.

Humanities Sciences and Social including Management (HS) for R-13 Regulations				
Course Code	Name of the Course	Instructional Hours & Credits		
		T	P	C
C101	English – I	3+1	---	3
C105	Professional Ethics and Human Values	3+1	--	3
C108	Engineering Physics Laboratory	--	3	2
C111	English – II	3+1	---	3
C117	Engineering Chemistry Lab	--	3	2
C301	Managerial Economics and Financial Analysis	3+1	---	3
C309	IPR & Patents	3+1	--	3
C315	Management Science	3+1	---	3
Basic Sciences (BS) Courses for R-13 Regulations				
Course Code	Name of the Course	Instructional Hours & Credits		
		T	P	C
C102	Mathematics – I	3+1	---	3
C103	Mathematics – II (Mathematical Methods)	3+1	---	3
C107	English – Communication Skills Lab - I	--	3	2
C112	Mathematics – III	3+1	---	3
C114	Engineering Mechanics	3+1	---	3
C116	Computer Programming	3+1	---	3
C118	English – Communication Skills Lab - II	--	3	2
Engineering Sciences (ES) Courses for R-13 Regulations				
Course Code	Name of the Course	Instructional Hours & Credits		
		T	P	C
C104	Engineering Physics	3+1	---	3

C106	Engineering Drawing	3+1	---	3
C110	Engineering Workshop & IT Workshop	--	3	2
C113	Engineering Chemistry	3+1	---	3
C119	C programming lab	--	3	2
C209	Environmental Studies	3+1	---	3
Professional Core (EE) Courses for R-13 Regulations				
Course Code	Name of the Course	Instructional Hours & Credits		
		T	P	C
C115	Electrical Circuit Analysis - I	3+1	---	3
C201	Electrical Circuit Analysis-2	3+1	---	3
C202	Thermal and Hydro Prime Movers	3+1	---	3
C203	Basic Electronic Devices	3+1	---	3
C204	Complex Variables and Statistical Methods	3+1	---	3
C205	Electromagnetic Fields	3+1	---	3
C206	Electrical Machines-1	3+1	---	3
C207	Thermal and Hydro Lab	--	3	2
C208	Electrical Circuits Lab	--	3	2
C210	Switching Theory and Logic Design	3+1	---	3
C211	Pulse & Digital Circuits	3+1	---	3
C212	Power Systems-1	3+1	---	3
C213	Electrical Machines-2	3+1	---	3
C214	Control Systems	3+1	---	3
C215	Electrical Machines-1 Lab	--	3	2
C216	Electronic Devices and Circuits Lab	--	3	2
C302	Electrical Measurements	3+1	---	3
C303	Power Systems-2	3+1	---	3
C304	Electrical Machines-3	3+1	---	3
C305	Power Electronics	3+1	---	3
C306	Linear and Digital IC Applications	3+1	---	3
C307	Electrical Machines-Ii Laboratory	--	3	2
C308	Control Systems Laboratory	--	3	2
C310	Switchgear and Protection	3+1	---	3
C311	Micro Processors and Micro Controllers	3+1	---	3
C312	Utilization of Electrical Energy	3+1	---	3
C313	Power System Analysis	3+1	---	3
C314	Power Semiconductor Drives	3+1	---	3
C316	Power Electronics Lab	--	3	2
C317	Electrical Measurements Lab	--	3	2
C401	Renewable Energy Sources & Systems	3+1	---	3
C402	HVAC & DC Transmission	3+1	---	3
C403	Power System Operation & Control	3+1	---	3

C406	Microprocessors & Microcontrollers Lab	--	3	2	
C407	Electrical Simulation Lab	--	3	2	
C408	Power Systems & Simulation Lab	--	3	2	
C409	Digital Control Systems	3+1	---	3	
Professional Elective (EE*) Courses for R-13 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		T	P	C	
C405	Electrical Distribution Systems	3+1	---	3	
C410	Special Electrical Machines	3+1	---	3	
C411	Flexible Alternating Current Transmission Systems	3+1	---	3	
C412	AI Techniques	3+1	---	3	
Open Subjects- Electives (OE) Courses for R-13 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		T	P	C	
C404	Instrumentation	3+1	---	3	
Seminar Presentation and Project Work for R-13 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		T	P	C	
C413	Project	---	--	9	
Mandatory/ Non-Credit Based Courses for R-13 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C109	Engineering Physics – Virtual Labs - Assignments				-

Table B: 2.1.1.g: R13 Curriculum content

The instructional hours required, and credits allotted to the course as per curriculum for the categorized courses are tabulated in below-Table B: 2.1.1.h

Course module for EEE program

The course structure for R-16 Regulations is as given below.

Basic Sciences (BS) Courses for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C102	Mathematics - I	4	--	--	3
C104	Engineering Mechanics	4	--	--	3
C105	Computer Programming	4	--	--	3
C108	English- Communication Skills	--	--	3	2

	Laboratory - I				
C111	Mathematics – II (Mathematical Methods)	4	--	--	3
C112	Mathematics – III	4	--	--	3
C116	English - Communication Skills Laboratory - II	--	--	3	2

Engineering Sciences (ES) Courses for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C103	Applied Chemistry	4	--	--	3
C106	Environmental Studies	4	--	--	3
C109	Computer Programming Laboratory	--	--	3	2
C113	Applied Physics	4	--	--	3
C115	Engineering Drawing	4	--	--	3
C118	Applied / Engineering Physics – Virtual Labs - Assignments	--	--	2	--
Professional Core (EE) Courses for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C114	Electrical Circuit Analysis - I	4	--	--	3
C119	Engg. Workshop & IT Workshop	--	--	3	2
C201	Electrical Circuit Analysis-2	4	--	--	3
C202	Electrical Machines-1	4	--	--	3
C203	Basic Electronic Devices	4	--	--	3
C204	Electromagnetic Fields	4	--	--	3
C205	Thermal and Hydro Prime Movers	4	--	--	3
C207	Thermal and Hydro Lab	--	--	3	2
C208	Electrical Circuits Lab	--	--	3	2
C209	Electrical Measurements	4	--	--	3
C210	Electrical Machines-2	4	--	--	3
C211	Switching Theory and Logic Design	4	--	--	3
C212	Control Systems	4	--	--	3
C213	Power Systems-1	4	--	--	3
C215	Electrical Machines-1 Lab	--	--	3	2
C216	Electronic Devices and Circuits Lab	--	--	3	2
C301	Power Systems-2	4	--	--	3
C302	Renewable Energy Sources	4	--	--	3
C303	Signals and Systems	4	--	--	3
C304	Pulse & Digital Circuits	4	--	--	3
C305	Power Electronics	4	--	--	3
C306	Electrical Machines-II Laboratory	--	--	3	2

C307	Control Systems Laboratory	--	--	3	2
C308	Electrical Measurements Laboratory	4	--	--	2
C310	Power Electronic Controllers & Drives	4	--	--	3
C311	Power System Analysis	4	--	--	3
C312	Micro Processors and Micro Controllers	4	--	--	3
C313	Data Structures	4	--	--	3
C315	Power Electronics Laboratory	--	--	3	2
C316	Microprocessors & Microcontrollers Laboratory	--	--	3	2
C317	Data Structures Laboratory	--	--	3	2
C401	Utilization of Electrical Energy	4	--	--	3
C402	Linear IC Applications	4	--	--	3
C403	Power System Operation & Control	4	--	--	3
C404	Switchgear and Protection	4	--	--	3
C407	Electrical Simulation Laboratory	--	--	2	2
C408	Power Systems & Simulation Laboratory	--	--	2	2
C409	Digital Control Systems	4	--	--	3
C410	HVDC Transmission	4	--	--	3
C411	Electrical Distribution Systems	4	--	--	3
Professional Electives (EE*) Courses for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C405a	Electrical Machine Modeling and Analysis	4	--	--	3
C405b	Instrumentation	4	--	--	3
C406	Special Electrical Machines	4	--	--	3
C412	Flexible Alternating Current Transmission Systems	4	--	--	3
Open Subjects- Electives (OE) Courses for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C314	Energy Audit and Conservation & Management	4	--	--	3
Seminar and Project Work for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C413	Seminar	--	3	--	2
C414	Project	--	--	--	10

Mandatory/ Non-Credit Based Courses for R-16 Regulations					
Course Code	Name of the Course	Instructional Hours & Credits			
		L	T	P	C
C309	IPR & Patents	--	2	--	--
C318	Professional Ethics & Human Values	--	3	--	--

Table B: 2.1.1.h: R16 Curriculum content

A. Process used to identify extent of compliance of university curriculum for attaining POs & PSOs (6)

The tools used to identify the curriculum gaps every academic year to meet POs and PSOs are categorized as internal and external tools. The external tools are the feedbacks collected from various stakeholders. The internal tools are COs, POs and PSOs assessment.

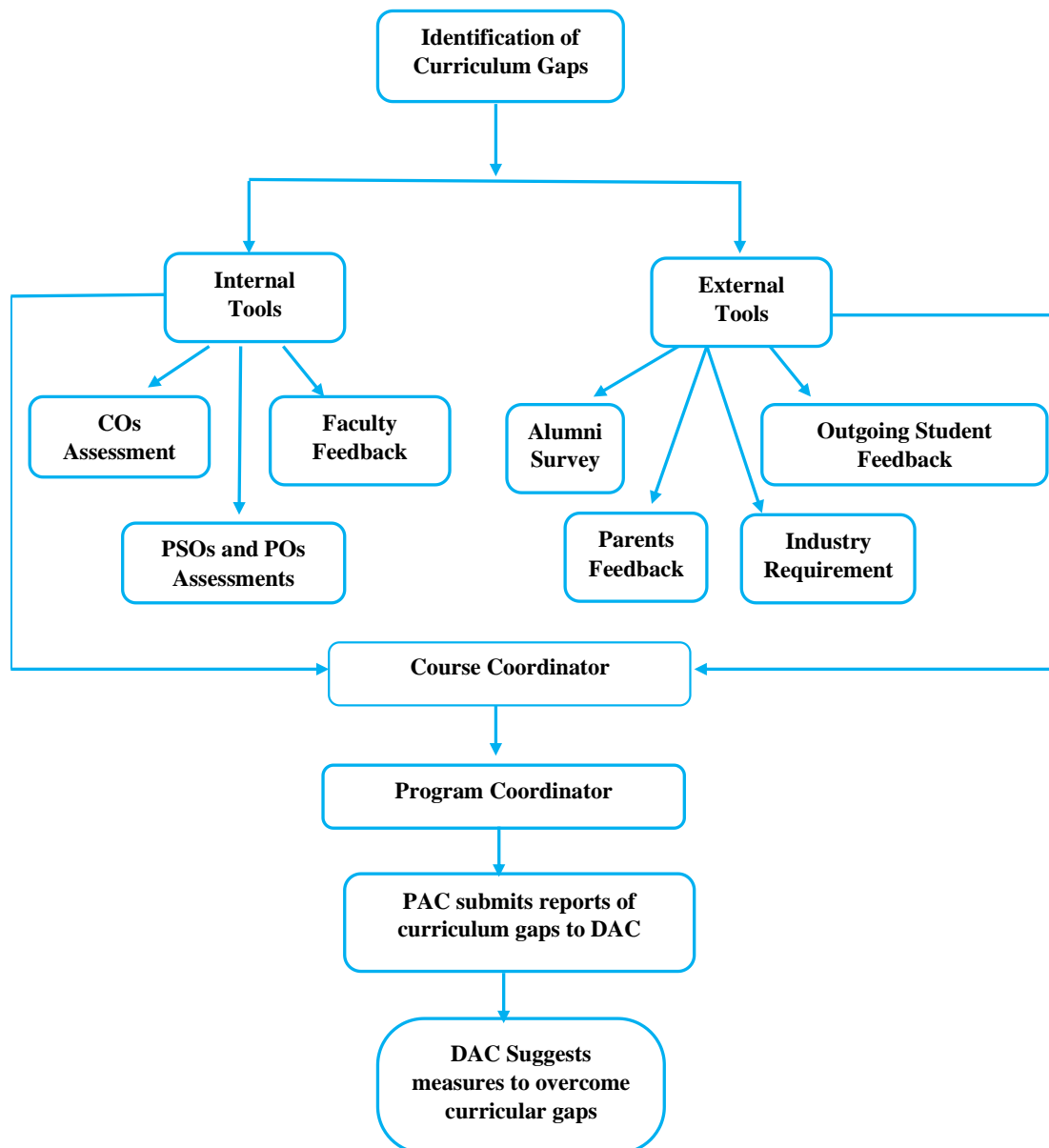


Figure B: 2.1.1.b: Process to identify Curriculum gaps

1. External Tools

Stakeholders' feedback:

The department has formal and informal mechanisms to obtain feedback from stakeholders through various committees, associations, organization, etc. This will be considered for revising the gaps in the curriculum. The following are the indicatives for the feedback from the stakeholders.

i. Outgoing students' feedback: In order to improve the Teaching-Learning Process (TLP) and gaps of the curriculum, student feedback system is used to share their feedback on the curriculum.

- Conduct more value-added courses on various technologies like IOT, PLC etc.
- Improve personality skills and employability skills and company specific training.
- Inculcate research culture.

ii. Alumni Feedback: Feedback is collected from alumni students by inviting them once in a year for the alumni meet by the Alumni Association (AA). In order to bring awareness on the skill demands of the IT industry, the alumni students are suggested to share their current job experiences and current trends in recruitment with their juniors and the following gaps are identified.

- Students suggested more hands on training on latest technology
- Wanted to give more training for competitive exams and technical communication principles.
- Motivate students towards sports and games like inter college events.

iii. Parents' Feedback: The institute organizes parents meet twice in every semester and tries to adopt the suggestions given by the parents.

- Improve interpersonal and public speaking skills

iv. Teachers feedback : Teachers provide valuable inputs for academic development, learning strategies, and corrections for errors in teaching and learning methods.

- Involve students in B.Tech projects related to societal and health issues

v. **Employers Feedback:** Once the student passes out of the institution and gets employed in other organization, Alumni Association (AA) takes care of her employer's feedback for healthy relationship with the other organization. Campus placement officer interacts with officials from Industry who visit for recruitment and obtain their feedback.

- MATLAB practical implications
- Improve IOT for electrical appliances

Feedback from stakeholders:

Feedback collected from all the stake holders is discussed and deliberated by the program coordinator. The gaps suggested by the stake holders are mapped with POs and tabulated in

Table B: 2.1.1.i

S. No	Stakeholder	Suggestion given by Stakeholder
1	Outgoing students	• Conduct more value-added courses on various technologies like IOT, PLC etc.
		• Improve personality skills and employability skills and company specific training.
		• Inculcate research culture.
2	Alumni	• Hands on training on latest technology
		• Training for competitive exams and technical communication principles.
		• Motivate students towards sports and games like inter college events.
3	Parents	• Improve interpersonal and public speaking skills
4	Teachers	• Involve students in B.Tech projects related to societal and health issues
5	Employer	• MATLAB practical implications
		• Improve IOT for electrical appliances

Table B: 2.1.1.i: Stakeholders feedback

2. Internal Tools

The courses are mapped with POs and PSOs that help to identify the extent of curriculum compliance and take necessary action to fulfill the identified curriculum gaps. The mapping of the curriculum courses to Program Outcomes & Program Specific Outcomes for R13

Regulations and R-16 Regulations mapping values are given in Table B:2.2.2.j and Table B:2.2.2.k

Course-PO mapping for R-13 Regulations

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	English - I	-	-	-	-	-	2.33	2.33	2.33	2.33	3.00	2.50	3.00
C102	Mathematics - I	3.00	3.00	3.00	3.00	-	3.00	2.50	2.50	-	-	2.50	3.00
C103	Mathematics – II (Mathematical Methods)	2.83	2.67	2.60	2.60	2.50	-	3.00	3.00	-	-	2.60	2.80
C104	Engineering Physics	3.00	2.67	3.00	3.00	-	2.67	2.75	2.75	-	-	-	2.67
C105	Professional Ethics and Human Values	-	-	2.50	-	-	2.00	2.25	2.25	2.25	-	2.33	2.33
C106	Engineering Drawing	2.67	2.50	2.50	2.50	-	2.50	3.00	3.00	3.00	-	3.00	3.00
C107	English – Communication Skills Lab - I	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C108	Engineering Physics Laboratory	3.00	2.50	2.33	2.33	2.33	2.00	2.00	2.00	2.00	2.00	-	2.00
C109	Engineering Physics – Virtual Labs - Assignments	2.33	2.50	3.00	-	2.33	-	-	-	2.33	-	-	3.00
C110	Engineering Workshop & IT Workshop	-	-	-	-	-	2.50	2.33	2.50	2.33	2.50	2.50	3.00

C111	English – II	3.00	3.00	3.00	3.00	-	2.33	2.33	2.33	-	-	2.33	3.00
C112	Mathematics – III	3.00	3.00	2.50	2.50	-	2.50	2.50	2.50	-	-	-	2.50
C113	Engineering Chemistry	3.00	3.00	3.00	3.00	2.00	2.50	-	-	-	-	-	-
C114	Engineering Mechanics	3.00	2.50	2.50	2.50	2.00	2.50	-	-	-	-	-	-
C115	Electrical Circuit Analysis - I	2.67	2.67	2.50	2.50	2.50	-	-	-	2.50	-	-	2.50
C116	Computer Programming	2.67	2.33	-	2.50	2.50	-	2.00	-	2.00	2.00	-	2.00
C117	Engineering Chemistry Lab	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C118	English – Communication Skills Lab - II	3.00	2.67	2.33	2.33	2.33	-	-	2.33	2.33	-	-	-
C201	Electrical Circuit Analysis-II	3.00	3.00	3.00	2.67	2.00	2.33	2.33	-	2.83	-	2.83	2.50
C202	Thermal and Hydro Prime Movers	3.00	3.00	-	2.67	2.00	2.17	2.00	-	3.00	-	2.83	2.67
C203	Basic Electronic Devices	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50
C204	Complex Variables and Statistical Methods	3.00	3.00	-	3.00	2.00	-	-	-	2.83	-	2.83	2.50

C205	Electromagnetic Fields	3.00	3.00	3.00	3.00	2.00	2.50	2.50	-	2.83	-	2.83	2.50
C206	Electrical Machines-1	3.00	3.00	-	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C207	Thermal and Hydro Lab	3.00	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	2.00	-
C208	Electrical Circuits Lab	3.00	3.00	3.00	2.00	2.00	3.00	3.00	-	2.00	-	-	-
C209	Environmental Studies	-	-	3.00	-	-	3.00	2.83	3.00	2.00	-	2.00	3.00
C210	Switching Theory and Logic Design	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C211	Pulse & Digital Circuits	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C212	Power Systems-1	3.00	3.00	3.00	2.67	2.00	2.00	2.00	3.00	2.83	3.00	2.83	2.50
C213	Electrical Machines-2	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C214	Control Systems	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50
C215	Electrical Machines-1 Lab	2.67	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	-	2.00
C216	Electronic Devices and Circuits Lab	3.00	3.00	3.00	-	-	3.00	-	-	3.00	-	-	2.00

C301	Managerial Economics and Financial Analysis	3.00	3.00	2.50	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C302	Electrical Measurements	3.00	3.00	-	2.67	2.00	-	-	2.00	-	2.00	2.83	2.50
C303	Power Systems-2	2.83	3.00	3.00	2.67	2.00	2.00	2.00	3.00	2.83	3.00	2.83	2.50
C304	Electrical Machines-3	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C305	Power Electronics	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67
C306	Linear and Digital IC Applications	3.00	3.00	2.17	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C307	Electrical Machines-II Laboratory	2.67	3.00	3.00	2.00	3.00	3.00	3.00	-	3.00	-	2.00	-
C308	Control Systems Laboratory	2.67	3.00	3.00	2.00	-	3.00	3.00	-	3.00	-	2.00	3.00
C309	IPR & Patents	3.00	3.00	2.17	2.67	2.00	2.00	3.00	3.00	2.83	3.00	2.83	2.50
C310	Switchgear and Protection	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C311	Micro Processors and Micro Controllers	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	3.00	-	2.83	2.50
C312	Utilization of Electrical Energy	3.00	3.00	2.17	2.67	2.00	2.50	2.00	2.00	2.00	-	2.83	2.50

C313	Power System Analysis	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C314	Power Semiconductor Drives	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C315	Management Science	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.00	-	2.83	2.50
C316	Power Electronics Lab	2.67	3.00	3.00	2.33	2.00	2.00	-	-	2.33	2.00	2.00	2.00
C317	Electrical Measurements Lab	2.67	3.00	3.00	2.33	2.00	3.00	-	-	2.33	-	2.00	2.00
C401	Renewable Energy Sources & Systems	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C402	HVAC& DC Transmission	3.00	3.00	2.67	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C403	Power System Operation & Control	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.83	2.00	2.83	2.50
C404	Instrumentation	2.75	3.00	3.00	3.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00
C405	Electrical Distribution Systems	2.67	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	3.00	2.83	2.50
C406	Microprocessors & Microcontrollers Lab	2.67	2.67	3.00	3.00	3.00	2.00	-	-	3.00	2.00	2.50	2.00
C407	Electrical Simulation Lab	2.67	3.00	3.00	3.00	3.00	-	3.00	-	3.00	2.50	3.00	-

C408	Power Systems & Simulation Lab	2.67	3.00	3.00	2.67	2.00	-	-	-	2.67	2.50	2.00	-
C409	Digital Control Systems	3.00	3.00	3.00	3.00	1.00	-	-	3.00	3.00	3.00	3.00	2.00
C410	Special Electrical Machines	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C411	FACTS	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50
C412	AI Techniques	3.00	3.00	2.17	2.67	2.00	3.00	3.00	2.00	2.83	-	2.83	2.50
C413	Project	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Average		2.91	2.86	2.74	2.48	2.13	2.29	2.28	2.38	2.57	2.46	2.55	2.51
Average in Percentage		97.00	95.33	91.33	82.67	71.00	76.33	76.00	79.33	85.67	82.00	85.00	83.67

Table B: 2.1.1.j: Course-POs mapping for R13 Regulations.

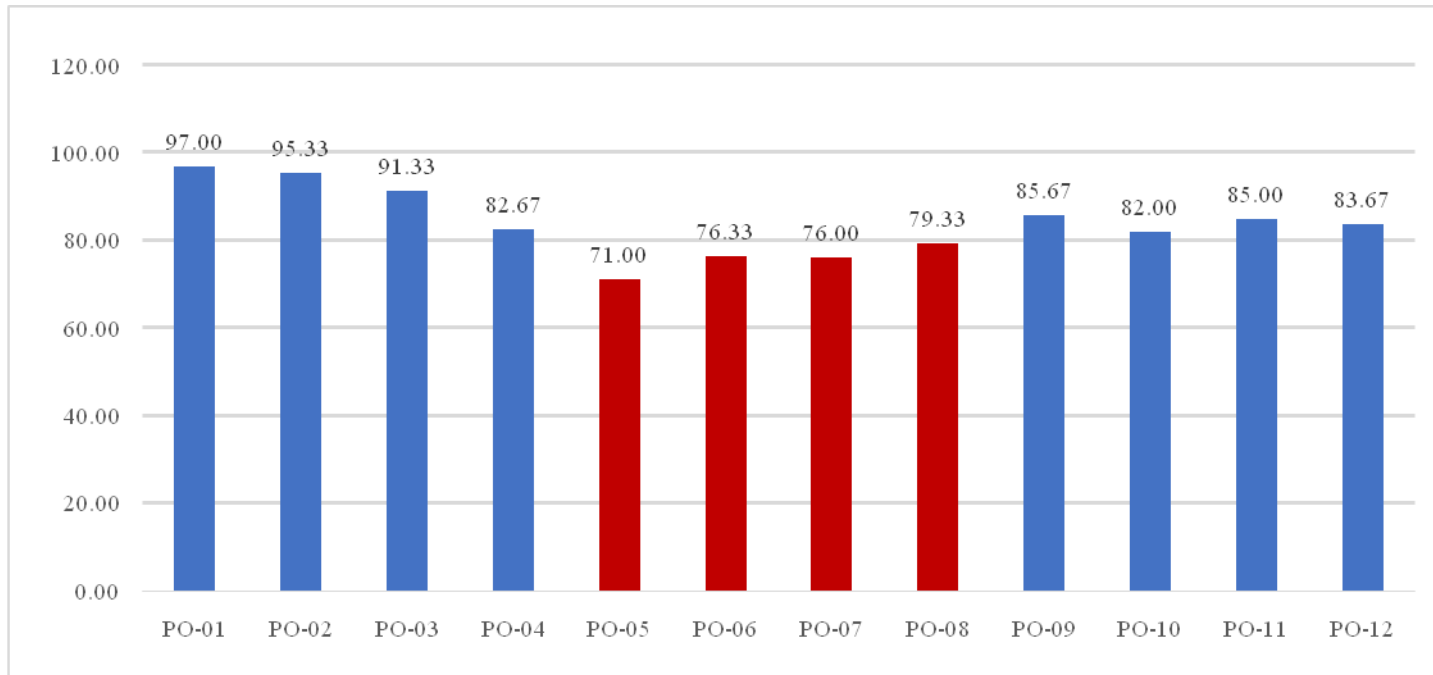


Figure B: 2.1.1.c: Course-PO mapping for R13 Regulations

Compliance of Program Curriculum for the attainment of POs (R13 Regulations)

- Blue color histogram represents the POs whose average percentage mapping is more than 80 % and red color represents below 80% for R13 Regulations. Hence, PO5, PO6, PO7 & PO8 average percentage of mappings are below 80 % and remaining all POs values are more than 80%
- The Professional Core courses like Electrical Machines, Power systems, Power electronics, Electrical circuit analysis satisfies PO1, PO2, PO3 and PO4 to the extent of 82% - 97% on an average.
- The Basic Sciences and Humanities including management courses like English, Communications Skills Lab, Environmental Studies, Management Science, MEFA etc., satisfies PO10, PO11 to the extent of 82% - 85% on an average.
- The Engineering Sciences courses like Engineering Drawing, Engineering Mechanics, Environmental Studies etc., covers PO6 and PO7 to the extent of 76.33 % and 76% .
- The Courses like Seminar and Projects satisfy PO9, PO10, PO11, and PO12 to the extent of 82% - 85% on an average.

Course-PO mapping for R-16 Regulations

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	English – I	-	-	-	-	-	2.33	2.33	2.33	2.33	3.00	2.50	3.00
C102	Mathematics - I	3.00	3.00	3.00	3.00	-	3.00	2.50	2.50	-	-	2.50	3.00
C103	Applied Chemistry	3.00	3.00	3.00	3.00	2.00	2.50	-	-	-	-	-	-
C104	Engineering Mechanics	3.00	2.50	2.50	2.50	2.00	2.50	-	-	-	-	-	-
C105	Computer Programming	2.67	2.33	-	2.50	2.50	-	2.00	-	2.00	2.00	-	2.00
C106	Environmental Studies	-	-	3.00	-	-	3.00	2.83	2.50	2.00	-	2.00	3.00
C107	Applied / Engineering Chemistry Laboratory	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C108	English-Communication Skills Laboratory - I	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C109	Computer Programming Laboratory	2.00	-	-	-	2.00	-	2.00	2.00	2.00	3.00	2.00	2.00
C110	English – II	3.00	3.00	3.00	3.00	-	2.33	2.33	2.33	-	-	2.33	3.00
C111	Mathematics – II (Mathematical Methods)	2.83	2.67	2.60	2.60	2.50	-	3.00	3.00	-	-	2.60	2.80

C112	Mathematics – III	3.00	3.00	2.50	2.50	-	2.50	2.50	2.50	-	-	-	2.50
C113	Applied Physics	3.00	2.67	3.00	3.00	-	2.67	2.75	2.75	-	-	-	2.67
C114	Electrical Circuit Analysis - I	2.67	2.67	2.50	2.50	2.50	-	-	-	2.50	-	-	2.50
C115	Engineering Drawing	2.67	2.50	2.50	2.50	-	2.50	3.00	3.00	3.00	-	3.00	3.00
C116	English - Communication Skills Laboratory - II	3.00	2.67	2.33	2.33	2.33	-	-	2.33	2.33	-	-	-
C117	Applied / Engineering Physics Laboratory	3.00	2.50	2.33	2.33	2.33	2.00	2.00	2.00	2.00	2.00	-	2.00
C118	Applied / Engineering Physics – Virtual Labs - Assignments	2.33	2.50	3.00	-	2.33	-	-	-	2.33	-	-	3.00
C119	Engg. Workshop & IT Workshop	-	-	-	-	-	2.50	2.33	2.50	2.33	2.50	2.50	3.00
C201	Electrical Circuit Analysis-2	3.00	3.00	3.00	2.67	2.00	2.33	2.33	-	2.83	-	2.83	2.50
C202	Electrical Machines-1	3.00	3.00	-	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C203	Basic Electronic Devices	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50

C204	Electromagnetic Fields	3.00	3.00	3.00	3.00	2.00	2.50	2.50	-	2.83	-	2.83	2.50
C205	Thermal and Hydro Prime Movers	3.00	3.00	-	2.67	2.00	2.17	2.00	-	3.00	-	2.83	2.67
C206	Managerial Economics and Financial Analysis	3.00	3.00	2.50	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C207	Thermal and Hydro Lab	3.00	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	2.00	-
C208	Electrical Circuits Lab	3.00	3.00	3.00	2.00	2.00	3.00	3.00	-	2.00	-	-	-
C209	Electrical Measurements	3.00	3.00	-	2.67	2.00	-	-	2.00	-	2.00	2.83	2.50
C210	Electrical Machines-2	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C211	Switching Theory and Logic Design	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C212	Control Systems	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50
C213	Power Systems-1	3.00	3.00	3.00	2.67	2.00	2.00	2.00	2.50	2.83	3.00	2.83	2.50
C214	Management Science	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.00	-	2.83	2.50
C215	Electrical Machines-1 Lab	2.67	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	-	2.00
C216	Electronic Devices and Circuits Lab	3.00	3.00	3.00	-	-	3.00	-	-	3.00	-	-	2.00

C301	Power Systems-2	2.83	3.00	3.00	2.67	2.00	2.00	2.00	2.00	2.83	3.00	2.83	2.50
C302	Renewable Energy Sources	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C303	Signals and Systems	3.00	3.00	3.00	3.00	2.00	-	-	-	-	-	-	-
C304	Pulse & Digital Circuits	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C305	Power Electronics	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67
C306	Electrical Machines-II Laboratory	2.67	3.00	3.00	2.00	3.00	3.00	3.00	-	3.00	-	2.00	-
C307	Control Systems Laboratory	2.67	3.00	3.00	2.00	-	3.00	3.00	-	3.00	-	2.00	3.00
C308	Electrical Measurements Laboratory	2.67	3.00	3.00	2.33	2.00	3.00	-	-	2.33	-	2.00	2.00
C309	IPR & Patents	3.00	3.00	2.17	2.67	2.00	2.00	3.00	2.50	2.83	3.00	2.83	2.50
C310	Power Electronic Controllers & Drives	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C311	Power System Analysis	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C312	Micro Processors and Micro Controllers	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	3.00	-	2.83	2.50
C313	Data Structures	3.00	2.00	2.00	1.00	2.00	-	-	-	-	2.00	-	2.00

C314	Energy Audit and Conservation & Management	3.00	3.00	2.00	2.00	1.00	-	-	-	-	-	-	-
C315	Power Electronics Laboratory	2.67	3.00	3.00	2.33	2.00	2.00	-	-	2.33	2.00	2.00	2.00
C316	Microprocessors & Microcontrollers Laboratory	2.67	2.67	3.00	3.00	3.00	2.00	-	-	3.00	2.00	2.50	2.00
C317	Data Structures Laboratory	3.00	2.00	2.00	1.00	2.00	-	-	-	-	-	-	-
C318	PE & HV	-	-	2.50	-	-	2.00	2.25	2.25	2.25	-	2.33	2.33
C401	Utilization of Electrical Energy	3.00	3.00	2.17	2.67	2.00	2.50	2.00	2.00	2.00	-	2.83	2.50
C402	Linear IC Applications	3.00	3.00	2.17	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C403	Power System Operation & Control	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.83	2.00	2.83	2.50
C404	Switchgear and Protection	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C405a	Electrical Machine Modeling and Analysis	3.00	3.00	2.00	2.00	3.00	-	-	-	-	2.00	-	2.00
C405b	Instrumentation	2.75	3.00	3.00	3.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00
C406	Special	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50

	Electrical Machines												
C407	Electrical Simulation Laboratory	2.67	3.00	3.00	3.00	3.00	-	3.00	-	3.00	2.50	3.00	-
C408	Power Systems & Simulation Laboratory	2.67	3.00	3.00	2.67	2.00	-	-	-	2.67	2.50	2.00	-
C409	Digital Control Systems	3.00	3.00	3.00	3.00	1.00	-	-	3.00	3.00	3.00	3.00	2.00
C410	HVDC Transmission	3.00	3.00	2.67	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C411	Electrical Distribution Systems	2.67	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	3.00	2.83	2.50
C412	Flexible Alternating Current Transmission Systems	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50
C413	Seminar	-	-	-	-	-	-	-	-	-	-	-	-
C414	Project	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Average		2.90	2.89	2.69	2.55	2.11	2.32	2.33	2.37	2.58	2.43	2.60	2.50
Average in Percentage		96.60	96.49	89.54	85.16	70.40	77.33	77.65	79.09	86.11	80.86	86.67	83.42

Table B: 2.1.1.k: Course-POs mapping for R16 Regulations

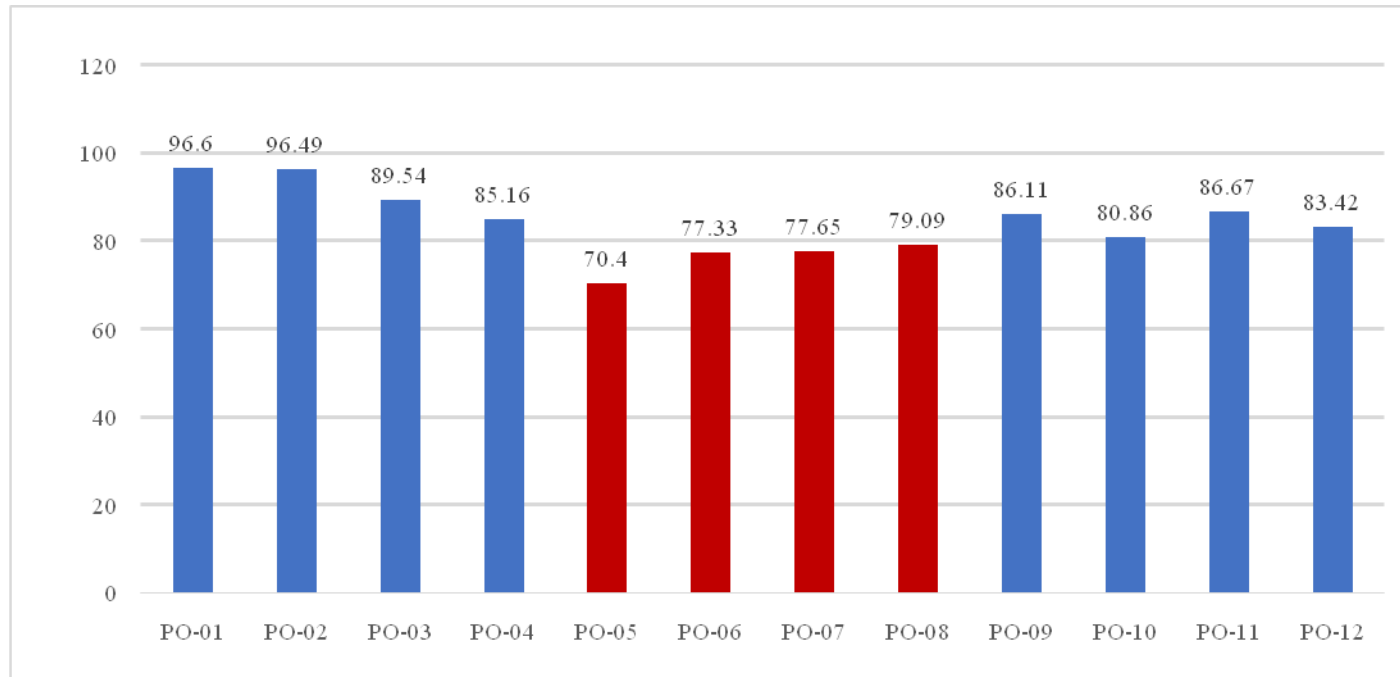


Figure B: 2.1.1.d: Course-PO mapping for R16 Regulations

Compliance of Program Curriculum for the attainment of POs (R16 Regulations)

- Blue color histogram represents the POs whose average percentage mapping is more than 80 % and red color represents below 80% for R16 Regulations. Hence, PO5, PO6, PO7 & PO8 average percentage of mappings are below 80 % and remaining all POs values are more than 80%
- The Professional Core courses like Electrical Machines, Power systems, Power electronics, Electrical circuit analysis satisfies PO1, PO2, PO3 and PO4 to the extent of 85% - 96% on an average.
- The Basic Sciences and Humanities including management courses like English, Communications Skills Lab, Environmental Studies, Management Science, MEFA etc., satisfies PO10, PO11 to the extent of 80% - 86% on an average.
- The Engineering Sciences courses like Engineering Drawing, Engineering Mechanics, Environmental Studies etc., covers PO6 and PO7 to the extent of 77.65% and 79.09%
- The Courses like Seminar and Projects satisfy PO9, PO10, PO11, and PO12 to the extent of 80% - 86% on an average.

The CO-PO- mapping of R13 and R16 are compared and shown below in Table: B.2.2.1.l:

Percentage of CO-PO Mapping	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
R13	97.00	95.33	91.33	82.67	71.00	76.33	76.00	79.33	85.67	82.00	85.00	83.67
R16	96.60	96.49	89.54	85.16	70.40	77.33	77.65	79.09	86.11	80.86	86.67	83.42

Table B: 2.1.1.l: Comparison of CO-PO Mapping for R13 and R16 Regulation

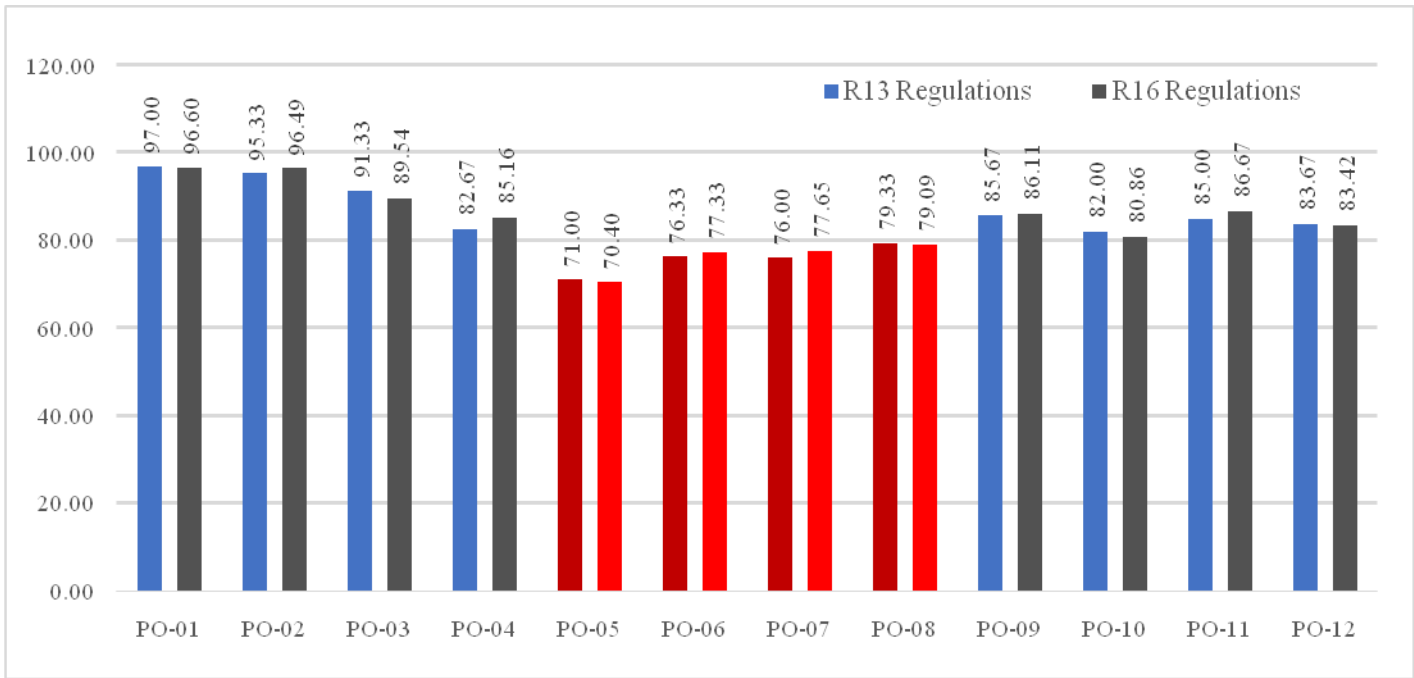


Figure B: 2.1.1.e: Course-PO mapping for R13 & R16 Regulations

Department of EEE has considered two Program Specific Outcomes based on emerging areas in research and applications.

Program Specific Outcomes	
PSO1	Analyze and solve critical problems associated with Power systems/Control Systems using modern software tools
PSO2	Apply the knowledge of power electronics to control and design high-Performance electrical drives for a career in interdisciplinary field

Table B: 2.1.1.m: Program Specific Outcomes

Course-PSO mapping for R-13 Regulations:

Course Code	Course Name	PSO1	PSO2
C101	English - I	-	-
C102	Mathematics - I	2.67	-
C103	Mathematics – II (Mathematical Methods)	2.67	-
C104	Engineering Physics	-	-
C105	Professional Ethics and Human Values	-	-
C106	Engineering Drawing	2	2
C107	English – Communication Skills Lab - I	-	-
C108	Engineering Physics Laboratory	-	-
C109	Engineering Physics – Virtual Labs -Assignments	-	-
C110	Engineering Workshop & IT Workshop	-	-
C111	English – II	2	2
C112	Mathematics – III	2	-
C113	Engineering Chemistry	-	-
C114	Engineering Mechanics	3	3

C115	Electrical Circuit Analysis - I	2.67	2.67
C116	Computer Programming	-	-
C117	Engineering Chemistry Lab	-	-
C118	English – Communication Skills Lab - II	3	3
C201	Electrical Circuit Analysis-2	3	2.8
C202	Thermal and Hydro Prime Movers	-	-
C203	Basic Electronic Devices	-	3
C204	Complex Variables and Statistical Methods	-	-
C205	Electromagnetic Fields	-	-
C206	Electrical Machines-1	-	3
C207	Thermal and Hydro Lab	-	-
C208	Electrical Circuits Lab	3	3
C209	Environmental Studies	-	-
C210	Switching Theory and Logic Design	3	3
C211	Pulse & Digital Circuits	2	2
C212	Power Systems-1	3	-
C213	Electrical Machines-2	-	3
C214	Control Systems	3	2
C215	Electrical Machines-1 Lab	3	3
C216	Electronic Devices and Circuits Lab	3	3
C301	Managerial Economics and Financial Analysis	-	-
C302	Electrical Measurements	-	2.4
C303	Power Systems-2	3	-
C304	Electrical Machines-3	-	3

C305	Power Electronics	-	3
C306	Linear and Digital IC Applications	-	-
C307	Electrical Machines-II Laboratory	-	3
C308	Control Systems Laboratory	3	-
C309	IPR & Patents	-	-
C310	Switchgear and Protection	3	-
C311	Micro Processors and Micro Controllers	3	-
C312	Utilization of Electrical Energy	3	3
C313	Power System Analysis	3	-
C314	Power Semiconductor Drives	-	3
C315	Management Science	3	3
C316	Power Electronics Lab	2.33	3
C317	Electrical Measurements Lab	3	2.67
C401	Renewable Energy Sources & Systems	3	-
C402	HVAC& DC Transmission	3	2.5
C403	Power System Operation & Control	3	-
C404	Instrumentation	-	-
C405	Electrical Distribution Systems	3	-
C406	Microprocessors & Microcontrollers Lab	3	3
C407	Electrical Simulation Lab	3	3
C408	Power Systems & Simulation Lab	3	3
C409	Digital Control Systems	3	3
C410	Special Electrical Machines	-	3
C411	Flexible Alternating Current Transmission Systems	3	-

C412	AI Techniques	3	3
C413	Project	3	3
Average		2.84	2.81
Average in Percentage		94.76	93.79

Table B: 2.1.1.n: Course-PSOs mapping for R13 Regulation

Course-PSO mapping for R-16 Regulations:

Course Code	Course Name	PSO1	PSO2
C101	English – I	-	-
C102	Mathematics - I	3	2.33
C103	Applied Chemistry	1	1
C104	Engineering Mechanics	3	3
C105	Computer Programming	-	-
C106	Environmental Studies	-	-
C107	Applied / Engineering Chemistry Laboratory	1	1
C108	English- Communication Skills Laboratory - I	-	-
C109	Computer Programming Laboratory	2	-
C110	English – II	2	2
C111	Mathematics – II (Mathematical Methods)	2.67	-
C112	Mathematics – III	2	-
C113	Applied Physics	3	3
C114	Electrical Circuit Analysis - I	2.67	2.67
C115	Engineering Drawing	2	2
C116	English - Communication Skills Laboratory - II	3	3
C117	Applied / Engineering Physics Laboratory	2	-

C118	Applied / Engineering Physics – Virtual Labs - Assignments	-	-
C119	Engineering workshop & IT workshop	-	-
C201	Electrical Circuit Analysis-2	3	3
C202	Electrical Machines-1	-	3
C203	Basic Electronic Devices	-	3
C204	Electromagnetic Fields	-	-
C205	Thermal and Hydro Prime Movers	-	-
C206	Managerial Economics and Financial Analysis	-	-
C207	Thermal and Hydro Lab	-	-
C208	Electrical Circuits Lab	3	3
C209	Electrical Measurements	-	2.4
C210	Electrical Machines-2	-	3
C211	Switching Theory and Logic Design	3	3
C212	Control Systems	3	2
C213	Power Systems-1	3	-
C214	Management Science	3	3
C215	Electrical Machines-1 Lab	3	3
C216	Electronic Devices and Circuits Lab	3	3
C301	Power Systems-2	3	-
C302	Renewable Energy Sources	3	-
C303	Signals and Systems	3	3
C304	Pulse & Digital Circuits	2	2
C305	Power Electronics	-	3
C306	Electrical Machines-II Laboratory	-	3

C307	Control Systems Laboratory	3	-
C308	Electrical Measurements Laboratory	3	2.67
C309	IPR & Patents	-	-
C310	Power Electronic Controllers & Drives	-	3
C311	Power System Analysis	3	-
C312	Micro Processors and Micro Controllers	3	-
C313	Data Structures	3	2
C314	Energy Audit and Conservation & Management	3	3
C315	Power Electronics Laboratory	2.33	3
C316	Microprocessors & Microcontrollers Laboratory	3	3
C317	Data Structures Laboratory	3	2
C318	PE & HV	-	-
C401	Utilization of Electrical Energy	3	3
C402	Linear IC Applications	-	-
C403	Power System Operation & Control	3	-
C404	Switchgear and Protection	3	-
C405a	Electrical Machine Modeling and Analysis	3	3
C405b	Instrumentation	-	-
C406	Special Electrical Machines	-	3
C407	Electrical Simulation Laboratory	3	3
C408	Power Systems & Simulation Laboratory	3	3
C409	Digital Control Systems	3	3
C410	HVDC Transmission	3	2.5
C411	Electrical Distribution Systems	3	-

C412	Flexible Alternating Current Transmission Systems	3	-
C413	Seminar	-	-
C414	Project	3	3
Average		2.75	2.68
Average in Percentage		91.61	89.38

Table B: 2.1.1.o: Course-PSOs mapping for R16 Regulations

The CO-PSO mapping of R13 and R16 are compared and shown below in Table. R-13 regulation covers the PSO1 and PSO2 to the extent of 93.79% and 94.76 % respectively. R-16 regulations covers the PSO1 and PSO2 to the extent of 91.61% and 89.38 % respectively

Percentage of CO-PSO Mapping	PSO1	PSO2
R-13 Regulations	94.76	93.79
R-16 Regulations	91.61	89.38

Table B: 2.1.1.p: Comparison of CO-PSO Mapping for R13 and R16 Regulations

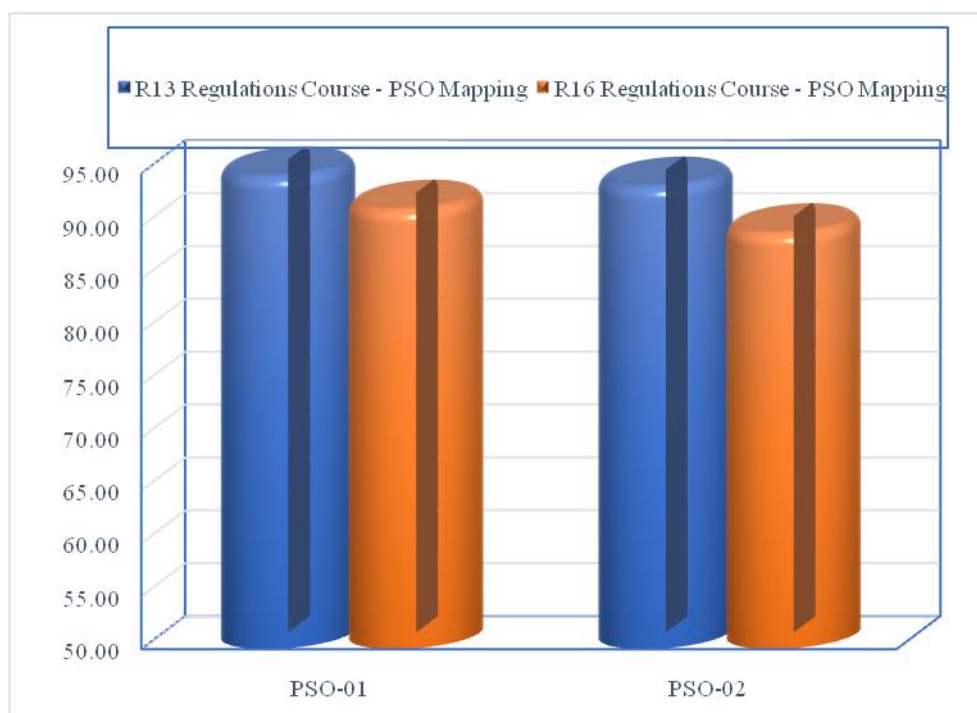


Figure B: 2.1.1.f: Course-PSOs mapping for R13 & R16 Regulations

B. List the curricular gaps for the attainment of defined POs& PSOs (4)

i). Gap identification for R-13 Regulations:

From Table B: 2.1.1.1l it is clear that the courses in R-13 regulations with POs such as Engineering Knowledge (PO1), Problem Analysis (PO2), Design/ Development of Solutions (PO3), are highly mapped and remaining POs such as Conduct Investigations of Complex Problems (PO4), Individual and Team Work (PO9), Communications (PO10), Project management and finance (PO11) and Lifelong Learning (PO12) maps moderately. The POs Modern Tool Usage (PO5), The Engineer & Society (PO6), Environment and Sustainability (PO7) and Ethics (PO8) mapped low. The Course Gaps identified in R13 regulation are listed below. However, program curriculum is in compliance for attaining the program specific outcomes (PSOs) as their average values are more than 80%.

In the process of enhancing the compliance of curriculum with the program outcomes, there are few curriculum gaps identified. The above gaps are addressed by addition of add-on courses and training programs. However, all these gaps are taken care by adding skill based components and introducing add-on Lab experiments and few contents in theory courses along with the curriculum provided by the university.

Gap identification for R-13 Regulations through Curriculum

Sl.No.	Identified PO	Gap identification for R-13 Regulations
1	PO5	G1: Lack of applying modern IT tools to solve complex engineering problems.
		G1: Incapable of providing solutions for real time applications using modern tools.
2	PO6	G2: Insufficient contextual knowledge to assess societal health safety and cultural issues.
		G3: Lack of ability to develop real time projects
3	PO7	G4: Lack of knowledge in professional engineering solutions in societal and environmental context.
		G5: Lack of knowledge and need for sustainable development.
4	PO8	G6: Lack of ability to apply ethical principles to protect biodiversity and to conserve the natural resources.
		G4: Lack of apply professional ethics while providing solutions for societal issues.

Table B: 2.1.1.q: Gap identification for R-13Regulations through Curriculum

ii). Gap identification of R-13 Regulations through stakeholders:

Sl. No.	Stakeholder	Identified gap	Relevance to POs
1	Outgoing students	G7: Conduct more value-added courses on various technologies like IOT, PLC etc.	PO5 PO12
		G8: Improve personality skills, employability skills and company specific training.	PO8 PO9 PO10
		G3: Inculcate research culture.	PO4 PO11
2	Alumni	G1: Hands on training on latest technology	PO4 PO5
		G8: Training for competitive exams and technical communication principles.	PO10 PO12
		G9: Motivate students towards sports and games like inter college events.	PO9
3	Parents	G8: Improve interpersonal and public speaking skills	PO9 PO10
4	Teachers	G3: Involve students in B. tech projects related to societal and health issues	PO6 PO11
5	Employer	G1: MATLAB practical implications	PO5
		G7: Improve IOT for Electrical appliances	PO11

Table B: 2.1.1.r: Gap identification of R13 Regulations through stakeholders

Gap identification for R-16 Regulations:

From Table B: 2.1.1.1 it is clear that the courses in R-16 regulations with POs such as Engineering Knowledge (PO1), Problem Analysis (PO2), Design/ Development of Solutions (PO3), are highly mapped and remaining POs such as Conduct Investigations of Complex Problems (PO4), Individual and Team Work (PO9), Communications (PO10), Project management and finance (PO11) and Lifelong Learning (PO12) maps moderately. The POs Modern Tool Usage (PO5), The Engineer & Society (PO6), Environment and Sustainability (PO7) and Ethics (PO8) are mapped low. Various course gaps identified in R16 regulation are listed below. However, program curriculum is in compliance for attaining the program specific outcomes (PSOs) as their average values are more than 80%.

In the process of enhancing the compliance of curriculum with the program outcomes, there

are few curriculum gaps identified. The above gaps are addressed by addition of add-on courses and training programs. However, all those gaps are taken care by adding skill based components and introducing add-on Lab experiments and few contents in theory courses along with the curriculum provided by the university.

Gap identification for R-16 Regulations through Curriculum

Sl. No.	Identified PO	Gap identification for R-16 Regulations
1	PO5	G1: Lack of applying modern IT tools to solve complex engineering problems.
		G1: Incapable of providing solutions for real time applications using modern tools.
2	PO6	G2: Insufficient contextual knowledge to assess societal health safety and cultural issues.
		G3: Lack of ability to develop real time projects
3	PO7	G4: Lack of knowledge in professional engineering solutions in societal and environmental context.
		G5: Lack of knowledge and need for sustainable development.
4	PO8	G6: Lack of ability to apply ethical principles to protect biodiversity and to conserve the natural resources.
		G4: Lack of apply professional ethics while providing solutions for societal issues.

Table B: 2.1.1.s: Gap identification for R-16 Regulations through Curriculum

Gap identification R-16 Regulations through stakeholders:

Sl. No.	Stakeholder	Identified gap	Relevance to POs
1	Outgoing students	G7: Conduct more value-added courses on various technologies like IOT, PLC etc.	PO5 PO12
		G8: Improve personality skills, employability skills and company specific training.	PO8 PO9 PO10
		G3: Inculcate research culture.	PO4 PO11
		G8: Motivate students to learn new technologies used in core industries	PO10 PO12

		G9: Motivate students towards sports and games like inter college events.	PO9
3	Parents	G8: Development of leadership skills	PO9 PO10
4	Teachers	G3: Involve students in B. tech projects related to societal and health issues	PO6 PO11
5	Employer	G1: MATLAB practical implications	PO5
		G7: Improve industry related software skills	PO11

Table B: 2.1.1.t: Gap identification of R-16 Regulations through stakeholders

2.1.2. State the Delivery Details of the Content beyond the Syllabus for the Attainment of POs & PSOs (10)

A. Steps taken to get identified gaps included in the curriculum. (e.g. letter to university/BOS) (2)

Information gathered from internal and external tools are discussed and deliberated by the program coordinator to identify curricular gaps. Program Assessment and Quality Improvement Committee (PAQIC) discusses about the identified gaps for the attainment of POs and PSOs. PAQIC submits the report to Department Advisory Committee (DAC) based on the suggestions received from various stakeholders. DAC will then finalize the curricular gaps based on the assessment report submitted by the PAQIC. The identified curricular gaps are intimated to affiliated university JNTU Kakinada.

B. Delivery details of content beyond syllabus (5)

The department of EEE identified the gaps stated above to bridge the gap between industry needs and curriculum. To fill the gaps in the curriculum and also to prepare the students in accordance with the department vision and mission, the department organizes lot of activities like guest lectures, seminars, and workshops, training programs, additional labs and industrial visits to strengthen the curriculum. The activities which that took place in the Department for bridging the curricular gaps to attain POs and PSOs, are illustrated in Table B.2.1.2a, Table B.2.1.2b and Table B.2.1.2c.

To meet the gaps various instructional methods like workshops, guest lectures are implemented. The implemented actions are tabulated as below.

Delivery details of the content beyond syllabus for the academic year 2018-19 are tabulated below

Sl. No.	Gap identified	Action Taken	Date-Month-Year	Resource Person with the designation	Number of Students	Relevance to POs/PSOs
1	G3:(R-13&R-16) Lack of ability to develop real time projects	Workshop on “Stem robots for Industrial education and Industrial robots for manufacturing automation”.	22-02-2019	Mr.Sudhir Reddy, Director, Jay Robotix Hyderabad, Sudhir Sanna, Professor and CEO Robotics and Automation,	100	PO6, PO11, PO12 & PSO2
2	G9: (R-13&R-16) Motivate students towards sports and games like inter college events.	YUVTARANG 2k19	10-01-2019 to 11-01-2019	Mr. K. Kushal Kumar, Associate Professor	180	PO9,PO10 & PO11
3	G1: (R-13&R-16) MATLAB practical implications	Guest Lecture on "Introduction to MATLAB and Applications"	28-12-2018	Mr. C. Rama krishna, Sri.S.Sanjay, Deputy Executive Engineer, AP TRANSCO	80	PO5, PO11, PO12 & PSO1
4	G5: (R-13) Lack of knowledge and need for sustainable development.	Guest Lecture on "Introduction to Smart Grid and sustainable Applications”	27-12-2018	Dr. B. Durga Prasaad, GITAM University	90	PO6, PO7, PO12 & PSO1
5	G2: (R-13&R-16) Insufficient contextual knowledge to assess societal health safety and cultural issues.	Seminar On “Electrical Industry safety culture and safety measures”	29-11-2018	Dr. G. Saraswathi, Professor, JNTUV, Vizianagaram	80	PO6, PO7 & PSO2

6	G8: (R-13) Improve personality skills and employability skills and company specific training.	Campus Placements & Training	12-11-2018 to 17-11-2018	Machine Ignite Team	83	PO9, PO10 & PO12
7	G8: (R-13) Improve personality skills and employability skills and company specific training.	Campus Placements & Training	25-09-2018 to 29-09-2018	Machine Ignite Team	82	PO9, PO10 & PO12
8	G9: (R-13&R-16) Motivate students towards sports and games like inter college events.	Technical Fest VISTA 2K18	14-9-18 to 15-09-2018	Vignan's Institute of Engineering for Women, Technical Festival	120	PO9, PO10 & PO11
9	G3: (R-13) Involve students in B. tech projects related to societal and health issues. G7:(R-16) Improve industry related software skills	Guest Lecture on "Artificial Intelligence techniques for future trends"	24-8-2018	Mrs.Niharika, Additional General Manager, Hinduja Corporation Pvt Ltd,	85	PO4, PO6, PO11, PO12 & PSO1
10	G6: (R-13) Lack of ability to apply ethical principles to protect biodiversity and to conserve the natural resources.	Guest Lecture on "Renewable and Nonrenewable resources and types of energy storage system".	23-08-2018	Dr. Sura Srinivasa Rao, Gitam Unversity	90	PO8, PO11, PO12, PSO1 & PSO 2

11	G8: (R-13) Training for competitive exams and technical communication principles.	Campus Placements & Training	10-08-2018 to 20-08-2018	FACE Team	82	PO9, PO10 & PO12
12	G8: (R-13) Training for competitive exams and technical communication principles. G8:(R-16) Development of leadership skills	Training on communication and interview skills	06-08-2018 to 09-08-2018	Mr.Bhupathi Raja & Mr.B.Sai Prasad, FACE organization	80	PO9, PO10 & PO12
13	G8: (R-13&R-16) Training for competitive exams and technical communication principles.	Campus Placements & Training	26-07-2018 to 04-08-2018	FACE Team	82	PO9, PO10 & PO12
14	G1: (R-16) Hands on training on latest technology G7: (R-13) Improve industry related software skills	Workshop on SCALE	23-07-2018 to 25-07-2018	Ms. Shreya Adabala, Mr. Sanket Dhadke, Mr. Rafae Shaik, Ms. Hashmitha Rani, Trainers, APSSDC	77	PO4, PO5, PO11, PSO1 & PSO2
15	G6: (R-13&R-16) Lack of ability to apply ethical principles to protect biodiversity and to conserve the natural resources.	Guest lecture on Strategic Thinking and Leadership	12-07-2018	DR Rojeena Mathew HoD, Training Head ,VIIT	80	PO8, PO9

Table B: 2.1.2.a: Gaps identified and actions taken in, 2018-19

Delivery details of the content beyond syllabus for the academic year 2017-18 are tabulated below

Sl. No.	Gap identified	Action Taken	Date-Month-Year	Resource Person with the designation	Number of Students	Relevance to POs/PSOs
1	G8: (R-13) Training for competitive exams and technical communication principles.	Training in Java Programming	07-05-2018 to 25-05-2018	Mr. Krishna Prasad, Director, KP Technologies	54	PO10 & PO12
2	G8: (R-13) Training for competitive exams and technical communication principles.	Campus Placements & Training	23-04-2018 to 05-05-2018	IGNITE Team	55	PO9, PO10 & PO12
3	G7: (R-13) Conduct more value-added courses on various technologies like IOT, PLC etc.	Workshop on Embedded Systems (IoT)	09-03-2018	S. Murali Krishna, K. Madhavi and U.Sumanth from APSSDC.	90	PO5, PO11, PO12 & PSO2
4	G6:(R-13&R-16) Lack of ability to apply ethical principles to protect biodiversity and to conserve the natural resources	Awareness program on Cyber Crime	08-03-2018	Mr. M. Avatharam, CI, Gajuwaka, VSKP	92	PO6 & PO8

5	G7:(R-13&R-16) Conduct more value-added courses on various technologies like IOT, PLC etc.	Workshop on Speech control and IOT Robot	22-02-2018	M. Ajay Kumar, Robosol, IIT Bombay	100	PO11, PO12 & PSO2
6	G9: (R-13&R-16) Motivate students towards sports and games like inter college events.	YUVTARANG 2k18	06-01-2018 to 07-01-2018	Mr. K. Kushal Kumar, Assistant Professor	180	PO9, PO10 & PO11
7	G3:(R-13) Involve students in B. tech projects related to societal and health issues G7:(R-16) Improve industry related software skills	Seminar on “Unified power quality conditioners”	20-12-2017	Dr. K Ramasudha, Professor, Andhra University	125	PO6, PO12, PSO1 & PSO2
8	G4: (R-13&R-16) Lack of knowledge in professional engineering solutions in societal and environmental context.	Guest Lecture on “Recent trends on Non-conventional energy”.	12-12-2017	Sri.B.Durga Prasad, Associate Professor, GITAM University	190	PO7, PO11, PSO1 & PSO2

9	G8: (R-13) Improve personality skills, employability skills and company specific training. G8: Development of leadership skills	Campus Placements & Training	13-11-2017 to 24-11-2017	CATIA Team	54	PO9,PO10 & PO12
10	G8: (R-13) Improve personality skills, employability skills and company specific training.	Campus Placements & Training	30-08-2017 to 05-10-2017	Pseudo Code Team	54	PO9, PO10 & PO12
11	G9(R-13&R-16): Motivate students towards sports and games like inter college events.	VISTA 2K17	14-09-2017 to 15-09-2017	Mr. M. Suresh, Assistant Professor	182	PO9, PO10 & PO11
12	G2(R-13): Insufficient contextual knowledge to assess societal health safety and cultural issues.	Guest Lecture “High voltage power system operation and instrument Calibration and safety measures”	29-08-2017	Sri.Manoj Kumar, Dy.General Manager, RINL-Visakhapatnam Steel Plant	90	PO6, PO11 & PSO1
13	G8: (R-13&R-16) Improve personality skills, employability skills and company specific training	Training on communication and interview skills	07-08-2017 to 11-08-2017	Mr.Bhupathi Raja & Mr.B.Sai Prasad, FACE organization	54	PO9, PO10, PO12

14	G1: (R-13) MATLAB practical implications	Workshop on “MATLAB, SIMULINK for Electrical Engineering Applications”	22-07-2017.	Dr. R. Ram Prasad, Dy. General Manager, Visakhapatnam Steel Plant	180	PO5, PO11, PO12 ,PSO1& PSO2
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Table B: 2.1.2.a: Gaps identified and actions taken in, 2017-18

Delivery details of the content beyond syllabus for the academic year 2016-17 are tabulated below

Sl. No.	Gap identified	Action Taken	Date - Month- Year	Resource Person with the designation	Percentage of Students	Relevance to PO/PSO
1	G1: (R-13) Lack of applying modern IT tools to solve complex engineering problems.	Workshop on Mini Humanoid Robot	06-03-2017 to 07-03-2017	Mr. M.Suyog, Aakaar IIT Bombay	84	PO5, PO11, PO12& PSO2
2	G4: (R-13) Lack of knowledge in professional engineering solutions in societal and environmental context	Financial Education Workshop	04-03-2017	Mr.M.Srinu Resource Person, SEBI	70	PO7 &PO8
3	G3: (R-13) Inculcate research culture.	Seminar On “Overview of Multi Megawatt Wind Turbines and Wind	03-03-2017.	Prof. M. Purna chandra Rao, IEI Chairman Visakhapatnam local center & Prof. I Satyannarayana Ex Chairman IEI Visakhapatnam	80	PO6, PO11& PSO1

		Parks''		local center		
4	G2: (R-13) Insufficient contextual knowledge to assess societal health safety and cultural issues.	Awareness program on Cyber Crime	02-03-2018	Mr. Y. Kishore Kumar, CI, Duvvada, Visakhapatnam	65	PO6 & PO8
5	G8: (R-13) Improve personality skills, employability skills and company specific training.	Campus Placements & Training	21/02/2017 to 18/03/2017	Mr. Sekhar & Mr. Sajany, IGIAT, Visakhapatnam	62	PO9, PO10 & PO12
6	G4: (R-13) Lack of apply professional ethics while providing solutions for societal issues.	Guest lecture on Anger and Stress	21.2.2017	Dr. Shylaja Nair. St. Joseph's College for Women	130	PO7&PO8
7	G1: (R-13) MATLAB practical implications	Workshop on MATLAB Simulink for Electrical Engineering Applications	20-02-2017	P. Devendra Associate Prof. GMRIT	120	PO5, PO11, PO12, PSO1 & PSO2
8	G9: (R-13) Motivate students towards sports and games like inter college events.	YUVTARANG 2k17	07-01-2017 to 08-01-2017	Mr. K. Kushal Kumar, Assistant Professor	180	PO9, PO10 & PO11

9	G7: (R-13) Improve IoT for Electrical appliances	Workshop on IoT with Cloud Robotics	6-12-2016 to 7-12-2016	Mr. M.Suyog, Aakaar IIT Bombay	100	PO11, PO12 & PSO2
10	G3: (R-13) Lack of ability to develop real time projects	Guest lecture: High Voltage DC Transmission and Applications	01-12-2016	Sr. Prof. Sastry V. Vedula, Ph. D, FANE, IEEE(Life) GVPCE(A)	85	PO6, PO11, PSO1 & PSO2
11	G8: (R-13) Improve personality skills, employability skills and company specific training.	Campus Placements & Training	29-09-2016 to 13-10-2016	Mr. Jatindhar, Mr. Shasidhar, Mr. Vishnu, Trainers, Talentio	98%	PO9, PO10 & PO12
12	G3: (R-13) Involve students in B. tech projects related to societal and health issues	Recent Trends on Electrical Equipment Interfacing with Embedded Systems	26-09-2016 To 28-09-2016	Viplav Kumar.C Technosoft solutions	100	PO6, PO11 , PSO1 & PSO2
13	G8: (R-13) Improve personality skills, employability skills and company specific training.	Campus Placements & Training	22-09-2016 to 24-09-2016	Mr. Krishna Prasad, Director, KP Technologies	62	PO9, PO10 & PO12
14	G9: (R-13) Motivate students towards sports and games like inter college events.	VISTA 2K16	14-09-2016 to 15-09-2016	Mr. K. Vamsi, Assistant Professor	120	PO9, PO10 & PO11
15	G3: (R-13) Inculcate research culture.	Guest lecture on Research methods	12-09-2016	Dr. B. Arundathi HoD, EEE, VIIT	85	PO4 & PO11

16	G4: (R-13) Lack of knowledge in professional engineering solutions in societal and environmental context.	Seminar on Human rights and law of enforcement	26-08-2016	K. Ranjan Kumar Assistant Professor Raghu Engineering college	90	PO8
17	G8: (R-13) Improve personality skills, employability skills and company specific training.	Campus Placements & Training	16-08-2016 To 24-08-2016	Mr.Jatindhar, Mr.Shasidhar, Mr.Vishnu, Trainers, Talentio	61	PO9, PO10 & PO12
18	G5: (R-13) Lack of knowledge and need for sustainable development.	Seminar on renewable energy sources and conversion technology	20-07-2016.	Sri B. Hume Sastry, Chief Engineer (Retd.), APEPDCL, Visakhapatnam	98	PO7, PO11, PO12 and PSO1
19	G8: (R-13) Improve personality skills, employability skills and company specific training.	Campus Placements & Training	11-07-2016 to 04-08-2016	Mr.Jatindhar, Mr.Shasidhar, Mr.Vishnu, Trainers, Talentio	62	PO9, PO10 & PO12
20	G1: (R-13) Hands on training on latest technology	Workshop on Tech Project EXPO	22-06-2016 to 23-06-2016	VIIT Team, Visakhapatnam	97	PO5 & PO9

Table B: 2.1.2.a: Gaps identified and actions taken in 2016-17

C. Mapping of Content beyond Syllabus with the POs & PSOs (3)

The above content beyond syllabus mappings with POs and PSOs is consolidated and presented below.

S. No.	Topics	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	Pre-placement Training	Y	Y	Y	-	-	Y	Y	-	-	Y	Y	Y	-	-
2	Training on Soft skills		Y	Y	Y	Y	Y	-	-	-	-	Y	Y	-	-
3	Guest lectures	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	workshops	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	Industrial Visits	-	Y	Y	Y	-	Y	Y	-	-	Y	Y	Y	Y	Y

Table B: 2.1.2.b: Mapping of content beyond Syllabus with the POs & PSOs

2.2. Teaching-Learning (100)

2.2.1. Describe the process followed to improve quality of teaching-learning (25)

(Processes may include adherence to academic calendar and improving instruction methods using pedagogical initiatives such as real-world examples, collaborative learning, quality of Laboratory experience with regard to conducting experiments, recording observations, analysis of data etc. encouraging bright students, assisting weak students etc. The implementation details and impact analysis need to be documented)

Effective content delivery, selection of teaching methodologies and effective assessment etc. plays a vital role in teaching-learning process. Hence, by proper planning, designing and implementing the course, the course coordinator successfully deliver the content to the students after taking the suggestions from both module coordinator and program coordinator.

A. Adherence to Academic Calendar (3)

The institute academic calendar is circulated to the departments towards the end of the previous academic year in adherence to the university academic calendar. The department academic calendar is prepared by adhering strictly to the institute calendar. The department academic calendar is implemented as per schedule with respect to commencement of class

work, mid-I and mid-II examinations, last working day, end semester exams (theory) and end semester exams (practical) in each semester/year. In addition FDPs, students counseling, remedial classes, guest lectures, workshop/symposia, industrial visits, CRC meetings etc., are also included in the academic calendar.

A copy of the University academic calendar prepared for the academic year 2019-20 is given below:

Academic Calendar for B. Tech IV Year (2019-2020)

Grams: "TECHNOLOGY"
Email: dapjntuk@gmail.com



Phone: 0884-2300991
Mobile: +9963993504

Directorate of Academic & Planning
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA-533003, Andhra Pradesh, INDIA
(Established by AP Government Act No. 30 of 2008)

Lr. No. JNTUK/DAP/AC/B. Tech/IV Year/2019-20

Date: 30-05-2019

Dr. A. Mallikarjuna Prasad
M.E., Ph.D.,
Director, Academic Planning

To
All the Principals of Affiliated Colleges,
JNTUK, Kakinada

ACADEMIC CALENDAR FOR B.TECH IV YEAR (2016 BATCH)

I SEMESTER			
Description	From	To	Weeks
Commencement of Class Work	10.06.2019		
I Unit of Instructions	10.06.2019	03.08.2019	8W
I Mid Examinations	05.08.2019	10.08.2019	1W
II Unit of Instructions	12.08.2019	05.10.2019	8W
II Mid Examinations	07.10.2019	12.10.2019	1W
Preparation & Practicals	14.10.2019	19.10.2019	1W
End Examinations	21.10.2019	02.11.2019	2W
Commencement of II Semester Class Work	18.11.2019		
II SEMESTER			
I Unit of Instructions	18.11.2019	11.01.2020	8W
I Mid Examinations	13.01.2020	23.01.2020	1W
II Unit of Instructions	24.01.2020	21.03.2020	8W
II Mid Examinations	23.03.2020	28-03-2020	1W
Preparation	30.03.2020	04.04.2020	1W
End Examinations	06.04.2020	18.04.2020	2W

A. m. prasad
Director Academic Planning

Copy to the Secretary to the Hon'ble Vice Chancellor, JNTUK.
Copy to PA to the Rector, JNTUK.
Copy to PA to the Registrar, JNTUK.
Copy to PA to the Director of Evaluation, JNTUK.

The department calendar for academic year 2019-20 for second semester is tabulated below

Week number								Events / Holidays	Internals/Externals/Project
	2019	November							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	17 th -Academic committee meeting	
Week-01	18	19	20	21	22	23	24		18 th -commencement of class work for II, III, IV years. (I unit of instruction)
Week-02	25	26	27	28	29	30	01		
	2019	December							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
Week-02	25	26	27	28	29	30	01		
Week-03	02	03	04	05	06	07	08	5 th - Feedback collection 7 th -Industrial visit	
Week-04	09	10	11	12	13	14	15		
Week-05	16	17	18	19	20	21	22	17 th ,18 th -ELECSPiRE Department association 17 th -Workshop for II, III, & IV years	20 th -Final year project abstract submission
Week-06	23	24	25	26	27	28	29	25 th -Christmas	
Week-07	30	31							
	2020	January							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
Week-07	30	31	01	02	03	04	05	1 st -New year	
Week-08	06	07	08	09	10	11	12	6 th -Counsellors meeting with HOD 7 th -Class review meeting 11 th ,12 th YUVATARANG	7 th ,8 th ,9 th -Mid-1 revision 10 th -Project review committee-1
Week-09	13	14	15	16	17	18	19	13 th -18 th Pongal holidays	13 th -23 rd Mid-1 exams for II, III, IV years
Week-10	20	21	22	23	24	25	26		24 th II-unit of instruction
Week-11	27	28	29	30	31	01	02	27 th -31 st -CCC(Phase-1)-CRT training	

	2020	February							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
Week-11	27	28	29	30	31	01	02		
Week-12	03	04	05	06	07	08	09	7 th -Guest lecture	
Week-13	10	11	12	13	14	15	16		
Week-14	17	18	19	20	21	22	23	21 st -Mahasivarathri	20 th -Project review committee-2
Week-15	24	25	26	27	28	29	01		
	2020	March							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
Week-15	24	25	26	27	28	29	01		
Week-16	02	03	04	05	06	07	08	7 th -Womens day celebrations	06 th - Project review committee -3
Week-17	09	10	11	12	13	14	15		
Week-18	16	17	18	19	20	21	22	16 th -Counsellors meeting with HOD 17 th -Class review meeting	19 th ,20 th ,21 st - Mid-2 revision
Week-19	23	24	25	26	27	28	29		23 rd -28 th Mid-2 examinations for II,III,IV years
Week-20	30	31							30 th -4 th Lab externals and preparation for 2 nd & 3 rd years
	2020	April							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday		
Week-20	30	31	01	02	03	04	05		01 st -04 th - External project viva
Week-21	06	07	08	09	10	11	12		6 th -End examinations
Week-22	13	14	15	16	17	18	19	19 th -Farewell for final years	

Table B: 2.2.1.a: A sample copy of department Academic calendar prepared for the academic year 2019-20

B. Use of Various Instructional Methods and Pedagogical Initiatives (3)

To improve the outcome of the students, the institute follows various methodologies. These are to create interest among the students through interaction and collaborative learning. Students undergo active learning in the classroom which develops the quench of knowledge improvement. The methodologies help to provide an amicable relationship with their fellow students which drive them towards success. The innovative methodologies like think-pair-share, flipped classrooms, seminars, group discussions, Power-Point presentations, peer learning and video lectures etc. inculcate not only technical skills but also personality development skills. To ensure that not only the advanced learners are beneficial but also the slow learners are to be enriched with all sorts of skills by the end of the course.

Following methods are implemented in teaching-learning process.

1. Lecture method
2. Group discussion
3. Active and Collaborative learning (STAD, TAPPS, TPS)
4. Student seminars
5. Laboratory instruction
6. Technology enabled learning

1. Lecture Method:

- This involves regular classroom instruction to deliver the content of all the courses to the students on a day-to-day basis to train them in mathematics, science, and engineering. Soft skills are also imparted through classroom instruction to train the students in communication skills, professional ethics, etc.
- Every faculty prepares lecture notes in advance of the commencement of class work along with course delivery plan. Faculty use blackboard, PPTs, virtual labs, vignettes and etc for the content delivery
- All classrooms are provided with an OHP projector for teaching effectively. The department also has an LCD projector which is arranged in the classroom whenever required for teaching using multimedia to enhance student's understanding of the concepts.



Figure B: 2.2.1.a: Lecture Method

2. Group discussion:

- Students are given various topics from the courses and as well as on various local and global issues when participating in group discussions through which they are made aware of the issues. These groups study the topics in detail through library books, internet, and library journals. Thereafter, the topics are discussed by individual groups in the class and the faculty further guides them about the specific topic.
- The group's composition and the group discussion are carefully planned to create a non-threatening environment so that participants feel free to talk openly and give honest opinions.
- Participants are actively encouraged to not only express their own opinions but also respond to other members and questions posed by the leader. Focus on groups offers a depth and variety to the discussion.
- To encourage student-centric learning, classroom discussions are used where students are made to interact with faculty to get help and understand the subject in more detail.
- These discussions are also used to focus on the latest developments in the area and to motivate students to pursue research in that specific field.

Advantages:

- ✓ Every student will learn beyond the syllabus which improves course knowledge along with advancements and applications of topic
- ✓ Discussion with faculty improves communication skills and knowledge

3. Active and Collaborative Learning:

This pedagogical learning is mainly based on team work. Students are often asked to work in groups of 2-3 on the given activities in class. Collaborative learning activities are a conscious choice and its benefits are several: students practice collaborating with peers, help each other to construct new knowledge by bouncing ideas and leveraging each other's strengths or by sharing new concepts. Activities that fit especially well with collaborative learning strategies are open-ended problems.

Some of the methods which are implemented by the faculty are summarized below.

Sl.No	Name of the faculty	Year/Sem	Subject	Activity	Topic
1.	Dr. K. Durga Shyam Prasad	2019 Sem-2	Electrical Machines-1	Think Pair Share	DC machine Principle of Operation
2.	Dr. Akanksha Mishra	2019 Sem-1	HVDC Transmission	STAD	Modern trends in DC transmission
3.	Dr. K. Durga Shyam Prasad	2018 Sem-2	Electrical Machines-1 Lab	STAD	Swinburne's Test on DC shunt Motor
4.	Mr. K. Vamsi	2018 Sem-1	Electrical Distribution Systems	Think Aloud Pair Problem Solving (TAPPS)	Types of substations
5.	Mr.P.V. Sarath	2017 Sem-2	Control Systems	STAD	Root Locus
6.	Mr. K. Vamsi	2017 Sem-1	Electrical Distribution Systems	Think Pair Share (TPS)	Comparison of Shunt and Series capacitors for Power Factor Improvement

Table B: 2.2.1.b: Active learning methods

a). Student Teams Achievements Division (STAD)

Course: HV DC Transmission

Topic: Modern trends in DC transmission

Facilitator: Dr. Akanksha Mishra

Collaborative learning:

Collaborative learning is an important technique for solving a given problem, creating a product, or completing a task in a creative teaching and learning environment.

Goals:

- Participation of students in unique discussions
- Encourage transparency during learning
- Boost the potential of individual learning
- Knowledge of different learning environments
- Encourage learning out of class and so on.

Outcomes:

At the end of the activity, students are able to

- Share thoughts and suggestions.
- Promotes peer knowledge.
- Strong class involvement.
- Measuring the results.
- Improves communication Skill.

Implementation process:

Initially, faculty gave brief idea about the STAD activity to all the students for the duration of 50 min. The findings of the exercise should be conveyed to all students. In addition to the operation, faculty explained the basics involved in the assigned tasks as set out in the following schedule.

Sl. No.	Activity	Duration
1.	Interaction session by educator	50 min (1 session)
2.	Making Teams, Sources of information	50 min (1 session)
3.	Activity (1 session) Collaborative learning	50 min (1 session)
4.	Presentation	50 min (1 session)
5.	Quiz and Discussion	50 min (1 session)
Total Sessions		5 Sessions

- The procedure followed for the implementation of collaborative activities Basic information on the topic in question was given at previous sessions
- Heterogeneous teams have been set up based on their styles. Similar learning style students have been grouped. A strong global learner in a team has been identified as a manager

- A full session was arranged for students to learn the topic from the suggested textbooks, journals, web resources, etc.
- The student's success was measured individually and as a group in both formative and summative ways.
- Individual quiz (viva-voce) and group quiz were conducted for summative assessment.
- Every individual has been asked three questions 3 Marks
- Each team was asked five questions – 5 Marks
- Attempts made to keep the discussion going on & Motivation to nonparticipating members:
- Observe all teams whether the discussion is going in the right direction

References:

1. HVDC Power Transmission Systems: Technology and System Interactions – by K. R. Padiyar, New Age International (P) Limited, and Publishers.
2. Direct Current Transmission – by E. W. Kimbark, John Wiley & Sons
3. <https://www.youtube.com/watch?v=yP7OACmLP48&t=2758s>



Figure B: 2.2.1.b: Student Teams Achievements Division

b).Think Aloud Pair Problem Solving (TAPPS)

Course: Electrical Distribution Systems **Topic:** Types of substations

Facilitator: Mr. K. Vamsi, Assistant Professor

Teaching Methodology	TAPPS
Class	IV EEE-B; Sem-I
Date	18-7-19
Time	10:50 to 012:30PM

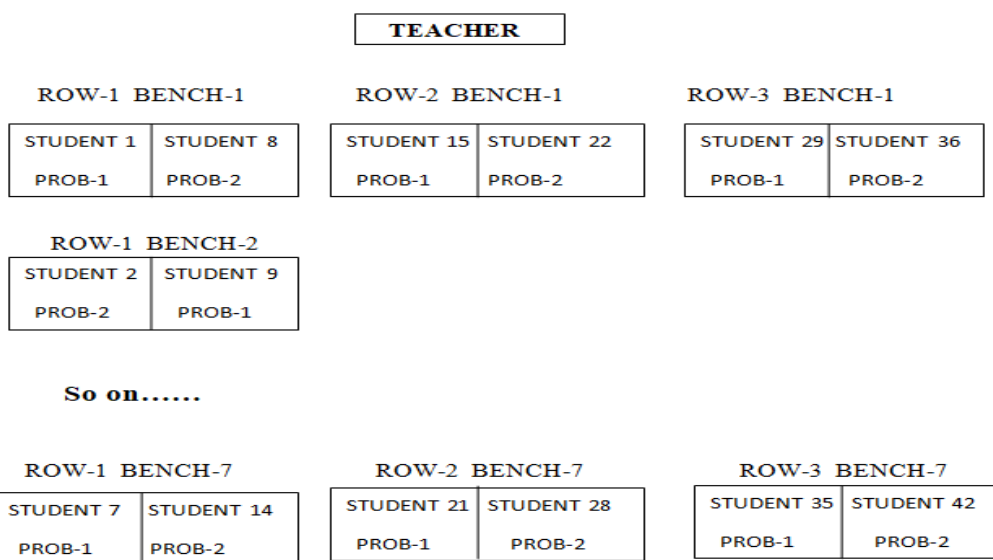
The main part of the activity is how the activity is been performed. The activity taken for active learning to happen is “TAPPS”

Implementation process:

The activity is implemented to analyze the problems thoroughly in Electrical Distribution Systems course.. In this activity the students are formed in pairs. As the strength of the class is 42, total 21 pairs are formed. The problems are shared as a presentation to the whole class.

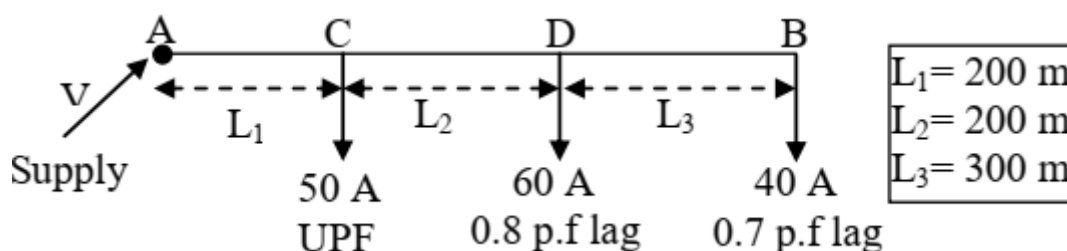
Each pair has an “Explainer” and a “Questioner”. The explainer explains the problem solution to his partner. Later on, the pairs explain the solution of the problem to the whole class to share their solution. By using this dynamic class room activity problem solving skills are enhanced.

The following figure shows the seating arrangement for the activity.



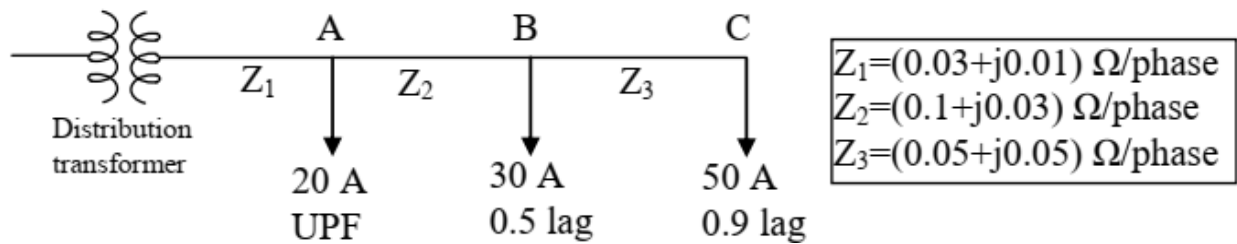
PROBLEM 1:

Consider the single phase radial distributor shown in the following Fig.. The magnitude of load currents, p.fs and distances are indicated in the figure. The resistance and reactance of each wire are 0.1 Ω per km and 0.2 Ω per km respectively. It is required to maintain voltage at point B as 230∠0 Volts. Find voltage drop in the three sections and total voltage drop in the feeder. The p.f. angles of individual loads are w.r.t. voltage at point B.



PROBLEM 2:

Consider a three phase, 3 wire 240V secondary system with balanced loads at A, B and C as shown in following Figure. Determine: (i) The voltage drop in one phase of lateral (ii) The real power per phase for each load (iii) The reactive power per phase for each load

**Reflections:**

- After end of the activity, various problem solving measures and general mistakes students do were discussed
- Two complicated problems can be solved using TAPPS activity in just 20-25mins. But, using traditional method only one problem can be solved within the time.
- Very good response from the students on the activity and observed maximum number of students actively participated. Even many students wanted to solve more problems using this activity.
- Necessary inputs had been given as and when required while solving the complex problems.



Figure B: 2.2.1.c: Implementation of TAPPS strategy

Impact analysis:

- Every student involved in the activity
- Communication of students improves
- Problem-solving skills are improved

c). Think Pair Share Activity (TPS)

Think-Pair-Share (TPS) is a collaborative learning strategy where students work together to solve problems or answer a question about assigned reading. This technique requires students to think individually about the topic or answer a question, and share ideas with colleague students. Discussing responses with peers serves to maximize participation, direct attention, and engage students in reading comprehension.

Faculty: Mr. K. Vamsi

Course: Electrical Distribution Systems

Topic: Comparison of Shunt and Series capacitors for Power Factor Improvement (CO 5)

Activity: Think Pair Share

Class: IV-I, EEE-B (2015 admitted batch)

Academic Year: 2018-19

Process for the activity:

Think phase: The instructor poses a question, such as “Write about Shunt and Series capacitors”. The students work individually on the task, for about ten minutes.

Pair phase: The instructor gives a task related to the Think phase, such as check your neighbor’s solution, or work with your neighbor to write the detailed report on the given topic. The students work with one of their neighbors to complete the task, in five to ten minutes. The instructor walks along the aisles, encouraging discussion and answering queries.

Share phase: The instructor facilitates a class-wise discussion on the topic in the share phase. Students’ responses in the Think and Pair phases formed an important part of the discussion in this phase.

Objectives

- To activate student’s prior knowledge
- To Enhances oral communication skills
- To make students active learners

Outcomes:

- Identify various feasible solutions for the given problem

- Summarize the concepts learnt from digital media
- Demonstrate the findings effectively with other peers and criticize the other conclusions.

4. Seminars:

Through Seminars, students are encouraged to innovate and come up with new ideas.

- Students are motivated to give seminars on contemporary topics related to the course.
- The discussion among students is improved.
- Student seminars are witnessed by the faculty for giving a critical assessment.
- Seminars not only develop the knowledge of the students in the latest areas but also help them in improving their communication skills and presentation skills.



Figure B: 2.2.1.c: Seminars by Students

5. Laboratory instruction:

- This involves faculty members giving instructions on laboratory exercises in the laboratories where students learn by of hands-on experience.
- Faculty members give demo on the experiments and usage of laboratory equipment in detail. Students are instructed to give the connections on their own and perform the experiment as a team.
- This mode of delivery is very effective. It creates student-centric learning environment.
Hence the students learn concepts by correlating theory & lab experiments.

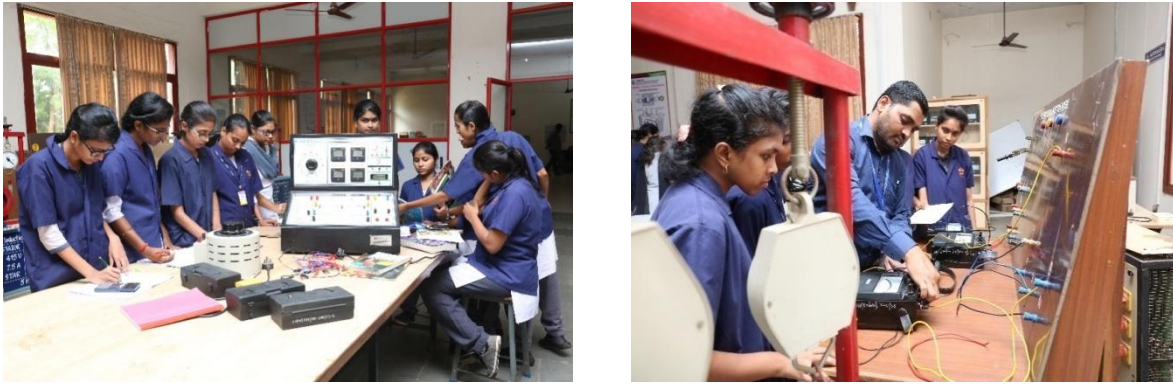


Figure B: 2.2.1.d: Instructions in Electrical Machines-I Lab

6. Technology enabled learning

21st century revolution in the ICT obliges the teachers and students to keep themselves abreast of the-state-of-the-art of technological development. The deployment of e-learning in teaching-learning process is imperative since the technology is embedded in almost all walks of our life. ICT encapsulates media such as audio, video, pictures, animation, graphics, internet and other software packages.

The use of technology to teach students has gained attention in the recent past. The process of dissemination of information and elicit response from students is a huge task. We adopted the following three technologies used to teach students.

Google Apps:

Sharing lecture notes and PPT through Google drive

- Conducting Online assessments through google forms
- Outcome: It is a collaborative platform for students in which students and instructors share their material online.

Smart Phones:

- Provides easy way to serve the students during the class. It is a good method for instant polling, which can quickly assess student understandings and helps instructors to change teaching modalities.

ICT Technology Classroom:

- ICTs are making dynamic changes in society. They are influencing all aspects of our life. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is forcing institutes aptly respond to this technical innovation.

- Offer the opportunity for more student-centered learning, provide greater opportunity for teacher-to-teacher and student-to-student communication and collaboration.
- Give greater exposure to vocational and workforce skills for students; provide opportunities for multiple technologies delivered by teachers.

Use of Learning Management Tools

The department of EEE uses LMS tools such as Moodles, Virtual Labs etc., to make the students submit their assignments, learn online and implement the experiments to gain knowledge about the concepts learnt in the class. Recently, Google Classroom, MS Teams, Zoom have been utilized by the faculty to teach the courses.

A massive open online course (MOOC) courses aims at providing high quality study materials to student/faculty community worldwide. The MOOC courses offered by Coursera, edX, NPTEL are of high standards. The students are clustered in a group based on their MOOC course interest and the provider. Students are encouraged to complete a MOOC certification to acquire in depth knowledge. The response of students to MOOC course was minimal.

- **MOODLES:** We organize all the material and syllabi of the course, assignments, readings and online quizzes etc.

Outcome: Material is easily accessible to all the students and it reaches to all the students including absentees.

Dissemination of Content through Course Websites:

The faculty members are self-motivated to create course websites to make available of the course content like syllabus, course delivery plan, lecture notes of all units and previous question papers. This facility helps the students to learn more in less time. As an educator we need to be very particular in inducting content to the learners in short span of time.

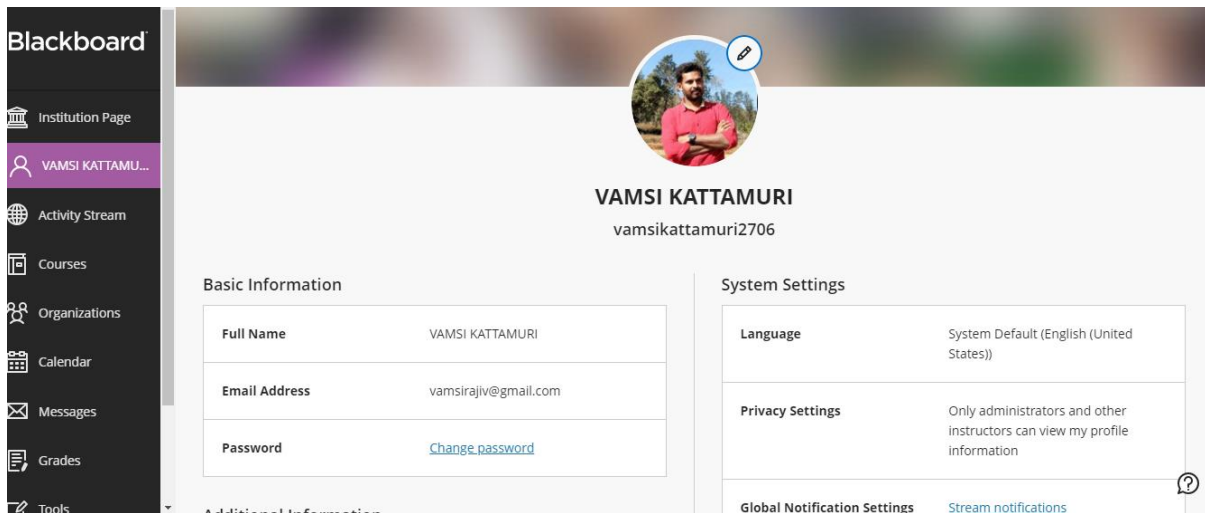


Figure B: 2.2.1.e: Course Website <https://blackboard.coursesites.com/ultra/profile>

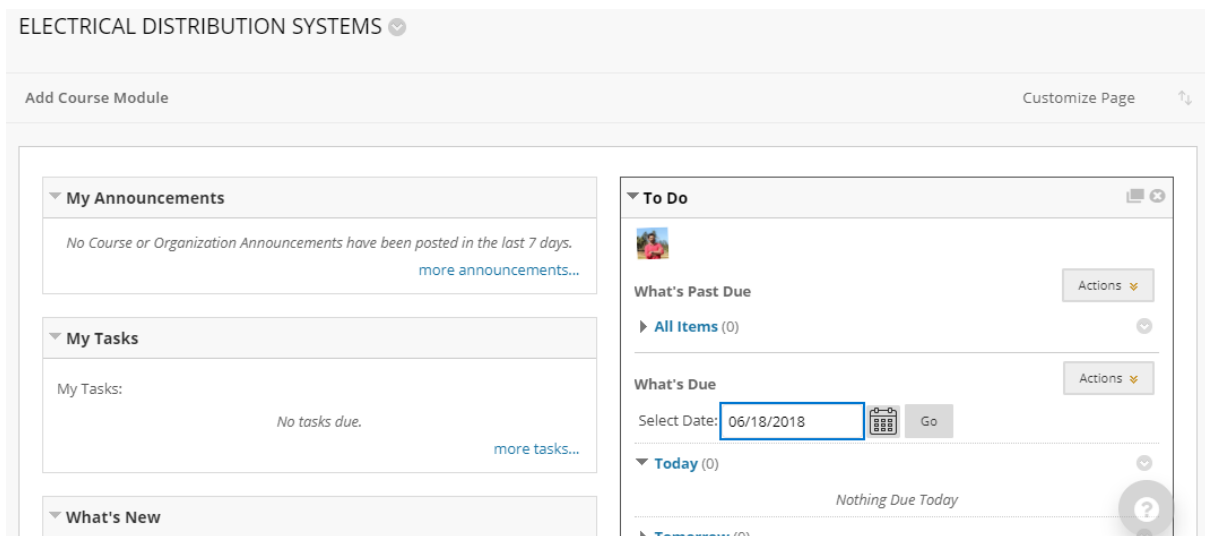


Figure B: 2.2.1.f: A Sample of Course Content in the Course Website

We also a website: <https://sites.google.com/view/vieweee/>

In which the data related to all courses of all semesters is maintained. It has syllabus, lecture plans, unit materials, and assignment questions, mid question papers after the exam and university previous question papers. All the students from department of EEE can access it.

Instruction Delivery through Course Websites

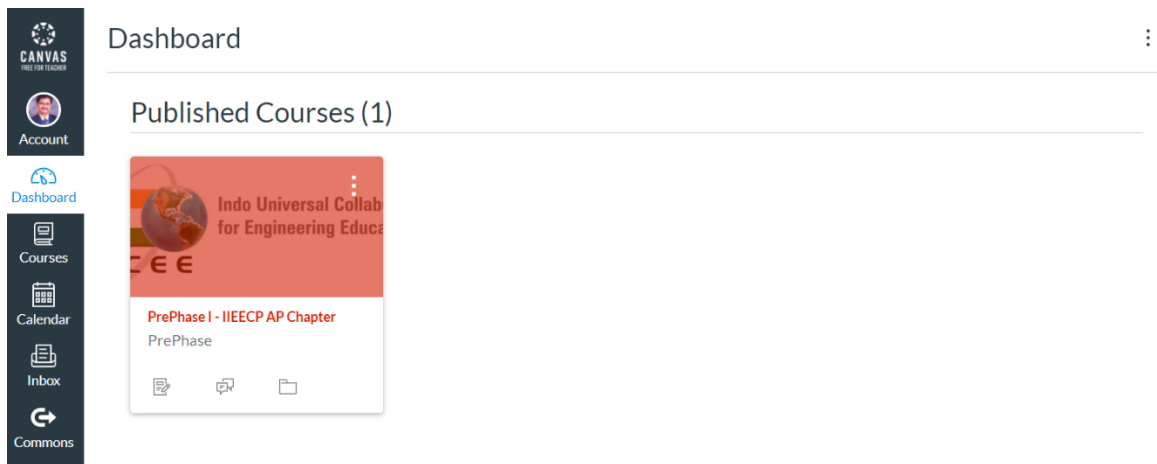


Figure B: 2.2.1.g: Content Delivery using Canvas LMS Tool

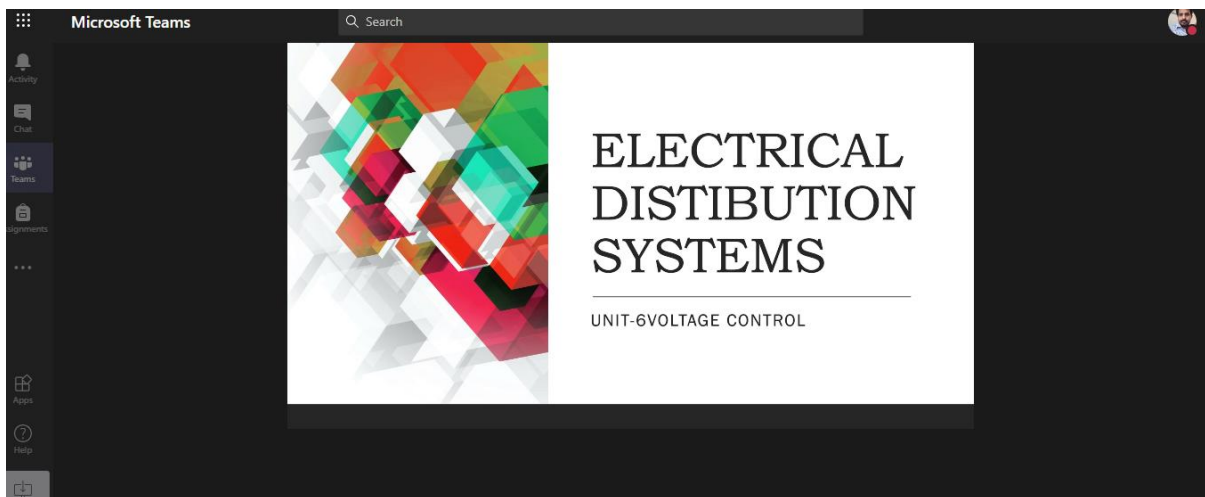


Figure B: 2.2.1.h: Content delivery using Microsoft teams

Technology enabled learning was evaluated by asking assignments and quizzes from MOOC materials. Furthermore, extra credits were given to students who completed MOOC courses with good grades. Microsoft teams' service offered by Microsoft is effective in achieving technology enabled learning. Microsoft teams combines the services offered by One Drive for storage, MS word, sheets and slides for writing, Outlook mail for electronic mail and calendar for maintaining schedules. An exclusive folder is created for each class in the corresponding user's One Drive where the student can submit their work for teacher's grading. Sharing of files, conducting assignments quizzes, grading/commenting assignments with respect to prompt sub-mission and content becomes easy with Microsoft Teams. Mobile version of MS Teams helps in quick access. Teachers can monitor student's progress and can assign grades and provide comments for the assignments.

Massive Open Online Courses (MOOCs)


JNTUK implements Massive Open Online Courses (MOOCs) with emerging technology to survive the motto of excellence. “If you can’t reach to the mentor’s level, we’ll send the mentor to your level” is the main motto of MOOCs. The students were given choice that either they can take online course, or they can go for a traditional face to face mode in the classroom. Any student can attend the MOOCs classes without disturbing the normal face to face classroom schedules.

Methodology:

- Students Need to login into MOODLES software using their mail IDs during time slot given by JNTUK.
- Students listen to video classes and discuss with the subject experts.

Sl. No.	Academic Year	Name of the Faculty	Year/ Sem	Course	No. of Students Participated	Relevance to POs/PSOs
1	2017-18	Mr. A. Chandriah	II-II	Electrical Machines-II	105	PO1-PO4, PSO1, PSO2
2	2018-19	Ms. T. Sushma	IV-I	Energy Audit & Conservation Management	87	PO1-PO4, PSO1, PSO2

Table B: 2.2.1.c: MOOCs Activities



Jawaharlal Nehru Technological University Kakinada
Kakinada, A.P. India-533003

Massive Open Online Courses (MOOCs) Time Table
AY: 2018-19- Second Semester

	10.50 AM to 12.30 AM		2.00 PM to 3.40 PM
Monday			B Energy audit conservation and management
Tuesday	Statistics using R Programming	R	R Signals and Systems
Wednesday			E Metal Cutting and Machine Tools
Thursday	Energy audit conservation and management		K Signals and Systems
Friday	Statistics using R Programming	R	A Metal Cutting and Machine Tools

- Energy audit conservation and management - (B.Tech. IV Year I Sem- EEE) – Dr. P. Suresh babu
- Statistics using R Programming -(B.Tech. II Year I Sem- CSE/IT) – TCS Consultants
- Metal Cutting and Machine Tools -(B.Tech. III Year I Sem- Mech) – Prof. G. L. Samuel, IIT Madras
- Signals & Systems - (B.Tech. II Year I Sem- ECE) - Dr. K.V. Srinivas , IIT BHU

Usha
Registrar-JNTUK

Outcomes of Technology Enabled Learning (TEL):

- Learning from experts.
- Updating the knowledge of Internet.
- Solving problems by ICT methods.
- Improving lifelong learning skills.
- Experts deliver better understanding of the subject in their domain.

Significance of results & reflective critique:

- Offer the opportunity for more students-centered teaching.
- Provide greater opportunity for teacher-to-teacher and student-to-student communication and collaboration.
- Give greater exposure to vocational and workforce skills for students.
- Provide opportunities for multiple technologies delivered by teachers.
- Create greater enthusiasm for learning amongst students.
- Provide teachers with new sources of information and knowledge.
- Prepare learners for the real world,

C. Methodologies to Support Weak Students and Encourage Bright Students (4)

The bright students are identified from their participation in classroom discussion, performance in the assessment tests and participation in classroom seminars, questioning ability and University result analysis. The Department appoints one faculty counselor for every 20 students while entering the second year. The Counselors regularly conduct meetings regarding progress of their mentees and are responsible to identify students who scored less than 60% marks in their internals. Under the HOD direction, the students counselors identify the weak students who score below 60% marks in three or more courses in MID-I, MID-II & external examinations and the same is intimated to their parents. The department of EEE supports backlog students and weak students identified through counseling by conducting remedial classes during semester break. The faculty helps the students by teaching the essential concepts, giving assignments and conducting tests to improve the student.

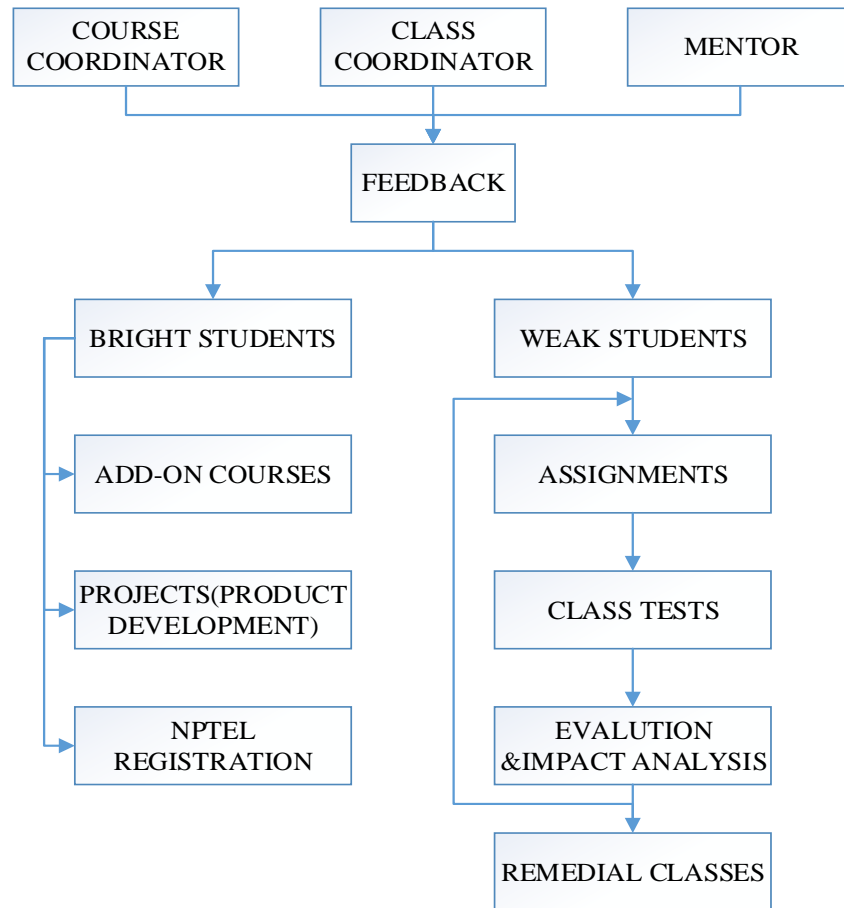


Figure B: 2.2.1.i: Process to identify weak & bright students

i) Methodologies to support weak students:

There is a streamlined mechanism for continuous monitoring and evaluation of the students. This system helps to identify slow and advanced learners. Subsequent programmes are designed to cater to their special needs.

After identifying slow learners.

- The student is asked to meet the counselor once in every week to develop interaction and discuss their problems. Even their financial background, health issues, the reasons for their irregularity or any other problems are discussed in a very amicable manner to sort out their problems through counseling and hence improve their academic performance.
- This Faculty Counselor establishes a close relationship with each student and orients them to college practices, and monitor their progress (e.g., with at least fortnightly/monthly meetings) and guides them throughout the four-year course.
- Remedial classes are conducted for weak students after the college hours i.e., 3 P.M. to 5 P.M. depending on the requirement.
- Separate assignments and materials are given to weak students.

Identification Criteria	Actions taken
Students scoring less than 60% of marks in Internal and External Assessment.	<ul style="list-style-type: none"> • Student counselor follows their progress regularly advising students about attending classes, making up classes missed, and getting additional help. • Conduction of remedial classes • Providing separate fast track material
Diploma students who are late joined	<ul style="list-style-type: none"> • Conduction of remedial classes and extra classes
Students who fail in semester exams	<ul style="list-style-type: none"> • Allotting separate faculty for each subject • Conduction of extra classes to those who failed in previous semester subjects.

Remedial class for weak students and improvement:

Our department is having practice of conducting remedial classes for weak students to cope-up with remaining students. The students who cleared backlogs due to remedial classes

Sl. No.	Regd. No	Backlog Subject	Remedial Class Counselor	Cleared with grade
1	17NM1A0244	Switching Theory and Logic Design	K.Vamsi	C
2	17NM1A0246	Electrical Machines-II	K.Chiranjeevi	D
3	17NM1A0246	Power Systems-I	V.V.Sai Santoshi	D
4	17NM1A0255	Electrical Measurements	M.Suresh	D
5	17NM1A0261	Switching Theory and Logic Design	K.Vamsi	D
6	17NM1A0261	Control Systems	A. Ravi Kumar	D
7	16NM1A0202	Renewable Energy Sources	T.Sushma	D
8	16NM1A0263	Signals and Systems	B.Naidu	D
9	16NM1A0280	Power Electronics	K.Chiranjeevi	C
10	17NM1A0205	Electrical Machines-I	A. Chandriah	D
11	17NM1A0233	Electrical Machines-I	A. Chandriah	D
12	17NM1A0234	Electrical Machines-I	A. Chandriah	D

Table B: 2.2.1.d: List of benefitted weak students in A.Y 2019-20

Sl. No	Regd. No	Backlog Subject	Counselor	Cleared With grade
1	14NM1A0219	Power System Operation and Control	B.M.PushpaLatha	D

2	14NM1A0221	HVAC Transmission	Akanksha Mishra	D
3	14NM1A0225	HVAC Transmission	Akanksha Mishra	D
4	14NM1A0228	Electrical Distribution System	K.Vamsi	D
5	15NM1A0218	Electrical Machines-I	K.Chiranjeevi	D
6	16NM1A0238	ECA-II	V.Avinash	D
7	16NM1A0241	ECA-II	V.Avinash	D

Table B: 2.2.1.e: List of benefitted weak students in A.Y 2018-19

Sl.No.	Regd. No	Backlog Subject	Counselor	Cleared With grade
1	14NM1A0219	Electrical Measurements	M.Suresh	C
2	15NM5A0210	Power Systems-II	B. Rajesh	D
3	14NM1A0250	Switch Gear and Protection	K.Kusal Kumar	D
4	15NM1A0211	Electrical Machines-I	G.Ravi Kumar	D
5	15NM1A0213	Electrical Machines-I	G.Ravi Kumar	D

Table B: 2.2.1.f: List of benefitted weak students in A.Y 2018-19

A sample remedial class timetable is given below for

Course Name: Switch Gear & Protection Faculty Name: Ms.V.V.Sai Santoshi

Dates: 05-11-18, 06-11-18 & 7-11-18 Class: IV-I Sem Time: 3.00-5.00pm

Sl. No.	Regd. No.	Name of the Students	Signature
1.	15NM1A0205	Buddha Chandana	
2.	17NM5A0220	Ravada Rajeswari	
3.	17NM5A0202	Buddha Laxmi Lahari	
4.	16NM1A0278	SabbarapuAmulya	
5.	16NM1A0263	NekkalaNavya	
6.	16NM1A0245	Kokkirlapati Ramya	
7.	16NM1A0233	Gurugubelli Swathi	

Table B: 2.2.1.g: Sample remedial class timetable for IV year -I Sem weak students

ii) Methodologies to encourage bright students:

- Department encourages the bright students to participate in the national level technical competitions organized by other premier institutes and universities.
- The bright students are motivated to participate in Unnat Bharath Abhiyan (UBA) and NSS Activities.

- Bright students' services used as volunteers for campus recruitment drives
- Institute insists and encourages students to bring out Technical Articles / Papers at the end of final year project so that they are exposed to Technical Paper writing skills, peer reviews, plagiarism and research ethics.
- The students are also encouraged to use latest software tools for the analysis of experimental data collected/acquired from real time applications.
- Financial aid is given to the students who secured good ranks in university exams.
- Advanced learners are acting as mentors for slow learners.
- Separate books and journals are provided for advanced learners to gain more knowledge.
- Students are encouraged to do NPTEL courses in thrust areas like IoT, Artificial Intelligence, Big Data. Management encourages students with cash incentives who secured Silver, Elite, Gold.
- GATE classes and CRT training will be conducted for advanced learners

GATE classes for bright students:

Sl.No.	GATE subjects	Name of the Faculty	Department
1	Electrical Circuits	M.Suresh	EEE
		P.V.Sarath	EEE
2	Control Systems	G.Ravi Kumar	EEE
3	Power Electronics	K.Chiranjeevi	EEE
4	Electrical Machines		
	(i) Transformers	K.DurgaShyam Prasad	EEE
	(ii) DC Machines	A.Chandriah	EEE
	(iii) Asynchronous Machines	K.Kusal Kumar	EEE
	(iv) Synchronous Machines	V.Avinash	EEE
5	Power Systems		
	Power system-1 & PSOC	B.M.PushpaLatha	EEE
	Power system-2	K.Chiranjeevi	EEE
	Power system-1 & 2	V.V.saiSantoshi	EEE
6	Electrical Measurement	M.Suresh	EEE
7	Signal & Systems	B.Naidu	EEE
8	Digital Electronics & Microcontrollers	P.Gopi Krishna	ECE
		K.Rajendra Prasad	ECE
9	Analog Electronics	K.Ramana Rao	ECE
10	Electro Magnetic Fields	K.V.Sriram Prasad	EEE
11	Engineering Mathematics	A.Ganapathi Rao	BS&H

12	General Aptitude & English	CRT Training	CRT Training
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Table B: 2.2.1.h: GATE classes for bright students

The institute offers full fee waive off including fee reimbursement. The details for last three academic years are given below:

Academic Year	Year	Regd. No.	Name of the Student	%	Cash Prize in Rs.
2018-19	I B.Tech.	18NM1A0272	Y BHAVANA	9.44 (86.88%)	9000
	II B.Tech.	17NM1A0210	B VIKEERNA	9.25 (85%)	9000
	III B.Tech.	16NM1A0214	BONU RAM TULASI	8.72 (79.74%)	10000
	IV B.Tech.	15NM1A0209	DADI ANUSHA	87.78%	10000
2017-18	I B.Tech.	17NM1A0210	B VIKEERNA	9.38 (86.25%)	10000
	II B.Tech.	16NM1A0286	S ADI LAKSHMI	8.72 (79.67%)	7500
	III B.Tech.	15NM1A0209	DADI ANUSHA	88.24%	9000
	IV B.Tech.	15NM5A0205	M THERESA BHAGYAM	85.79%	10000
2016-17	II B.Tech.	15NM1A0209	DADI ANUSHA	88.86	10,000
	III B.Tech.	14NM1AO208	D CHANDI NAVYA	84.4%	7,500
	IV B.Tech.	13NM1A0267	S DEEPIKA	83.96%	7,500

Table B: 2.2.1.i: Recognition of merit students through scholarships.**Knowledge upgradation in Various Courses for bright students:**

Regd. Nos.	Name of the Course	Mode
17NM1A0231	Control Systems	NPTEL
18NM5A0234	Electrical Machines	NPTEL
17NM1A0205	Introduction to Arduino	UDEMY
18NM5A0209	Advanced simulation tools for power electronics, electromagnetic power systems	STC
17NM1A0218	Introduction to Arduino	UDEMY
17NM1A0242	Introduction to IoT	Simpli Learn
17NM1A0235	Fundamentals of digital marketing	Google
17NM1A0242	Power System Transmission and Distribution	TATA courses

17NM1A0263	PCB designing course	APSSDC
17NM1A0227	PCB designing course	APSSDC

Table B: 2.2.1.j: Details of bright Students up gradation in various courses

NPTEL certificates of 3rd-year students who completed the courses



Cash Prize for bright Students



D. Quality of Classroom Teaching (3)

Vignan’s Institute of Engineering for Women is one of the premier engineering colleges in Visakhapatnam which has an adequate number of classrooms designed as per international standards to ensure effective teacher-student interaction. The lecture hall has been designed with comfortable seating arrangement with ample space and ventilation for relaxed, comfortable and stress-free teaching-learning environment. To enhance the communication between student and teacher, modern teaching aids are equipped which encourage the students in an atmosphere where learning is more fun than a burden.

Our institute is very particular in maintaining quality of teaching in the classroom. Every faculty in our institute is trained to deliver the content in the classroom by adopting following procedures.

Step 1: Create an outline:

- ✓ What is the main goal for the lecture?
- ✓ Create 3-5 objectives for the lecture: These will describe how the teacher help the learner reach the goal
- ✓ Create an outline for the key concepts required to understand these objectives
- ✓ Create a timeline for the session

Step 2: Create a timeline:

As per our class timetable, every session is planned for 50 minutes.

Time	Activity
5 mins	Revision of previous class content
5 mins	Formative Assessment (2-3 questions on previous class)
15 mins	Delivery of new content / slides
5 mins	Interactive questions
15 mins	Continuation of the content / slides
5 mins	Review / Questions / Summary of the sessions
50 mins	End promptly

Step 3: Slides preparation:

- ✓ For a 50 minutes lecture, plan no more than 20 slides
- ✓ PPT will contain the following
 - Font size for body text is 20 to 32
 - Provide an outline slide
 - Use short phrases
 - More graphics, less text
 - Move tables and dense text to a separate handout

Step 4: Be confident

- ✓ Talk to the students, not to the slides / blackboard
- ✓ Make eye contact with the students in different parts of the classroom
- ✓ Talk clearly, not too fast, not too slow
- ✓ Use humor judiciously. Keep it professional.

Step 5: Provide links for web content**To improve quality of teaching, the following steps are taken by the faculty:**

- Quality of content: The lecture delivered by the faculty is monitored by the experts in

advance and necessary suggestions are given.

- Effectiveness of the content: At the end of every class, faculty poses questions to test the students to find how far the content is understood by each student.
- Each class has a class monitoring committee comprises of class coordinator, senior faculty member and class representative to take the feedback of classes.
- Technology in class: Every faculty opts technology aided methods along with chalk and board method like using advanced tools and NPTEL lectures.
- Students are encouraged to take some of the lab experiments as assignments to enhance their research skills.

Impact: As the department follows effective classroom teaching, More than 85% of students are graded as A in university exams, Institute always stood first in university exams for 5 years

The following are illustrative phrases that might be attached to the stem of an instructional objective, grouped in six categories according to the knowledge levels which include:

1. Knowledge 2. Comprehension 3. Application 4. Analysis 5. Synthesis 6. Evaluations.

It is a regular practice in our institution to prepare CDP (Course Delivery Plan) before the commencement of the class work to the courses handled by the individual faculty taking the guidance from the course coordinator. The CDP comprises of the entire plan for the course, learning objectives specified for each unit, course outcomes and CO-PO mapping. The CDP is prepared inharmonious to the university academic calendar.

The sample CDP for the course “Power Electronic Controllers & Drives” is given below:



**VIGNAN' S INSTITUTE OF ENGINEERING FOR WOMEN
VISAKHAPATNAM**

COURSE DELIVERY PLAN –THEORY

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING			T: 3+1
PROGRAM (UG/PG) : EEE			P: 0
Course Code :R1632021			C: 3
Course Name :Powerelectronic controllers & drives			Date:16/11/2019
Regulation : R16			Rev No: 00
Class	Course Coordinator	Section	Name of the Faculty
III Year -II Sem	Mr. V.Avinash	A & B	Mr. V.Avinash

Sl.No.	Course Objective
1	To learn the fundamentals of electric drive and different electric braking methods
2	To analyze the operation of three phase converter-controlled dc motors and four quadrant operation of dc motors using dual converters.
3	To discuss the converter control of dc motors in various quadrants
4	To understand the concept of speed control of induction motor by using AC voltage controllers and voltage source inverters
5	To learn the principles of static rotor resistance control and various slip power recovery schemes.
6	To understand the speed control mechanism of synchronous motors

Course Name	Course Outcome		
CO1	Students shall able to explain the fundamentals of electric drive and different electricbraking methods.	Understand	K2
CO2	Students shall able to analyze the operation of three phase converter-controlled dc motorsand four quadrant operation of dc motors using dual converters.	Analyze	K4
CO3	Students shall able to explain the converter control of dc motors in various quadrants.	Understand	K2
CO4	Students shall able to explain the concept of speed control of induction motor and synchronous motor by using AC voltage controllers and voltage source inverters.	Understand	K2
CO5	Students shall able to explain the principles of static rotor resistance control and variousslip power recovery schemes.	Understand	K2
CO6	Students shall able to explain the speed control mechanism of synchronous motors	Understand	K2

Unit-I: Fundamentals of Electric Drives

Electric drive – Fundamental torque equation – Load torque components –Nature and

classification of load torques – Steady state stability – Load equalization– Four quadrant operation of drive (hoist control) – Braking methods: Dynamic – Plugging – Regenerative methods.

Objective: To learn the fundamentals of electric drive and different electric braking methods

Session No	Topics to be covered	Reference	Teaching Aids
1	Brief overview of Electric Drives, Block diagram of ED	T.B: 1- Ch:01 Page No: 01-09	CHALK & BOARD
2	Fundamental torque equation – Load torque components	T.B: 1- Ch:02 Page No: 11,12-18,19	CHALK & BOARD
3	Nature and classification of load torques	T.B: 1- Ch:02 Page No: 19-20	CHALK & BOARD
4	Steady state stability – Load equalization	T.B: 1- Ch:02 Page No: 23-27	CHALK & BOARD
5	Four quadrant operation of drive (hoist control)	R.B: 3- Ch:15 Page No: 647-648	PPT
6	Braking methods: Dynamic – Plugging – Regenerative methods.	R.B: 3- Ch:15 Page No: 645-647	STAD
Content beyond syllabus covered (if any):			
Course Outcome (CO1): Students shall able to explain the fundamentals of electric drive and different electricbraking methods.			

* Session duration: 50 mins

Unit-II: Three phase converter-controlled DC motors

Revision of speed control techniques – Separately excited and series motors controlled by full converters – Output voltage and current waveforms –Speed-torque expressions – Speed-torque characteristics – Numerical problems – Four quadrant operation using dual converters.

Objective: To analyze the operation of three phase converter-controlled dc motors and four quadrant operation of dc motors using dual converters.

Session No	Topics to be covered	Reference	Teaching Aids
1	Speed control techniques of DC motors	T.B: 1- Ch:05 Page No: 87-89	CHALK & BOARD
2	Separately excited and self-excited DC motors controlled by 1-phase half-controlled converter	T.B: 1- Ch:05 Page No: 107-111	CHALK & BOARD
2	Separately excited and self-excited DC motors controlled by 1-phase full controlled converter	R.B: 3- Ch:15 Page No: 656	CHALK & BOARD
3	Output voltage and current waveforms	T.B: 1- Ch:05 Page No: 99-	PPT

		101	
4	Speed-torque expressions – Speed-torque characteristics	R.B: 3- Ch:15 Page No: 659	CHALK & BOARD
5	Four quadrant operation using dual converters.	T.B: 1- Ch:04 Page No: 114-118	STAD
Content beyond syllabus covered (if any):			
Course Outcome (CO2) Students shall able to analyze the operation of three phase converter-controlled dc motors and four quadrant operation of dc motors using dual converters.			

* Session duration: 50 mins

Unit-III: Control of DC motors by DC-DC converters (Type C & Type D)

Single quadrant – Two quadrant and four quadrant choppers fed separately excited and series excited motors – Continuous current operation– Output voltage and current waveforms – Speed–torque expressions – Speed–torque characteristics –Four quadrant operations – Closed loop operation (Block diagrams only).

Objective: To discuss the converter control of dc motors in various quadrants.

Session No	Topics to be covered	Reference	Teaching Aids
1	Single quadrant – Two quadrant chopper fed separately excited and series excited motors	R.B: 3- Ch:15 Page No: 668	CHALK & BOARD
2	Four quadrant choppers fed separately excited and series excited motors	T.B: 1- Ch:05 Page No: -69-71	CHALK & BOARD
3	Continuous current operation– Output voltage and current waveforms	T.B: 1- Ch:05 Page No: 72	PPT
4	Speed–torque expressions – Speed–torque characteristics	T.B: 1- Ch:05 Page No: 73	CHALK & BOARD
5	Four quadrant operations	R.B: 3- Ch:15 Page No: 669	GD
6	Closed loop operation (Block diagrams only)	T.B: 1- Ch:05 Page No: 103	CHALK & BOARD
Content beyond syllabus covered (if any):			
Course Outcome (CO3): Students shall able to explain the converter control of dc motors in various quadrants.			

* Session duration: 50 mins

Unit-IV: Induction motor control – Stator side

Variable voltage characteristics–Control of Induction Motor by AC Voltage Controllers – Waveforms –Speed torque characteristics– Variable Voltage Variable Frequency control of induction motor by voltage source inverter –PWM control – Closed loop operation of induction motor drives (Block Diagram Only).

Objective: To understand the concept of speed control of induction motor by using AC

voltage controllers and voltage source inverters.

Session No	Topics to be covered	Reference	Teaching Aids
1	Variable voltage characteristics	T.B: 1- Ch:06 Page No: 140	CHALK & BOARD
2	Control of Induction Motor by AC Voltage Controllers – Waveforms	R.B: 3- Ch:16 Page No: 701-703	CHALK & BOARD
3	Speed torque characteristics	T.B: 1- Ch:06 Page No: 183	CHALK & BOARD
4	Variable Voltage Variable Frequency control of induction motor by voltage source inverter	T.B: 1- Ch:06 Page No: 186-188	PPT
5	PWM control	T.B: 1- Ch:06 Page No: 192	CHALK & BOARD
6	Closed loop operation of induction motor drives (Block Diagram Only).	R.B: 3- Ch:16 Page No: 721	GD
Content beyond syllabus covered (if any):			
Course Outcome (CO4): Students shall able to explain the concept of speed control of induction motor and synchronous motor by using AC voltage controllers and voltage source inverters.			

* Session duration: 50 mins

Unit-V: Control of Induction motor – Rotor side

Static rotor resistance control – Slip power recovery schemes – Static Scherbius drive – Static Kramer drive – Performance and speed torque characteristics – Advantages –Applications.

Objective: To learn the principles of static rotor resistance control and various slip power recovery schemes.

Session No	Topics to be covered	Reference	Teaching Aids
1	Static rotor resistance control	T.B: 1- Ch:06 Page No: 216-217	CHALK & BOARD
2	Slip power recovery schemes	R.B: 4- Ch:34 Page No: 926	CHALK & BOARD
3	Static Scherbius drive	T.B: 1- Ch:06 Page No: 219-221	PPT
4	Static Kramer drive	T.B: 1- Ch:06 Page No: 221-223	CHALK & BOARD
5	Performance and speed torque characteristics	T.B: 1- Ch:06 Page No: 229	CHALK & BOARD
6	Advantages –Applications of control of Induction Motor	T.B: 1- Ch:06 Page No: 230	CHALK &

			BOARD
Content beyond syllabus covered (if any):			
Course Outcome (CO5): Students shall able to explain the principles of static rotor resistance control and variousslip power recovery schemes.			

* Session duration: 50 mins

Unit-VI: Control of Synchronous Motors

Separate control & self-control of synchronous motors – Operation of self-controlled synchronous motors by VSI– Closed Loop control operation of synchronous motor drives (Block Diagram Only) – Variable frequency control– Pulse width modulation.

Objective: To understand the speed control mechanism of synchronous motors

Session No	Topics to be covered	Reference	Teaching Aids
1	Separate control & self-control of synchronous motors	T.B: 1- Ch:07 Page No: 244	CHALK & BOARD
2	Operation of self-controlled synchronous motors by VSI	R.B: 4- Ch:34 Page No: 937	CHALK & BOARD
3	Closed Loop control operation of synchronous motor drives (Block Diagram Only)	R.B: 3- Ch:16 Page No: 745	CHALK & BOARD
4	Variable frequency control	T.B: 1- Ch:07 Page No: 256-257	CHALK & BOARD
5	Pulse width modulation	T.B: 1- Ch:08 Page No: 192	CHALK & BOARD

Content beyond syllabus covered (if any):

Course Outcome (CO6): Students shall able to explain the speed control mechanism of synchronous motors

* Session duration: 50 mins

Mapping COs and POs:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	2		2		3	3
CO2	3	3	3	2	2	2	2		2		3	3
CO3	3	3	3	3	2	2	2		2	2	3	2
CO4	3	3	3	3	2	2	2		2		2	3
CO5	3	3	3	3	2	2	2		2		3	2
CO6	3	3	3	2	2	2	2		2		3	2

1: Low

2: Moderate

3: Strong

TEXT BOOKS:

1. Fundamentals of Electric Drives – by G K Dubey Narosa Publications
2. Power Semiconductor Drives, by S.B.Dewan, G.R.Slemon, A.Straughen, WileyIndia Edition.

Reference Books:

1. Electric Motors and Drives Fundamentals, Types and Applications, by Austin Hughes and Bill Drury, Newnes.

2. Thyristor Control of Electric drives – Vedam Subramanyam TataMcGraw Hill Publications.
3. Power Electronic Circuits, Devices and applications by M.H. Rashid,PHI.
4. Power Electronics handbook by Muhammad H.Rashid, Elsevier.

Prepared By	Signatures	Approved By	Signatures
Mr.V.Avinash		HOD-EEE	
		PRINCIPAL	

The faculty for the allotted course maintains a course file that includes:

Department Mission, Vision	Question Bank (unit-wise)
Program outcomes	Multiple Choice Questions
Course syllabus	Tutorial Topics/Problems
Course outcomes	Topics beyond Syllabus
CO-PO Mapping	PPT's/videos/other materials
University Academic Calendar	Internal question papers & scheme
Department Academic Calendar	Assignment Questions
CDP	University old question Papers
Course Timetable	Gap Analysis
Lecture Notes	Remedial Classes to weak students

E. Conduct of Experiments (3)

As practical knowledge is equally important along with theory, the department has well-equipped laboratories to provide adequate knowledge to every student.

The Laboratory experiments are conducted through the following measures:

- i. Sufficient number of equipment is available in the lab for conducting the lab session.
- ii. All the equipment are maintained in good working condition.
- iii. Lab technicians are technically sound and they are responsible to verify the readiness of the lab before commencement of the lab session.
- iv. Every student is provided with equipment on 1:4 ratio which ensures quality of laboratory experience.
- v. Manuals are provided for all experiments before the commencement of the lab sessions.

- vi. The concept of the experiment to be conducted is thoroughly explained in the lab
- vii. Same experiment is done by all the students in a lab session.
- viii. Faculty member ensure that every student is involved in carrying out experiment and obtaining the correct results.
- ix. Simultaneously, faculty also monitors the attitude and behavior of the students and same is recorded in attendance register.
- x. We do include some experiments as content beyond the syllabus to meet the needs of the industry.
- xi. Collaborative learning strategy is adopted to carry out some experiments
- xii. Viva-voce is conducted after each lab session.

F. Continuous Assessment in the Laboratory (3)

For internal evaluation, a total of 25 marks are sub-categorized to 10 marks for day-to-day evaluation, 10 marks for an internal exam and 5 marks for record work. Effective assessment is done by defining the rubrics.

i) Rubric for day-to-day evaluation of laboratory:

The rubric for day-to-day evaluation is designed based on student technical skills, laboratory skills, interpersonal skills and regularity. The rubric for a lab session is designed to assess the student's

Technical Skills:

1. The student has prior preparation for the current experiment or not?
2. The student has experiment knowledge to interpret the results or not?
3. Does the student participate in experiment or not?
4. Interpersonal Skills.
5. Time management: Ability to complete the task in stipulated time

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN::VISAKHAPATNAM
Department of Electrical and Electronic Engineering

LAB CONTINUOUS ASSESSMENT SHEET

ROLL NO: 16NM1A0210

1. Name of the Laboratory : Power Electronics Lab
 2. Name of the Student : Ranjita Basithi
 3. Class : EEE-A
 4. Name of the Experiment : 1- ϕ Bridge Inverter using firing circuit R & RL Load
 5. Date of Experimentation : 20/12/2018
 6. Date of submission of Report : 29/12/2018

S.NO	ABILITY/ACTIVITY	MARKS					SCORE
		10	8	6	4	2	
1	Initial Preparation		✓				8
2	Selection of Components Circuit Connections	✓					10
3	Observation, Model Calculation, Model Graph etc.		✓				8
4	Presentation of the Laboratory Report	✓					10

mentioning rheostat current ratings in the circuit dia

Total Score: 9

[Signature]
Signature of the Faculty Incharge

6. Communication skills: Ability to explain the obtained results.

Lab continuous assessment is given for 10 marks. Sample copy for continuous assessment is given above and averaged for 10 marks.

To maintain regularity to the lab, 2 marks are allotted to student's regularity.

Laboratory skills: Student's lab performance during the lab.

Faculty In-charge monitors

1. Pre-preparation: Student's prior preparation to the current experiment
2. Experiment knowledge: Student's concept about the experiment.
3. Interpersonal Skills: Teamwork and Communication skills
4. Subsistence: Time management, Punctuality, Attendance.

Rubric sheet for day-to-day evaluation of laboratory:

Name of the Lab		Date	
Name of the Student		Regd. No.	
Name of the experiment		Max. Marks	Marks

Metrics/ Attributes	Allotted Marks	Excellent	Good	Average/Needs Improvement	Score
Initial preparation	10 Marks	Suffice knowledge on the basic concepts to conduct the experiment.	Good knowledge to conduct experiment Correlation to the theoretical concept is missing.	No basic knowledge	
		8-10 M	4-6M	0-2M	
Circuit connections And output	10 Marks	Conducted the experiment with correct output.	Connections are correct with incorrect output.	Conducted experiments with errors	
		8-10 M	4-6M	0-2M	
Observation	10Marks	Calculations, theory and graphs are presented well.	Mistakes in calculations and graphs and write-up is correct	Calculations and graphs not written well	
		8-10 M	4-6M	0-2M	
Lab record	10 Marks	Writing of record with Graphs and model calculations 8-10M	Good presentation but mistakes in graphs 4-6M	Errors in model calculations 0-2M	
		Total Score			
Average					

Faculty In-charge

Table B: 2.2.1.k: Rubric sheet for day-to-day evaluation of laboratory**G. Student Feedback of Teaching-Learning Process and Actions Taken (6)**

Feedback for every course is collected in every semester within a month after starting of the semester. Feedback is analyzed and necessary action will be taken as mentioned below.

Feedback collection process:

Based on the following parameters mentioned below, students are asked to evaluate. Each faculty member is assessed with parameters mentioned in the figure 2.2.1.j and 2.2.1.l .

Actions taken: Based on these parameters, the percentage of feedback is given for every faculty member (out of 100%). If the feedback is less than 85%, the faculty member is asked to give an explanation letter to the head of the institution. If required, faculty development

programs are organized. Institute and Department level appreciations are given for the best feedback, which leads to employee satisfaction and motivates for future betterment.

A sample format of the student feedback form is as follows in Figure B: 2.2.1.k and a sample feedback evaluation sheet in Figure B: 2.2.1.l

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN:: VISAKHAPATNAM
STUDENT FEEDBACK - EEE - A

(53)

Class: II B. Tech (2018 Admitted Batch) - II Sem Academic Year: 2019-20 Date: _____

S. No		EM - II	CS	EMS	PS-I	STLD	MS
		BMPS	PVS	PP	KT	KV	KSK
1	Do you feel the class interesting?	Yes	Yes	Yes	Yes	Yes	Yes
2	Are the fundamental concepts presented with clarity?	Yes	Yes	Yes	Yes	Yes	Yes
3	Do you consider the teacher knowledge in subject?	Yes	Yes	Yes	Yes	Yes	Yes
4	Does the teacher come to the class well prepared?	Yes	Yes	Yes	Yes	Yes	Yes
5	Is Teacher speed adequate?	Yes	Yes	Yes	Yes	Yes	Yes
6	Is the syllabus properly covered?	Yes	Yes	Yes	Yes	Yes	Yes
7	Are the classes regularly & punctually taken?	Yes	Yes	Yes	Yes	Yes	Yes
8	Can the teacher be heard by the back-bench students?	Yes	Yes	Yes	Yes	Yes	Yes
9	Is the teacher approachable for clarification of doubts?	Yes	Yes	Yes	Yes	Yes	Yes
10	Is the handwriting/figures visible?	Yes	Yes	Yes	Yes	Yes	Yes

* Rating should be given in Yes/No

Overall Opinion		Subjects	
		EM - II	Electrical Machines - II
		CS	Control Systems
		EM	Electrical Measurements
		PS-I	Power Systems-I
		STLD	Switching Theory and Logic Design
		MS	Management Science
Name of the Faculty			
		BMPS	Ms.B.M.Pushpalatha
		PVS	Mr.P.V.Sarath
		PP	Mrs.Payal Pramanik
		KT	Mrs.K.Therissa
		KV	Mr.K.Vamsi
		KSK	Mr. K.Santhosh Kumar

EM - II	Excellent	✓	Very Good		Fair		Poor
CS	Excellent	✓	Very Good		Fair		Poor
EM	Excellent		Very Good	✓	Fair		Poor
PS-I	Excellent		Very Good	✓	Fair		Poor
STLD	Excellent		Very Good	✓	Fair		Poor
MS	Excellent		Very Good	✓	Fair		Poor

Comments if any _____

Figure B: 2.2.1.k: Sample Student Feedback Form

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN: VISAKHAPATNAM
 III B.Tech - II Semester (2015 Admitted batch)
 Consolidated Feedback Branch wise

Date: 22.01.2018

Branch: EEE -A Academic Year - 2017 - 2018 III Year - II Sem

Sl. No	Name of the Faculty	Designation	Subject	Grades				Total Strength	A+B+C	10% Overall	Signature
				A	B	C	D				
1	Mr.K.Kusal Kumar	Asst.Prof	SGP	11	20	11	1	43	43	7.29	
2	Mr.V.Avinash	Asst.Prof	PSD	39	4	Nil	Nil	43	43	9.8	
3	Mr.K.V.Sri Ram Prasad	Asst.Prof	UEE	37	6	Nil	Nil	43	43	9.71	
4	Dr.Akanksha Mishra	Assoc.Prof	PSA	16	22	5	Nil	43	43	8.27	
5	Mr.Shaik Peer Ahmed	Asst.Prof	MPMC	18	23	2	Nil	43	43	8.63	
6	Mrs.M.Sireesha Rani	Asst.Prof	MS	30	13	Nil	Nil	43	43	9.38	

10% Overall Index Scale: A = 10, B = 8, C = 4, D = 0

Branch: EEE - B Academic Year - 2017 - 2018 III Year - II Sem Date: 22.01.2018

Sl. No	Name of the Faculty	Designation	Subject	Grades				Total Strength	A+B+C	10% Overall	Signature
				A	B	C	D				
1	Mr.K.Kusal Kumar	Asst.Prof	SGP	8	10	13	3	34	34	6.22	
2	Mr.V.Avinash	Asst.Prof	PSD	32	1	1	Nil	34	34	9.64	
3	Mr.K.V.Sri Ram Prasad	Asst.Prof	UEE	28	6	Nil	Nil	34	34	9.64	
4	Dr.Akanksha Mishra	Assoc.Prof	PSA	12	19	2	1	34	34	8.22	
5	Mr.Shaik Peer Ahmed	Asst.Prof	MPMC	17	17	Nil	Nil	34	34	9	
6	Mrs.A.Venkata Lakshmi	Asst.Prof	MS	30	3	1	Nil	34	34	9.52	

Subjects

SGP	Switch Gear and Protection
PSD	Power Semiconductor Drives
UEE	Utilization of Electrical Energy
PSA	Power System Analysis
MPMC	Micro Processors & Micro Controllers
MS	Management Science

Figure B: 2.2.1.l: Sample consolidated evaluation sheet

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN: VISAKHAPATNAM
 STUDENT FEEDBACK ANALYSIS

Date: 04.09.2017 Academic Year: 2017 - 20

Class: III B.Tech Branch: EEE-A Sem - II
 [2017 Admitted] Total No. of Students: 53/62

Name of the Theory Course	Name of the Staff Member
PE [Power Electronics]	Mr. K. Chiranjeevi

- Do you feel the class interesting? YES 52 NO 1
- Are the fundamental concepts presented with clarity? YES 53 NO -
- Do you consider the teacher knowledge in subject? YES 53 NO -
- Does the teacher come to the class well prepared? YES 53 NO -
- Is Teacher speed adequate? YES 51 NO 2
- Is the syllabus properly covered? YES 48 NO 5
- Are the classes regularly & punctually taken? YES 47 NO 6
- Can the teacher be heard by back bench students? YES 53 NO -
- Is the teacher approachable for the clarification of the doubts? YES 53 NO -
- Is the handwriting/figures visible? YES 52 NO 1

Overall opinion: Excellent 47 Very Good 5 Fair 1 Poor -

Signature of the Faculty: [Signature] Signature of the Principal: [Signature]

Overall Index: 9.70

Figure B: 2.2.1.m: Sample Student Feedback Evaluation Sheet for each Faculty

Impact Analysis:

- Improvement in presentation skills of the faculty lecture delivery after the orientation class/classes.
- Improvement in student feedback of the concerned faculty.
- Improvement in result of the concerned course.

The list of faculty who has given orientation class in the last three academic years is given below in

Sl. No.	Academic Year	Year/Section/ Semester	Course Name	Name of the faculty	No. of times Orientation Conducted	Improvement in Feedback (on 10-point scale)
1	2019-20	IV EEE A-I	UEE	Mr.K.Vamsi	1	8.51
2	2018-19	IV EEE A - I	RESS	Ms. V.Kalyani	2	8.14
3	2017-18	III EEE A -II	PE	Mr.K.Chiranjeevi	1	8.53
4	2017-18	III EEE A - I	EM-II	Mr.A.Chandriah	1	8.91
5	2017-18	III EEE B - II	PS-II	Mr. B.Rajesh	2	8.71

Table B: 2.2.1.1: Impact Analysis of Orientation Classes

Sl. No.	Academic Year	Year/Section/ Semester	Course Name	Name of the faculty	No. of times Orientation Conducted	Improvement in Feedback (on 10-point scale)
1	2019-20	IV EEE A-I	UEE	Mr.K.Vamsi	1	8.51
2	2018-19	IV EEE A - I	RESS	Ms. V.Kalyani	2	8.14
3	2017-18	III EEE A -II	PE	Mr.K.Chiranjeevi	1	8.53
4	2017-18	III EEE A - I	EM-II	Mr.A.Chandriah	1	8.91
5	2017-18	III EEE B - II	PS-II	Mr. B.Rajesh	2	8.71

Table B: 2.2.1.1: Impact Analysis of Orientation Classes

Sl. No.	Academic Year	Year/Section/ Semester	Course Name	Name of the faculty	No. of times Orientation Conducted	Improvement in Feedback (on 10-point scale)
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1	2019-20	IV EEE A-I	UEE	Mr.K.Vamsi	1	8.51
2	2018-19	IV EEE A - I	RESS	Ms. V.Kalyani	2	8.14
3	2017-18	III EEE A -II	PE	Mr.K.Chiranjeevi	1	8.53
4	2017-18	III EEE A - I	EM-II	Mr.A.Chandriah	1	8.91
5	2017-18	III EEE B - II	PS-II	Mr. B.Rajesh	2	8.71

Table B: 2.2.1.1: Impact Analysis of Orientation Classes

The list of faculty to whom the subject is changed in the last three academic years due to less feedback is given below in Table B: 2.2.1.m

Sl. No.	Academic Year	Year/Section/ Semester	Course Name	Name of the old faculty	Name of the new faculty
1	2019-20	III EEE A/B - I	PS-II	B.Rajesh	K.Chiranjeevi
2	2018-19	IV EEE A/B - I	SGP	K.Kusal Kumar	P.V.Sarath
3	2017-18	II EEE A/B - II	STLD	V.Kalyani	K.Vamsi

Table B: 2.2.1.m: List of faculty whose course is changed due to poor feedback

2.2.2. Quality of Internal Semester Question Papers, Assignments and Evaluation (20)

A. Process for Internal Semester Question Paper Setting and Evaluation and Effective Process Implementation (5)

Paper Setting:

- In accordance with the JNTUK curriculum there will be two internal examinations for every semester. Each internal examination comprises of 50% of the syllabus covered (Mid Term – I First 50%; Mid Term II – Second 50%).
- Every internal semester question paper should have 3 questions covering the respective Mid Term syllabus carry 5 marks per each question comprising 15 marks for each Mid Term assessment.
- Course coordinator will ensure the correlation of syllabus coverage in accordance with the questions used to assess the student's knowledge level with respect to the course outcomes.
- The key responsibility of the course coordinator is to examine the question papers & scheme of valuation prepared by the faculty for the coverage of course outcomes and knowledge levels of the questions in accordance with the revised blooms taxonomy action

verbs.

- Upon course coordinator's inspection two sets of such confidential internal question papers and scheme of valuation with the above guidelines will be sent for the approval of IQAC.
- Further IQAC report will be forwarded to the course coordinator through the Principal and Program Coordinator which may include improvements if necessary.
- If the IQAC report is satisfactory for the Principal & Program Coordinator then one set drawn randomly by the Institute Head/Program Coordinator will be sent to the examination cell for further execution an hour before the commencement of the examination.

Paper Evaluation & effective process implementation:

- After successful completion of concerned Mid Term examinations, the confidential papers will be given to the faculty for evaluation in accordance with scheme prepared.
- Upon completion of the evaluation, the corrected scripts will be scrutinized by another faculty randomly for cross verification to ensure evaluation process.
- Post scrutiny process, the evaluated answer scripts will be circulated among the student's for transparency of the evaluation process and the concerned queries will be addressed by faculty/course coordinator if any.
- All the student's will be addressed about the knowledge level's and the respective course outcomes attained.
- The consolidate list of marks obtained in the respective Mid Term will be sent to the notice boards, examination cell and course coordinator for attainment calculations.
- Student's attained less marks will be counseled and the respective remedial classes will be arranged where ever it is necessary through the counseling report remarks.

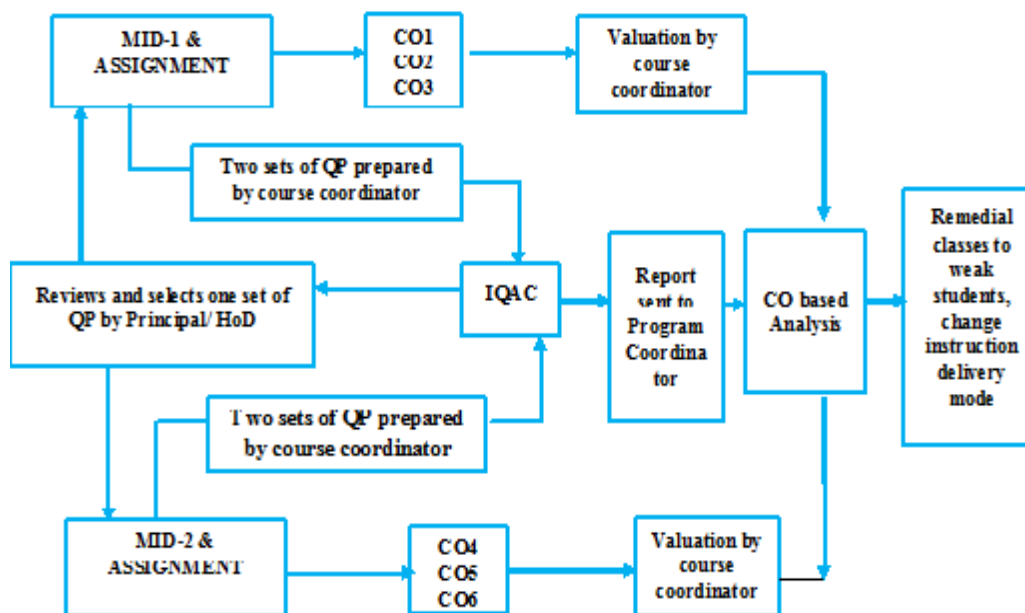


Figure B: 2.2.2.a: Process for Internal Examination evaluation & assessment

B. Process to Ensure Questions from Outcomes/Learning Levels Perspective (5)

Internal quality assessment committee follows the following process to ensure the quality of the question paper

1. Defining objectives
2. Defining outcomes
3. Verification of CO-PO mapping
4. Corrections to the faculty member
5. Reviewing again after corrections done by faculty

The department ensures that the faculty strictly follows the quality levels while preparing the question paper for internal examination.

VIGNAN’S INSTITUTE OF ENGINEERING FOR WOMEN

(Kapujaggarajupeta, Duvvada, Visakhapatnam-530 049)



Mid Term Examination-I

(III- B.Tech II Sem, Regulations: R16)

SET-1

Course Name: Energy Audit Conservation & Management Max Time: 1 ½ Hrs.

Branches: Electrical and Electronics Engineering

Max Marks: 15

Faculty: Mrs. T. Sushma

Date: 25-01-2019

CO: Course Outcome no. (1-6), LEVEL: Revised Bloom’s Taxonomy level no. (1-6)

Answer ALL Questions

3x5=15 M

CO	LEVEL	Q. No	QUESTION
CO1	1: K2	01	Explain different types of energy audit with energy audit definition.

			(5M)
CO2	2: K3	02	Determine the steps for lumen method of illumination.(5M)
CO3	3: K3	03	Demonstrate different power factor improvement methods with power factor definition. (5M)

* K1 (R): Remembering, K2 (U): Understanding, K3 (P): Applying,

* K4 (A): Analyzing, K5 (E): Evaluating, K6 (C): Creating.

Course Code:R1632025F

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Kapujaggarajupeta, Duvvada, Visakhapatnam-530 049)



Mid Term Examination-I

(III- B.TechII Sem, Regulations: R16)

SET-2

Course Name: Energy Audit Conservation & Management Max Time: 1 ½ Hrs.

Branches: Electrical and Electronics Engineering

Max Marks: 15

Faculty: Mrs. T. Sushma

Date : 25-01-2019

CO: Course Outcome no. (1-6), LEVEL: Revised Bloom's Taxonomy level no. (1-6)

Answer ALL Questions

3x5=15 M

CO	LEVEL	Q.No	QUESTION
CO1	1: K3	01	Illustrate about air conditioning in the HVAC system.(5M)
CO2	2: K3	02	Explain about various types of lighting with fixtures.(5M)
CO3	3: K3	03	Explain the construction and working of energy meter . (5M)

* K1 (R): Remembering, K2 (U): Understanding, K3 (P): Applying,

* K4 (A): Analyzing, K5 (E): Evaluating, K6 (C): Creating.

Course Code: R1632025F

Sl. No.	Questions	Course Outcome	Action Verb	Level
SUBJECT: EACM				
1.	Explain different types of an energy audit, cost index, energy index.	CO1	Explain	K2
2.	Explain energy-saving measures in lighting.	C02	Explain	K3
3.	Demonstrate different power factor improvement methods with power factor definition.	C03	Demonstrate	K3
4.	Illustrate about air conditioning in the HVAC system.	C01	Illustrate	K3
5.	Explain about various types of lighting with fixtures	C02	Explain	K3
6.	Explain the construction and working of energy	C03	Explain	K3

	meter .			
--	---------	--	--	--

**Table B: 2.2.2.a: Sample copy of question with their levels
along with the COs for the subject: EACM**

C. Evidence of COs Coverage in Class Test / Mid-Term Tests (5)

- Mid-term exam is conducted for 15 marks where questions are given from 3 units
- The question paper consists of 3 questions and each carries 5 marks.
- Each question is given by following Bloom's taxonomy by faculty which is verified by the IQAC
- Based on Bloom's taxonomy question level and COs are also given in the question paper itself for easy understanding of students.
- Sample copies of Mid-I question papers (Set-1 & Set-2) are given below:

Sample Copy of Mid Term Examination-1&2 Question Papers

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Kapujaggarajupeta, Duvvada, Visakhapatnam-530049)

Mid Term Examination-I(III- B.Tech2ndSem, Regulations: R16)

SET-1

Course Name: Power Electronics Converters and Drives

Max Time: 1 ½ Hrs.

Branches: Electrical and Electronics Engineering

Max Marks: 15

Faculty: Dr. Akanksha Mishra

Date: 21-01-19

CO: Course Outcome no. (1-6), LEVEL: Revised Bloom's Taxonomy level no. (1-6)

Answer ALL Questions

3x5=15 M

CO	LEVEL	Q.No.	QUESTION
CO1	K2	01	Discuss the different modes of operation of electric drives with suitable examples. (5M)
CO2	K3	02	A single-phase full converter controls the speed of a 10 HP, 1500 rpm separately excited DC motor. The rated motor current is 18A and the armature resistance is 0.3 ohm. Determine the following: (a) The armature voltage and current if the ac input is 230V and firing angle is 45 degree. [3M] (b) The firing angle to keep motor current at its given value if the polarity of the motor back emf is reversed by reversing field excitation. [2M] Assume input AC supply to be 220V.
CO3	K3	03	Explain the working of a Class A chopper with the help of required circuit diagram and waveforms. [5M]

* K1 (R): Remembering, K2 (U): Understanding, K3 (P): Applying,

Course Code: R1632021

* K4 (A): Analyzing, K5 (E): Evaluating, K6 (C): Creating.

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Kapujaggarajupeta, Duvvada, Visakhapatnam-530049)

Mid Term Examination-II(III- B.Tech2ndSem, Regulations: R16)

SET-1

Course Name: Power Electronics Controllers and Drives

Max Time: 1 ½ Hrs.

Branches: Electrical and Electronics Engineering

Max Marks: 15

Faculty: Dr. Akanksha Mishra

Date: 25-03-19

CO: Course Outcome no. (1-6), LEVEL: Revised Bloom's Taxonomy level no. (1-6)

Answer ALL Questions

3x5=15 M

CO	LEVEL	Q.No.	QUESTION
CO4	K3	01	With necessary diagrams and theoretical principles explain stator voltage control of Induction motor? (5)
CO5	K3	02	A 440V, 50 Hz, 6-pole, Y connected wound rotor motor has the following parameters: $R_s = 0.5\Omega$, $R_r' = 0.4\Omega$, $X_s = X_r' = 1.2\Omega$, $X_m = 50\Omega$. Stator to Rotor Turns ratio is 3.5. Motor is controlled by static

			rotor Resistance control. External resistance is chosen such that the break down torque is produced at standstill for a duty ratio of zero. Calculate the value of external resistance. (5)
CO6	K3	03	Explain the methods of speed control of Synchronous Motor. (5)

* **K1 (R): Remembering, K2 (U): Understanding, K3 (P): Applying,**

* **K4 (A): Analyzing, K5 (E): Evaluating, K6 (C): Creating.**

Course Code::R1632021

For example considering the COs of course PECD and comparing it with Mid question paper verifying the coverage of COs in the question paper is shown below:

Course Name	Course Outcome		
CO1	Students shall able to explain the fundamentals of electric drive and different electricbraking methods.	Understand	K2
CO2	Students shall able to analyze the operation of three phase converter-controlled dc motorsand four quadrant operation of dc motors using dual converters.	Analyze	K4
CO3	Students shall able to explain the converter control of dc motors in various quadrants.	Apply	K3
CO4	Students shall able to demonstrate the concept of speed control of induction motor and synchronous motor by using AC voltage controllers and voltage source inverters.	Apply	K3
CO5	Students shall able to demonstrate the principles of static rotor resistance control and various slip power recovery schemes.	Apply	K3
CO6	Students shall able to demonstrate the speed control mechanism of synchronous motors	Apply	K3

Question No	Action Verb	Knowledge level
1	Discuss	K2
2	Determine	K3
3	Explain	K3
4	Explain	K3
5	Calculate	K3
6	Explain	K3

From above tables it is inferred that mid-term exam questions covers the Cos with same knowledge level

D. Quality of Assignment and its Relevance to COs (5)

- Assignments are given to students from the topics covered for each unit and satisfying the COs defined.

- The questions framed in the assignments are taken from multiple sources (previous question papers, text books, etc) and cover not only the theoretical concepts but also impart creativity on real time applications.
- Six assignments covering each unit are given in each subject for every semester.
- Every assignment carries 5 marks and an average of 3 assignments for 5 marks is considered for mid exam.
- The assignments are evaluated within two weeks after submission and the valued assignments are returned to the students for their scrutiny and improvement. Mapping is done for all questions of the assignment with the COs of the course.
- The quality of the assignment questions are also audited by IQAC.

Sample Assignment questions under R16 Regulations for EACM is below: → A.Y

ASSIGNMENT QUESTIONS

(III- B.Tech II Sem, Regulations: R16)

Course Name: Energy Audit Conservation & Management

Sl. No.	Question	Action Verb	Level	Mapped With CO
1	Explain the duties and responsibilities of energy manager	Explain	K2	CO1
2	Illustrate different types of energy audits	Illustrate	K2	CO1
3	Explain different types of energy conservation schemes	Explain	K2	CO1
4	Illustrate the principles of energy management	Illustrate	K2	CO1
5	Define energy index & cost index	Define	K1	CO1

ASSIGNMENT QUESTIONS

(III- B.Tech I Sem, Regulations: R16)

Course Name: Renewable Energy Sources

Sl.No	Question	Action Verb	Level	Mapped With CO
1	Discuss about Radiation on tilted surfaces.	Discuss	K2	CO1
2	Illustrate the energy scenario of India and world	Illustrate	K2	CO1
3	Define	Define	K1	CO1

	A) Tilt Angle B) Surface Azimuth Angle C) Angle of Latitude			
4	Illustrate about solar radiation on earth surface	Illustrate	K2	CO1
5	Distinguish between extraterrestrial radiation and terrestrial radiation	Distinguish	K2	CO1
6	Discuss about radiation on tilted surfaces.	Discuss	K2	CO1

2.2.3. Quality of Student Projects (25)

(Quality of the project is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. Processes related to project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes and enhancing the relevance of projects. Mention Implementation details including details of POs and PSOs addressed through the projects with justification)

It is imperative to promote the spirit of inquiry among students since lifelong learning is a synergy between teaching and research. The knowledge through lectures in classrooms, hands on experience in laboratories and self preparation in libraries do not expose students to real life situations. The adoption of participatory approach in learning, whereby the students involve themselves in identifying a problem, analyzing the causes and finding the solution objectively will have a positive impact on the students and will make the learning process more meaningful and interesting.

- To ensure quality in the projects implemented by the students in the department, the procedural steps are implemented that includes planning, scheduling and implementation related to the completion of the project.
- Lab facilities are provided to the students throughout the day for the successful completion of the project.
- Internet is also provided to browse the data required throughout the day
- Software tools such as MATLAB, PSCAD etc. for implementing their projects in various fields is made available.
- Hardware boards along with the essential hardware sensors are available in department laboratories to provide students an opportunity to implement real-time

examples.

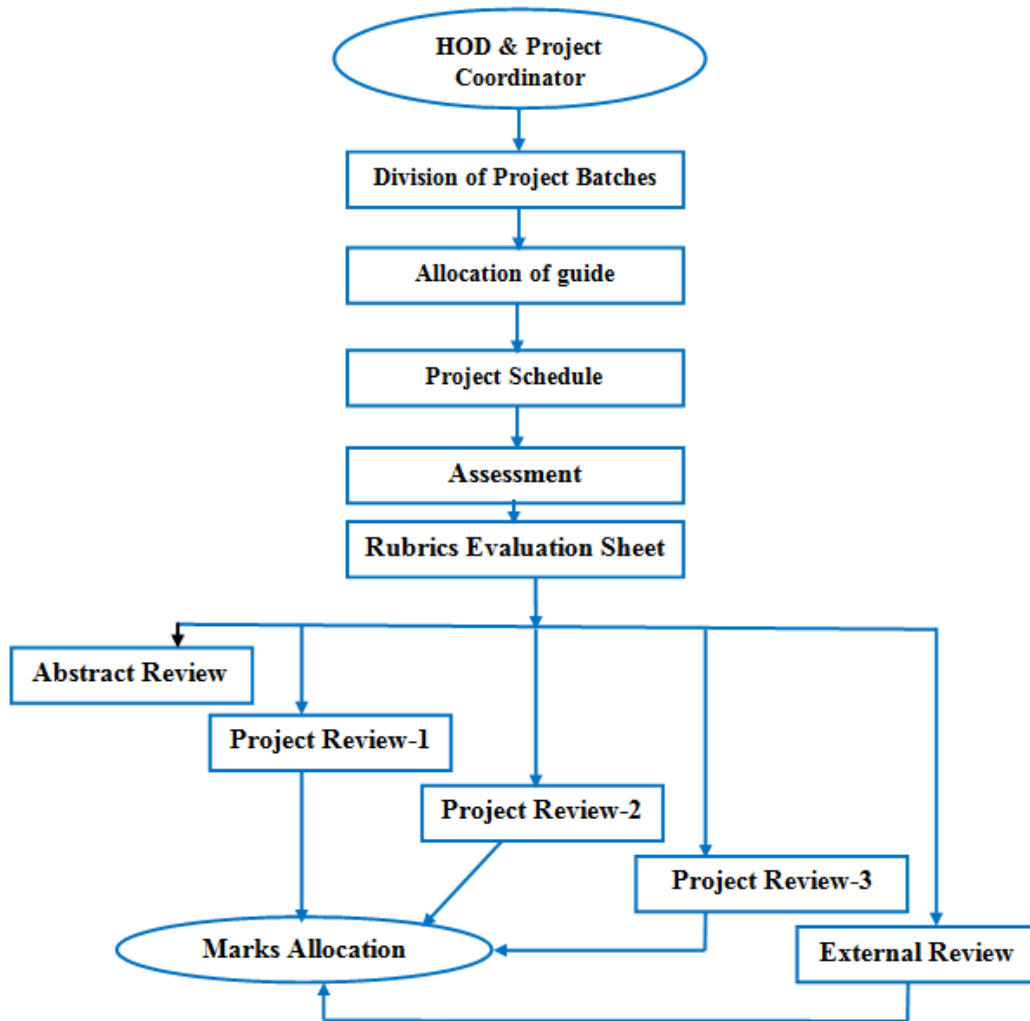


Figure B: 2.2.3.a: Process for Student Project

A. Identification of Projects and Allocation Methodology to Faculty Members (3)

The students of EEE carry out their project work in the VIII semester of their course. The projects are carried out in and allied areas of EEE covering Power Electronics control systems, machine drives, power systems protection, high voltage engineering and machine modeling.

One of the faculty members is appointed as project coordinator and prepares a project schedule in discussion with Head of the Department. The schedule is prepared in the timeline with the university calendar.

The project done by the students reflects the individual and collective work done as a team.

The department takes attentive steps in forming the teams and allocation of guides to the

respective teams. The methodology for team formation and guide allocation is described as:

Batch Formation:

The students were formed as teams with 4 members in each, based on the performance of the students in their internal and external examination until VI semesters. The formed team list is displayed in department notice boards for student verification and corrections. All the advanced learners who score maximum in a class are nominated as team leaders followed by successive scores attained by the students. The sample copy of student team formation is shown as:

Batch No.	Regd. No.	Name of the Student	Student percentage
1	16NM1A0214	Bonu Ram Tulasi	80.19
	16NM1A0235	Jami Roopa Sri	70.26
	16NM1A0268	PitchukaDhanusha	69.68
	16NM1A0240	Kadimisetty Priyanka	61.6
	17NM5A0219	PatchikoruDedivya	60.09
2	16NM1A0286	SeepanaAdilakshmi	78.85
	16NM1A0283	Sarika Uma Maheswari	70
	16NM1A0281	Sana Bala Veera Anusha	69.23
	16NM1A0245	Kokkirlapati Ramya	60.64
	16NM1A0280	Salla Monika	58.91
3	17NM5A0211	Karri Reeshma	77.69
	16NM1A0224	Gadi Yamuna	70.58
	17NM5A0215	Nollu Devi	69.72
	16NM1A0241	Kancharla Mani Harika	62.37
	15NM1A0205	Buddha Chandana	58.85
4	17NM5A0209	Kaki Bhavani Krishna Veni	78.7
	16NM1A0294	Vudi Swathi	70.77
	17NM5A0208	Gurram Lavanya	69.81
	16NM1A0279	Sabbavarapu Sharmila	60.77
	16NM1A0233	Gurugubelli Swathi	58.85
5	17NM5A0212	KovvadaVenu	78.15
	16NM1A0249	Kondri Sushma	70.45
	16NM1A0292	Veerla Usha Sri	70.06
	16NM1A0274	Randhi Pushpa Latha	61.73
	16NM1A0212	Bhumireddi Ganga Bhavani	60.06
6	16NM1A0220	Doddi Baby Priyanka	77.37
	16NM1A0219	Chintapalli Bhagya Lakshmi	70
	16NM1A0209	BandaruYasaswini	68.53
	16NM1A0225	Gandi Akanksha	63.14
	16NM1A0204	Ayinampudi Anjali Devi	60.64
7	17NM5A0218	PalisetiSravani	78.33

	16NM1A0270	PotnuruRoshini	69.42
	16NM1A0208	Bandaru Sandhya Rani	68.97
	17NM5A0202	Buddha Laxmi Lahari	59.07
	16NM1A0272	PulapaNeeharika	58.97
8	17NM5A0221	SilaparasettiGirishma	76.39
	16NM1A0242	Kaniti Pavani Pramoda	69.23
	16NM1A0234	Jalumuri Krishna Jahnavi	67.24
	16NM1A0252	KosettyVaraha Sai Prasanna	63.78
	16NM1A0262	NeelapuSravani	58.08
9	16NM1A0259	NadikoppulaDivya	76.28
	16NM1A0254	LandaNagaswetha	70.9
	16NM1A0295	YandrapuPunyavathi	66.92
	16NM1A0291	Vasipalli Monika	61.92
	16NM1A0250	Korada Gayathri	60
10	17NM5A0203	DadiBhoolakshmi	75.74
	17NM5A0205	Gantla Laxmi Priyanka	73.7
	16NM1A0273	Raghupatruni Sowmya	68.21
	16NM1A0284	SarvasuddiPujitha	63.59
	16NM1A0251	Koribilli Sushma	59.29
11	16NM1A0231	GorleYernikumari	76.09
	16NM1A0267	Pentakota Vani	71.15
	16NM1A0210	BasittiRanjita	68.33
	16NM1A0287	SeethiniManasa	62.63
	16NM1A0278	SabbarapuAmulya	57.76
12	16NM1A0228	GembaliAkhila	74.74
	16NM1A0257	Marisa Haritha	70.19
	16NM1A0256	MamidiPoojitha	67.24
	17NM5A0220	Ravada Rajeswari	57.78
	16NM1A0296	YathirajyamHarisha	59.17
13	17NM5A0214	Nambari Mounika	76.11
	16NM1A0288	SimhadriLaharika	71.47
	16NM1A0213	Bodda Vaishnavi	67.37
	16NM1A0239	KadhaLochana	64.45
	16NM1A0229	GirijaDouluri	57.44
14	16NM1A0206	BalamNavya Gayatri Devi	74.68
	16NM1A0226	Gangupam Bhavya	71.79
	16NM1A0275	Ronanki Jhansi	68.33
	16NM1A0216	Budireddi Usha Sri	65.32
	16NM1A0263	NekkalaNavya	56.41
15	16NM1A0215	Botta Vara Lakshmi	75.64
	16NM1A0269	PonnadaSrikavya	71.41
	16NM1A0221	Dudi Suvarna	66.73
	17NM5A0217	Palikala Pushpa Latha	64.91
	16NM1A0232	Gubbala Madhuri	55.96
16	16NM1A0222	Dunna Sirisha	75.38

	17NM5A0213	Munakala Mounika	72.5
	16NM1A0265	Nettimi Pavani	66.28
	17NM5A0210	Karri Neelima	63.98
	16NM1A0255	Mallavarapu Mallika	55.9
17	16NM1A0237	JogaShyamili	73.85
	16NM1A0236	JettiJyothika	71.86
	16NM1A0227	Gari Harika	68.01
	16NM1A0248	K.N.V.E.Rekha	65.32
	17NM5A0222	SittulaLahithanjali	54.35
18	17NM5A0207	Gurana Parvathi	74.26
	16NM1A0211	Bhargavi Pakalapati	71.6
	16NM1A0293	Vegi Pavani Kumari	67.05
	16NM1A0247	Konathala Bhanu Jaya Lakshmi Aparna	65
	16NM1A0244	KodandaSwapnamadhuri	47.5
19	16NM1A0243	Karri Yamini Mani	73.85
	16NM1A0201	Allu Alekhya	72.5
	17NM5A0201	Bejawada Vara Laxmi	66.85
	16NM1A0238	JuttuNavya Swathi	64.87
	16NM1A0276	Rongali Ramya	44.68
20	16NM1A0285	Savitina Prasanna Lakshmi	73.4
	16NM1A0253	Kundrapu Gayathri Devi	72.5
	16NM1A0271	Potnuru Sirisha	67.44
	16NM1A0290	SuvvariPrameela	64.81
	16NM1A0202	AnantarapuDuleesha	34.1
21	16NM1A0266	P Mounika	72.95
	17NM5A0223	Voodi Jaya Lakshmi	71.48
	16NM1A0261	NavyaSreeMedapati	66.6
	16NM1A0207	BanalaSrivani	66.03
	16NM1A0203	Arlagadda Siri Shree Varma	41.22
22	16NM1A0282	SanapathiKeerthana	75.28
	17NM5A0206	Gavara Hema Parvathi	71.54
	16NM1A0264	NemaniSubha Sri	65.77
	16NM1A0205	B Priyanka	65.45
	16NM1A0217	Chebrolu Anu Priya	42.69
23	17NM5A0216	Ommi Mamatha	73.89
	16NM1A0258	MarisettyDeepthisree	71.22
	16NM1A0246	KommaVathsalya	65.58
	16NM1A0297	Yavarna Rupa	65.26
	16NM1A0277	S Anjali	73.89
24	16NM1A0289	Sunkara Brundavani	73.01
	16NM1A0260	NambaruKanya Kumari	72.88
	16NM1A0218	CheekatiYasashwini	66.6
	16NM1A0230	GorleTrijani	64.87

Table B: 2.2.3.a: Studentsproject batch formation for 2019-20**Guide Allocation:**

- The knowledge, methodology, skill set and interest of the students to implement the project are considered to undertake the projects. All the faculties are allocated as guides to guide the student's project. Each project batch varies will have at most five students. Faculty profile should match with the domain of the student's project. The project batches are notified to the students along with the areas offered by the faculty members with guide names. The guide allotment is completely the responsibility of the head of the department.
- Based on the student area of interest over the project and the faculty domain knowledge the team is going to be finalized with guide by the Head of the Department and is displayed in department notice board for student and faculty reference.

Batch No.	Regd. No.	Name of the Student	Faculty Assigned
1	16NM1A0214	Bonu Ram Tulasi	Ms.B. M. Pushpa Latha
	16NM1A0235	Jami Roopa Sri	
	16NM1A0268	PitchukaDhanusha	
	16NM1A0240	Kadimisetty Priyanka	
	17NM5A0219	PatchikoruDedivya	
2	16NM1A0286	SeepanaAdilakshmi	Mr.P.V.Sarath
	16NM1A0283	Sarika Uma Maheswari	
	16NM1A0281	Sana Bala Veera Anusha	
	16NM1A0245	Kokkirlapati Ramya	
	16NM1A0280	Salla Monika	
3	17NM5A0211	Karri Reeshma	Ms.B. M. Pushpa Latha
	16NM1A0224	Gadi Yamuna	
	17NM5A0215	Nollu Devi	
	16NM1A0241	Kancharla Mani Harika	
	15NM1A0205	Buddha Chandana	
4	17NM5A0209	Kaki Bhavani Krishna Veni	Dr.K.DurgaSyam Prasad
	16NM1A0294	Vudi Swathi	
	17NM5A0208	Gurram Lavanya	
	16NM1A0279	Sabbavarapu Sharmila	
	16NM1A0233	Gurugubelli Swathi	
5	17NM5A0212	KovvadaVenu	Mr. K. Chiranjeevi
	16NM1A0249	Kondri Sushma	
	16NM1A0292	Veerla Usha Sri	

	16NM1A0274	Randhi Pushpa Latha	
	16NM1A0212	Bhumireddi Ganga Bhavani	
6	16NM1A0220	Doddi Baby Priyanka	Mr.G.Ravi Kumar
	16NM1A0219	Chintapalli Bhagya Lakshmi	
	16NM1A0209	BandaruYasaswini	
	16NM1A0225	Gandi Akanksha	
	16NM1A0204	Ayinampudi Anjali Devi	
7	17NM5A0218	PalisettiSravani	Dr.Akanksha Mishra
	16NM1A0270	PotnuruRoshini	
	16NM1A0208	Bandaru Sandhya Rani	
	17NM5A0202	Buddha Laxmi Lahari	
	16NM1A0272	PulapaNeeharika	
8	17NM5A0221	SilaparasettiGirishma	Mr.V.Avinash
	16NM1A0242	Kaniti Pavani Pramoda	
	16NM1A0234	Jalumuri Krishna Jahnvi	
	16NM1A0252	KosettyVaraha Sai Prasanna	
	16NM1A0262	NeelapuSravani	
9	16NM1A0259	NadikoppulaDivya	Mrs. PayalPramanic
	16NM1A0254	LandaNagaswetha	
	16NM1A0295	YandrapuPunyavathi	
	16NM1A0291	Vasipalli Monika	
	16NM1A0250	Korada Gayathri	
10	17NM5A0203	DadiBhoolakshmi	Ms. K. Therissa
	17NM5A0205	Gantla Laxmi Priyanka	
	16NM1A0273	Raghupatruni Sowmya	
	16NM1A0284	SarvasuddiPujitha	
	16NM1A0251	Koribilli Sushma	
11	16NM1A0231	GorleYernikumari	Dr. K. Kusal Kumar
	16NM1A0267	Pentakota Vani	
	16NM1A0210	BasittiRanjita	
	16NM1A0287	SeethiniManasa	
	16NM1A0278	SabbarapuAmulya	
12	16NM1A0228	GembaliAkhila	Dr. K. Kusal Kumar
	16NM1A0257	Marisa Haritha	
	16NM1A0256	MamidiPoojitha	
	17NM5A0220	Ravada Rajeswari	
	16NM1A0296	YathirajyamHarisha	
13	17NM5A0214	Nambari Mounika	Dr.Akanksha Mishra
	16NM1A0288	SimhadriLaharika	
	16NM1A0213	Bodda Vaishnavi	
	16NM1A0239	KadhaLochana	
	16NM1A0229	GirijaDouluri	
14	16NM1A0206	BalamNavya Gayatri Devi	Ms. K. Therissa
	16NM1A0226	Gangupam Bhavya	
	16NM1A0275	Ronanki Jhansi	

	16NM1A0216	Budireddi Usha Sri	
	16NM1A0263	Nekkala Navya	
15	16NM1A0215	Botta Vara Lakshmi	Mr. Naidu
	16NM1A0269	Ponnada Srikavya	
	16NM1A0221	Dudi Suvarna	
	17NM5A0217	Palikala Pushpa Latha	
	16NM1A0232	Gubbala Madhuri	
16	16NM1A0222	Dunna Sirisha	Mr. K. Chiranjeevi
	17NM5A0213	Munakala Mounika	
	16NM1A0265	Nettimi Pavani	
	17NM5A0210	Karri Neelima	
	16NM1A0255	Mallavarapu Mallika	
17	16NM1A0237	Joga Shyamili	Mr. A. Chandraiah
	16NM1A0236	Jetti Jyothika	
	16NM1A0227	Gari Harika	
	16NM1A0248	Kondreddi Naga Eswari Vishnu Rekha	
	17NM5A0222	Sittula Lahithanjali	
18	17NM5A0207	Gurana Parvathi	Mrs. T. Sushma
	16NM1A0211	Bhargavi Pakalapati	
	16NM1A0293	Vegi Pavani Kumari	
	16NM1A0247	Konathala Bhanu Jaya Lakshmi Aparna	
	16NM1A0244	Kodanda Swapnamadhuri	
19	16NM1A0243	Karri Yamini Mani	Mr. Suresh
	16NM1A0201	Allu Alekhya	
	17NM5A0201	Bejawada Vara Laxmi	
	16NM1A0238	Juttu Navya Swathi	
	16NM1A0276	Rongali Ramya	
20	16NM1A0285	Savitina Prasanna Lakshmi	Ms. V.V. Sai Santoshi
	16NM1A0253	Kundrapu Gayathri Devi	
	16NM1A0271	Potnuru Sirisha	
	16NM1A0290	Suvvari Prameela	
	16NM1A0202	Anantarapu Duleesha	
21	16NM1A0266	P Mounika	Mr. K. V. Sri Ram Prasad
	17NM5A0223	Voodi Jaya Lakshmi	
	16NM1A0261	Navya Sree Medapati	
	16NM1A0207	Banala Srivani	
	16NM1A0203	Arlagadda Siri Shree Varma	
22	16NM1A0282	Sanapathi Keerthana	Mr. K. Vamsi
	17NM5A0206	Gavara Hema Parvathi	
	16NM1A0264	Nemani Subha Sri	
	16NM1A0205	B Priyanka	
	16NM1A0217	Chebrolu Anu Priya	
23	17NM5A0216	Ommi Mamatha	Dr. K. Durga Syam

	16NM1A0258	MarisettyDeepthisree	Prasad
	16NM1A0246	KommaVathsalya	
	16NM1A0297	Yavarna Rupa	
24	16NM1A0289	Sunkara Brundavani	Mr. A. Chandraiah
	16NM1A0260	NambaruKanya Kumari	
	16NM1A0218	CheekatiYasashwini	
	16NM1A0230	GorleTrijani	

Table B: 2.2.3.b: Sample of Guide Allocation List for 2019-2020

B. Types and Relevance of the Projects and Their Contribution towards Attainment of POs and PSOs (5)

Project Objectives:

- Analyze and formulate a solution to Power System Control and Protection, Power & Industrial Drives, control system-based project.
- Test and validate the results for the project task using modern tools.
- Manage to enhance critical thinking skills in a team.

Project Course Outcomes:

The student will be able to:

CO1: Observe the skills of demonstrating the learning achievements in the field of technology and imbibe the knowledge of effective classroom speaking and presentation.

CO2: Apply knowledge in building their career fields and face any type of interviews, viva-voice, and aptitude tests.

CO3: Elaborate on their communication skills and instructiveness.

CO4: Rephrase the uses and application of Electrical machines, Power systems and power electronics domains

CO5: Classify the knowledge about the various principles of Electrical and Electronics with the barriers which effects in a professional set up.

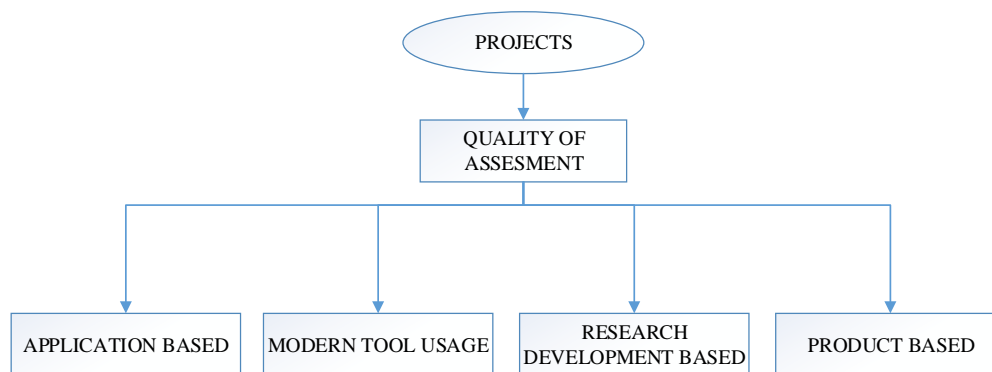
CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	1	1	1	1	1	1	2	2	2
CO2	3	2	3	2	2	1	2	1	2	1	1	2
CO3	3	2	2	2	1	2	2	1	3	3	1	3

CO4	3	3	3	2	3	1	1	1	3	2	1	2
CO5	3	2	1	2	3	1	2	1	2	1	1	2

Table B: 2.2.3.c: CO-PO mapping for project

- The projects implemented by the students of EEE are usually involved in the design, analysis of contemporary issues related to society. The projects done by the students are the implementation of solutions to real-time problems considering the factors such as environment, safety, and ethics etc.
- The projects implemented by the students are categorized and the quality of the projects is assessed.
- The real-time projects implemented by the students are presented at various technical platforms.
- The innovative projects are turned to research papers for publication in reputed journals and conferences.



Projects Types	Number of projects carried out based on various categories		
	CAY (2019-20)	CAYm1 (2018-19)	CAYm2 (2017-18)
Application Based	10	09	05
Prototype Based	02	09	04
Research Based	12	03	03

C. Process for Monitoring and Evaluation (5)

Project monitoring:

The progress of the project work is continuously monitored. Three Project Reviews are

conducted to review the quality and progress of the project work. The panel of examiners called as Project Review Committee (PRC) consists of Project guide, Project coordinator, one senior faculty and the HoD.

A Sample circular for Project Schedule is below.

Project Schedule for 2019-20 Academic Year



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN:: VISAKHAPATNAM

(Kapujaggarajupeta, Duvvada, Visakhapatnam-530049)

DEPARTMENT OF EEE

DATE: 20/11/2019

PROJECT SCHEDULE

All the faculty members and the students are advised to follow the given schedule meticulously to complete the project work effectively within the stipulated submission deadlines.

SNo.	Date	Activity
1.	25/11/2019	Initiation of the Project Work
2.	05/12/2019	Finalization of Domain and Technology
3.	15/12/2019	Problem definition and Objective
4.	20/12/2019	Abstract Submission Literature Survey (if applicable)
5.	02/01/2020	<u>Specifications & Requirements</u> (i) Software Requirement Specifications (a) User Requirement (b) Software Requirement (c) Hardware Requirement (ii) Block /Circuit Diagram of the Project (iii) Architecture /Flowcharts
6.	10/01/2020	Project Review – I
7.	27/01/2020	<u>Implementation</u> (i) Step by Step Module Hardware implementation. (ii) Algorithm implementation. (iii) Module Design.
8.	10/02/2020	Implementation and Results (i) Integration of Designed Modules. (ii) Verification of Simulation results.
9.	20/02/2020	Project Review – II
10.	27/02/2020	Testing and Validation (i) Design of Test Cases and Scenarios (ii) Validation
11.	06/03/2020	Project Review – III
12.	18/03/2020	Submission of Rough Copy of the Project

13.	27/03/2020	Submission of Final Copy
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Project Coordinator**HoD-EE****Project Evaluation:**

It is anticipated to be a challenge to the rational and novel abilities of students. It gives students the prospect to synthesize and apply the knowledge and analytical skills learned in the different disciplines. The evaluation of project work shall be conducted at the end of the IV year. The total marks allocated for this are 200, out of which 60 marks are allocated for Internal Evaluation and the remaining 140 marks are evaluated for External Evaluation. For internal evaluation, a committee is appointed which includes the Program Coordinator, the supervisor of the project, and a senior faculty member of the department. In a similar way for external evaluation to a committee is appointed the same as internal evaluation. In addition, an external examiner will be appointed by the affiliated university (JNTUK).

a. Internal Evaluation: It is based on the basis of three seminars given by the individual team on the topic of their project.

b. External Evaluation: It is done at the end of the semester by the committee members.

Project is generally meant to facilitate students to think innovatively on the development of different hardware prototypes or technologies in the field of EEE. Students are expected to:

1. Perform a deep study of the topic assigned in light of the introductory report prepared in the seventh semester.
 2. Analyze and finalize the approach to the problem.
 3. Prepare steps for conducting the investigation, including teamwork.
 4. Perform detailed analysis/ modeling/ simulation/ design/ problem solving/experiment as needed.
 5. Develop a final product/ process, perform testing, and arrive at results and conclusions. If possible, suggest future directions.
 6. If desired prepare paper for presenting in the conference or publishing papers in journals.
 7. Prepare documentation in the standard format that is required for evaluation by the Internal project Review Committee.
- The project review consists of assessment of PPT presentations by the individual students about the work done along with plan of action for the remaining work.
 - Factors including, environment, safety, ethics, cost and applicable standards as well as team work and CO-PO/PSO mapping are duly considered in the assessment.

- Suggestions given by the panel or other faculty members are to be incorporated by the students which will be reviewed during the subsequent assessment.
 - The evaluation format and the power point presentation made by students during the review assess both individual and team performance.
 - Rubrics for Project work assessment has been incorporated

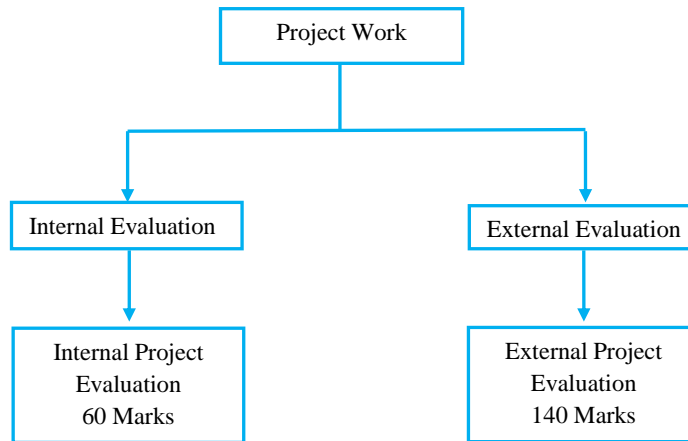


Figure B: 2.2.3.b: Project Evaluation

A Sample project evaluation sheet is given below.

DEPARTMENT OF ELECTRICAL & AAELECTRONICS ENGINEERING
PROJECT REVIEW-2 **06-03-2020**

Batch No	Regd. Number	Name of the Student	Student Signature
1			
Project Title			
Domain			
Literature survey			
Abstract			
Problem Definition/Objective specified			
Existing system and its drawbacks			
Proposed system and its advantages			
Modern tool usage and hardware requirements			
Content Diagram, Design.			

Analysis	
Flowcharts	
Implementation & Results	

Signature of the HoD

E. The process to Assess Individual and Team Performance (5)

All the projects are evaluated batch wise and individual. The grading rubric was included with the problem statement and evidence of group participation included in the grading procedure. To attain maximum marks continuous assessment is carried out by the guide. Weightage will be given to literature survey and presentation by batch and individual. Daily review of the progress of the group and the interaction between students was made by the guide to gain a qualitative measure of performance of the groups and individuals. Quantitative measures were determined with attendance and a group evaluation. At the end of the project every student was directed to fill an evaluation form where each student rated all the group members, including themselves, on the following questions.

1. Rank the member's overall contribution to the project?
2. How much time or effort did the member contribute to the project?
3. What was the individual's willingness to work with other members of the group?
4. Did the member provide anything exceptional to the project?
5. How well did the member complete their assigned part of the project?
6. How well did the member review all portions of the project?

The Internal Evaluation shall be made by the departmental committee, based on two review seminars given by each student on the topic of her project. In case it is observed by the Project Review Committee that any student/group of students is not performing well, this committee should take special care to improve their performance through counseling them.

Project Review Committee (PRC) consists of

1. Head of the department
2. Senior Faculty
3. Faculty with Specialization
4. Project Guide

Rubrics for PRC-1, PRC-2 and PRC-3:**Rubric sheet for PRC-1**

Batch No.		Class/Section	
Date		Max. Marks	20 Marks
Project Title:			

Expectations	Exceeded (Professional Work)	Achieved (Medium Quality Work)	Attempted (Low/Poor Quality Work)
Goals(10M)	<ul style="list-style-type: none"> • Student addressed all areas of project proposal thoroughly, specifically meeting stated goals. • All standards mentioned in proposal, well addressed in project. • Project purpose made very clear. • Student exceeded goals of project 	<ul style="list-style-type: none"> • Student mostly addressed areas of project proposal, specifically meeting stated goals. • Standards mentioned in proposal addressed. 	<ul style="list-style-type: none"> • Project proposal is not well defined. • Standards mentioned in proposal not addressed or not well addressed.
	8-10M	5-7M	2-4M
Research (10M)	<ul style="list-style-type: none"> • All resources are properly documented with both citations and bibliography; notes are present. • Attention to quality of resources is apparent. • There is a variety of sources • People resources are a main part of the work produced. • The most recent and valuable sources used. • Student goes outside the Avalon environment to do research. 	<ul style="list-style-type: none"> • Student documented most sources with citations and bibliography, kept notes. • Student demonstrated some attention given to quality of sources. • Bibliography showed variety of sources (with a limited use of internet sources). • Student connects with an expert (not including advisor or family). 	<ul style="list-style-type: none"> • Student documented a few sources used and kept some notes. • Project shows a limited variety of sources. • Only internet sources are used.
	8-10M	5-7M	2-4M

Rubric sheet for PRC-2

Batch No.		Class/Section	
Date		Max. Marks	20 Marks
Project Title:			

Expectations	Exceeded (Professional Quality) 20 M	Achieved (Medium Quality Work) 15 M	Attempted (Low/Poor Quality Work) 10 M
Process and Improvement (10M)	<ul style="list-style-type: none"> All parts of the project process are completed. Student asked and answered outstanding questions. Student sought out feedback, made appropriate improvements, and can explain creation process. Student shows detailed understanding of information, demonstrates significant thoughtfulness (especially in the reflection), and uses information at a high level. Reflection is thoroughly revised. 	<ul style="list-style-type: none"> Some parts of the project process are completed. Student asked and answered questions. Student recognized some needs for improvement and made some of them. New information was gathered and some thoughtfulness shown in the reflection. Reflection is revised. 	<ul style="list-style-type: none"> A few parts of the project process are completed. Student asked and answered some questions. Student did not seek out feedback for work. Little new information is gathered but no thoughtfulness shown. Reflection is unrevised and less than a page.
	8-10M	5-7M	2-4M
Project Management (10M)	<ul style="list-style-type: none"> Student always on track, met all deadlines. Learning and time use are precisely documented. Student effectively communicated project progress with advisor. 	<ul style="list-style-type: none"> Student stayed on track some of the time and met some deadlines. Some of learning and time use is documented. Student gave time to most parts of the project process. 	<ul style="list-style-type: none"> Student is infrequently on track with time but met final deadline. Learning and time are poorly documented.
	8-10M	5-7M	2-4M

Rubric sheet for PRC-3

Batch No.		Class/Section	
Date		Max. Marks	20 Marks
Project Title:			

Expectations	Exceeded (Professional Quality) 20 M	Achieved (Medium Quality Work) 15 M	Attempted (Low/Poor Quality Work) 10 M
Quality of project with satisfied execution	<ul style="list-style-type: none"> • Quality project shows originality, creativity, and in-depth study. • Students created their own idea. • Project is designed and implemented completely • Demonstrated well 	<ul style="list-style-type: none"> • Student adapted ideas from others for the project. • Project is intended for a specific application. • Demonstrated well 	<ul style="list-style-type: none"> • Poor work. • No personal interest in final product. • No demonstration • No clear awareness of the project.

E. Quality of Completed Projects/Working Prototypes (5)

Quality of completed projects are assessed by the evaluation committee based on following parameters in project reviews

- a) Impact of the project on environment and sustainability.
- b) Impact of the project on human Safety and security.
- c) Impact of the project on ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- d) Cost of the project.
- e) Type of the project: one from the following:
 - Prototype
 - Research
 - Application

To assess the projects based on above tools graded as

L-low, M-moderate, H-high

Quality Assessment of Completed Projects/Working Prototypes of 2019-2020 Batch

Batch No.	Regd. No.	Project Title	Guide Name	Quality Measuring Factors				Type of the Project
				A	B	C	D	
1	16NM1A0214	Simplified Active and Reactive Power Control of Doubly Fed Induction Generator and Simulation With STATCOM	Dr.Akanksha Mishra	L	L	M	L	Application
	16NM1A0235							
	16NM1A0268							
	16NM1A0240							
	17NM5A0219							
2	16NM1A0286	A STATCOM -Control scheme for Grid-connected wind energy generating system for power quality improvement	Mr.P.V.Sarath	M	L	H	M	Application
	16NM1A0283							
	16NM1A0281							
	16NM1A0245							
	16NM1A0280							
3	17NM5A0211	Enhancement of power system stability using static synchronous series compensator (SSSC)	Ms.B. M. Pushpa Latha	L	L	H	M	Research
	16NM1A0224							
	17NM5A0215							
	16NM1A0241							
	15NM1A0205							
4	17NM5A0209	Mitigation of power quality disturbances by using dynamic voltage restorer.	Dr.K.DurgaSyam Prasad	M	M	M	L	Research
	16NM1A0294							
	17NM5A0208							
	16NM1A0279							
	16NM1A0233							
5	17NM5A0212	Detection of power grid synchronisation failure beyond	Mr. K. Chiranjeevi	M	L	M	L	Research
	16NM1A0249							

	16NM1A0292	acceptable voltage and frequency						
	16NM1A0274							
	16NM1A0212							
6	16NM1A0220	Stability enhancement of HVDC light transmission system using SVPWM Technique	Mr.G.Ravi Kumar	L	M	M	H	Application
	16NM1A0219							
	16NM1A0209							
	16NM1A0225							
	16NM1A0204							
7	17NM5A0218	Solar power based Electric vehicle	Dr.Akanksha Mishra	M	H	M	M	prototype
	16NM1A0270							
	16NM1A0208							
	17NM5A0202							
	16NM1A0272							
8	17NM5A0221	Sensorless speed estimation for direct torque control fed Induction Motor Drive.	Mr.V.Avinash	L	L	M	L	Application
	16NM1A0242							
	16NM1A0234							
	16NM1A0252							
	16NM1A0262							
9	16NM1A0259	Simulation of electric field and potential distribution on high voltage insulator using the finite element method	Mrs. PayalPramanik	M	L	M	M	Research
	16NM1A0254							
	16NM1A0295							
	16NM1A0291							
	16NM1A0250							
10	17NM5A0203	Comparison of five diodes	Ms. K. Therissa	L	M	H	M	

	17NM5A0205	clamped and cascaded H-Bridge multi-level inverter using SPWM technique.						Research
	16NM1A0273							
	16NM1A0284							
	16NM1A0251							
11	16NM1A0231	Harmonic Mitigation by using active power filter with one cycle controller	Dr. K. Kusal Kumar	M	L	H	M	Application
	16NM1A0267							
	16NM1A0210							
	16NM1A0287							
	16NM1A0278							
12	16NM1A0228	Power system stability improvement by using power system stabilizer	Dr. K. Kusal Kumar	M	M	L	M	Research
	16NM1A0257							
	16NM1A0256							
	17NM5A0220							
	16NM1A0296							
13	17NM5A0214	Bidirectional Resonant DC-DC converter for electrical vehicle charging and discharging system	Dr.Akanksha Mishra	M	M	H	L	Research
	16NM1A0288							
	16NM1A0213							
	16NM1A0239							
	16NM1A0229							
14	16NM1A0206	Single-phase symmetrical Multilevel inverter design for various loads.	Ms. K. Therissa	M	L	H	M	Application
	16NM1A0226							
	16NM1A0275							
	16NM1A0216							
	16NM1A0263							

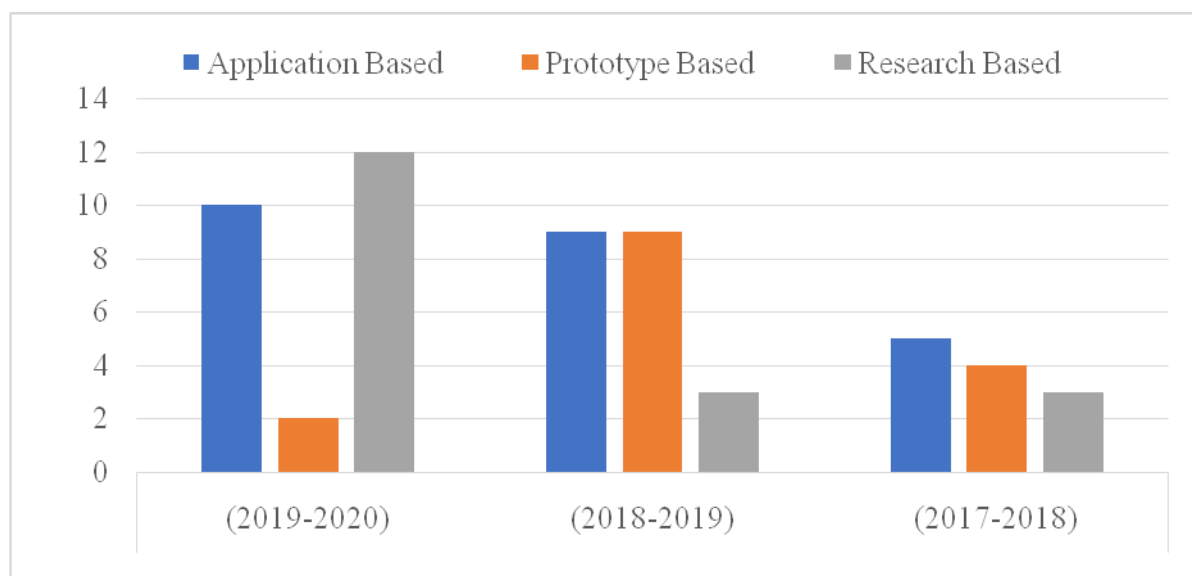
15	16NM1A0215	Design and Development of Multi-utility portable CNC machine.	Mr.K.Vamsi	L	L	H	M	Research
	16NM1A0269							
	16NM1A0221							
	17NM5A0217							
	16NM1A0232							
16	16NM1A0222	Active and Reactive power control of single-phase transformer less grid inverter for a distributed generation system.	Mr. K. Chiranjeevi	M	M	M	L	Research
	17NM5A0213							
	16NM1A0265							
	17NM5A0210							
	16NM1A0255							
17	16NM1A0237	Active and Reactive power analysis of double fed induction generator based on wind energy conversion system	Mr. A. Chandraiah	M	L	M	L	Research
	16NM1A0236							
	16NM1A0227							
	16NM1A0248							
	17NM5A0222							
18	17NM5A0207	Modelling and Simulink of hybrid PV/wind distributed generation system under different input scenarios.	Mrs. T. Sushma	L	M	M	H	Application
	16NM1A0211							
	16NM1A0293							
	16NM1A0247							
	16NM1A0244							
19	16NM1A0243	Fault classification Technique for series compensated transmission line using wavelet transform	Mr. Suresh	M	H	M	M	Research
	16NM1A0201							
	17NM5A0201							
	16NM1A0238							
	16NM1A0276							

20	16NM1A0285	Power Balancing Control for Ac/Dc microgrid using Renewable energy sources	Ms.V.V.Sai Santoshi	L	L	M	L	Application
	16NM1A0253							
	16NM1A0271							
	16NM1A0290							
	16NM1A0202							
21	16NM1A0266	Arduino and GSM based energy meter for advanced metering and power theft detection	Mr.K.V.Sri Ram Prasad	M	L	M	L	prototype
	17NM5A0223							
	16NM1A0261							
	16NM1A0207							
	16NM1A0203							
22	16NM1A0282	Comparison and Simulink of MPPT techniques for PV system	Mr. K. Vamsi	L	M	M	H	Application
	17NM5A0206							
	16NM1A0264							
	16NM1A0205							
	16NM1A0217							
23	17NM5A0216	Protection of SVC compensated transmission line from faults	Dr.K.DurgaSyam Prasad	M	H	M	M	Research
	16NM1A0258							
	16NM1A0246							
	16NM1A0297							
24	16NM1A0289	Voltage sag compensation of point of common coupling (PCC) using fault current limiter	Mr. A. Chandraiah	L	L	M	L	Application
	16NM1A0260							
	16NM1A0218							
	16NM1A0230							

Table B: 2.2.3.d: Quality Assessment of Completed Projects/Working Prototypes of 2019-20 batch

Different types of projects carried out in last three years

Projects Types	Number of projects carried out based on various categories		
	2019-20	2018-19	2017-18
Application Based	10	09	05
Prototype Based	02	09	04
Research Based	12	03	03

**F. Evidences of papers published/awards received by projects etc. (2)**

- 1). G.Parvathi, P.Bhargavi, V.Pavani Kumari, K.B.J.Aparnapublished paper entitled “Recognition Of Power Quality Disturbances Utilizing Wavelet Transform” in MuktsShabd Journal in Volume IX Issue V, MAY/2020 (ISSN2347-3150).
- 2) T. Sruthi, K. Sravanthi, and K. Durga Syam Prasad “Performance of Statcom Based on 84 Pulse Voltage Source Converter Configuration Using Multi Level DC Voltage Reinjection”, International Journal of Control Theory and Applications , 9(28), 2016-17, pp. 181-189, International Science Press.
- 3) Vana Kalyani, K. Sravanthi, and K. Durga Syam Prasad “Application Of Wavelet Entropy Based Algorithm On A Facts Compensated Transmission Line”, International Journal of Control Theory and Applications, 9(28), 2016-17, pp. 109-118, International Science Press.
- 4) .P.Tabita, K. Sravanthi, and K. Durga Syam Prasad “Power Quality Mitigation Using Multi Con-verter Unifi ed Power Quality Conditioner for the Application of Multi Feeder Systems”, International Journal of Control Theory and Applications, 9(28), 2016-17, pp. 119-129, International Science Press.

- 5) T. Sruthi, K. Sravanthi, and K. Durga Syam Prasad “Performance of Statcom Based on 84 Pulse Voltage Source Converter Configuration Using Multi Level DC Voltage Reinjection”, International Journal of Control Theory and Applications , 9(28), 2016-17, pp. 181-189,International Science Press.
- 6) B.Roopa Devi, V.Avinash “Non-Linear Sliding Mode Control With Fuzzy Logic for Speed Control of Permanent Magnet Synchronous Motor(Pmsm)”, International Journal & magazine of Engineering, technology, Management and Research ,Vol. 3. 2016-17, pp. 1511-1519,ISSN No 2348-4845.
- 7)Vana Kalyani, K. Sravanthi, and K. Durga Syam Prasad “Application Of Wavelet Entropy Based Algorithm On A Facts Compensated Transmission Line”, International Journal of Control Theory and Applications, 9(28), 2016-17, pp. 109-118,International Science Press.
- 8) J. Alekha, K. KushalKumar, “Control Strategies for Harmonic Mitigation Using Two Voltage Source Inverters in a Three Phase Four Wire System” International Journal & magazine of Engineering, technology, Management and Research ,Vol. 3. 2016-17, pp. 1562-1569,ISSN No 2348-4845.
- 9) P.Tabita, K. Sravanthi, and K. Durga Syam Prasad “Power Quality Mitigation Using Multi Con-verter Unifi ed Power Quality Conditioner for the Application of Multi Feeder Systems”, International Journal of Control Theory and Applications, 9(28), 2016-17, pp. 119-129,International Science Press.
- 10) G.Madhavilatha, K. Kushal Kumar, “Harmonic Reduction Using Voltage Source Converter Based Active Power Filter with One Cycle Control” International Journal & magazine of Engineering, technology, Management and Research ,Vol. 3. 2016-17, pp. 1590-1597,ISSN No 2348-4845
- 11) G.Mrudula, K. Sravanthi, and K. Durga Syam Prasad “Stability Improvement For Hvd Light Transmission With Non Linear Control Method”, Journal of Advanced Research in Dynamical and Control Systems,Vol. 12. Sp– 2 / 2017-18, pp. 130-139,Special Issue on Allied Electrical And Control Systems.
- 12) Y. Depika, Vana Kalyani, K. Sravanthi, and K. Durga Syam Prasad “Voltage Multiplier Module for Renewable Energy System with High Step-Up and High Efficiency Converter” IRACST – Engineering Science and Technology: An International Journal (ESTIJ), ISSN: 2250-3498,Vol.7, No.4, July-August 2017.
- 13) B. Kusumanjali, K. KushalKumar, “Power Enhancement Adopting Active Power Filter Using Sliding Mode Control Under Grid Distortions” INTERNATIONAL JOURNAL FOR

RESEARCH & DEVELOPMENT IN TECHNOLOGY, Volume-8, Issue-1, (July-17) ISSN (O) :- 2349-3585

14) Gandhi Anusha and Kapu V Sri Ram Prasad, “Speed Control Strategy Of Brushless DC Motor Using PID and IMC Controller” VSRD International Journal of Electrical, Electronics & Communication Engineering, Vol. VII Issue VI June 2017, e-ISSN: 2231-3346, p-ISSN: 2319-2232 ©PP 89-94.

15) G. Daya Krupa, K. Sravanthi, K. Durga Syam Prasad, “ Design Of Multilevel Inverter Based UPFC Using Fuzzy Logic Controller” Elixir Elec. Engg. 75 (2018) 27568-27574.

2.2.4. Initiatives Related to Industry Interaction (15)

(Give details of the industry involvement in the program such as industry-attached Laboratories, partial delivery of appropriate courses by industry experts etc. Mention the initiatives, implementation details and impact analysis)

An engineering student should be technically and globally competent to acquire the opportunities and should also attain the industrial needs. To meet these objectives, it is necessary to provide the students industry exposure and a platform to adapt the technological changes. The department frequently takes necessary measures to fulfill the goals. The procedure for Industry Interaction is shown in Figure B: 2.2.4.a as listed below:

- Initiate tasks by inviting the industrial members for valuable seminars and conference.
- Invite professional HRs and conducted an interaction session personally.
- Encourage the students for industrial visits & training program.
- Interaction with different esteemed industrial experts like APSSDC, STEEL PLANT, NTPC, APEPDCL, HINDUJA POWERPLANT, BRAINO VISION and etc.
- Conduct training sessions by industrial experts of latest technologies.
- Collect feedback from experts for progressive conduction of events.
- Feedback assessments are noted from students for further improvement.

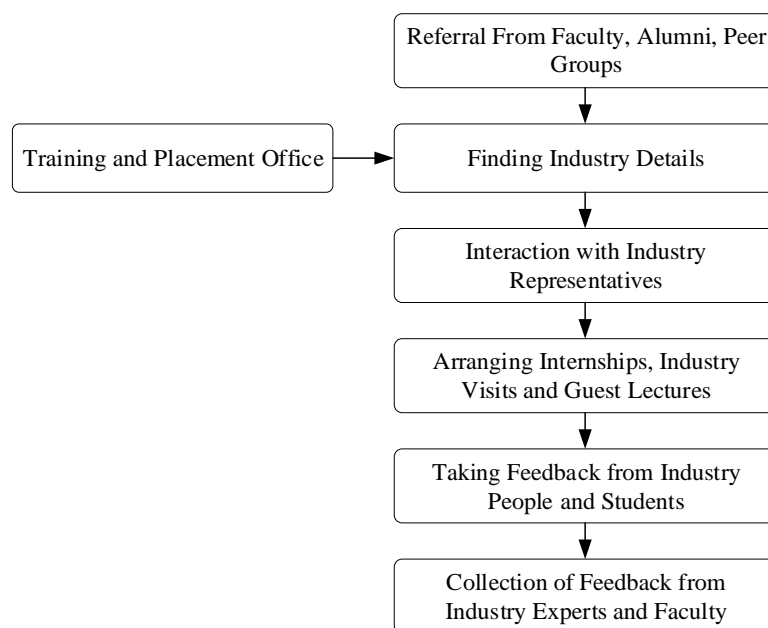


Figure B: 2.2.4.a: Process for Industry Interaction

A. Industry Supported Laboratories (5)

With the advent of globalization and opening up of Indian economy to outside world, competition among industries has become stiff. To solve their engineering problems they look up now to engineering institutions. Similarly, there is an urgent need to prepare engineering students for jobs in multinational companies, by exposing them to newer technologies and engineering methodologies.

These objectives can only be achieved well by bridging the gap between industry and the academic institutions. Better interaction between technical institutions and industry is the need of the hour. This will have great bearing on the engineering curriculum, exposure of engineering students to industrial atmosphere and subsequent placement of young graduating engineers in industries across the country. The labs established at Vignan's Institute of Engineering for Women are detailed below:

i) Andhra Pradesh State Skill Development Corporation (APSSDC) Lab

Andhra Pradesh State Skill Development Corporation (APSSDC) serves the task of providing skilled manpower as part of Government of Andhra Pradesh skill mission. AP government identified 100 institutes among 276 colleges across the state as their knowledge partners. APSSDC have established a Lab at Vignan's Institute of Engineering for Women to provide internships and training to students in the college. This will help in improving students'

technical competency, soft skills and thus employability quotient.

Overview of APSSDC Lab:

The center has been setup as a step to foster innovation and help instill the startup and research culture in the students as well act as a catalyst of growth by making world class skilled professionals available to key growth sectors for the state and the country. The Lab is equipped with high end configured Acer Laptops in count of 36 laptops provided by APSSDC, and the licenses for the software are provided on Premise. The details of the lab are furnished in Table: B.2.2.4a and overview of lab in Figure: B.2.2.4b.

Infrastructure of the LAB	
Capacity of the lab	50 laptops
No. of Laptops Installed	36 Laptops Configuration: Acer Processor: Intel core (5-7200U CPU@2.5GHz) RAM: 16 GB, 64 bit Operating system, Windows10 Hardisk: 500GB
License type	On Premise
UPS	Yes
Cabin Type	Single/Partitioned

Table B: 2.2.4.a: APSSDC lab details



Figure B: 2.2.4.b: Overview of APSSDC Lab

Objectives of APSSDC Lab:

As per the MoU with VIEW, APSSDC lab will extend the benefits to help the students' in providing training for 1000 students per year at minimal cost and created a platform to organize numerous workshops for students and faculty. The main objectives of the lab are:

- Promoting self-reliance
- Indigenization and technology upgrades
- Achieving economies of scale and Improve developing capabilities of students
- Export the talent in-house at a rapid pace to meet the demands of the industry
- Job assured training (Multi Skill Training Program)

Utilization of APSSDC Lab:

There are seven certification programs completed so far in APSSDC Lab from the day of its establishment. The lab utilization details are listed in Table:B.2.2.4.b.

Sl. No.	Name of the Workshop	Date(s)	No. of registered students	Relevance to POs/PSOs
1	Embedded system	18-12-2017 To 20-12-2017	53	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO12/PSO1
2	Coursera IoT Certification	14-05-2018 To 02-06-2018	30	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1
3	Workshop on Higher Education(webinar)	22-06-2018	15	PO11, PO12
4	TCS Hackthon	04-07-2018	10	PO1, PO3, PO4, PO5, PO9,

		To 15-07-2018		PO11, PO12/PSO1
5	SCALE Workshop	26-07-2018 To 28-07-2018	30	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1
6	Build Box	26-12-2018 To 10-01-2019	30	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1.
7	MSTP (Multi Skill Training Program)	03-12-2019 To 18-02-2020	12	PO1, PO3, PO4, PO5, PO9, PO11, PO12

Table B: 2.2.4.b: Utilization details of APSSDC Lab

Effectiveness of APSSDC Lab:

- Students are benefitted with hands on experienced training workshops, projects, Nano Degrees of Udacity and Coursera.
- Training programs provide a great opportunity for students to expand their knowledge base and increase their efficiency and productivity.
- Students use their training to keep up with the latest advancements in technology.
- Training and development can help students to perform better in the campus placements as they become more skilled than before.
- Training can increase the quality of the student.
- Students work independently and require less supervision than before.
- Students can use their knowledge from the training to do projects and help other students.
- Students perform better with greater efficiency than before.
- More confidence is built among students and performed well.

ii) IoT Research Lab

Texas Instruments, Bangalore conducted a national level DrishTI online exam to our students to test their technical competency. Around 2300 students participated in this exam and more than 90% of them are qualified. As a token appreciation, Texas Instruments sponsored Teaching labs by procuring latest hardware related to IoT and microcontrollers.

The students of Electrical and Electronics Engineering enhance their knowledge towards developing of IoT applications by gaining knowledge on IoT domain within the campus and to stay ahead of their peers. IoT test bed is an open and developing ecosystem of edge

devices, communication protocols, cloud-based platforms and application with a focus on cost-effective IoT technologies.

Overview of the Lab:

The lab is being utilized for implementing IoT based projects for real time applications. The lab is equipped with hardware kits and software required to carry out simulations. The lab is also equipped with IoT Development board self-starting learning kits and various sensors to make the students practically find a solution to real-time issues. The following are the Kits Sponsored by TI kits from STEPS Knowledge services Pvt. Ltd will be used by Department of EEE for academic purpose:

Sl. No	Description of the hardware	Quantity
1	Tinker Cad Virtual simulator software (Open source)	1
2	Proteus Virtual simulator software (Open Source)	1
3	Keil C Software (Open Source)	1
4	Eclipse Iol (Open Source)	1
5	LPC 2148 (ARM 7) Development Board	1
6	ARM CORTEX N3	3
7	Innovate ARM 926 developer kit	3
8	IOT Development Board Self Starter learning Arduino Kit	9
9	MSP 430 EXP G2 Launch Pad	30
10	MSP EXP430F5529 Experimenter Board	2
11	RF Booster Pack CC110L	5
12	STEPS Experimenter Pack for MSP430	10
13	MSP-EXP430F5529LP	10
14	BOOST-DAC8568	2

Table B: 2.2.4.c: List of Hardware available in the IoT Lab

Objectives of the IoT Lab:

- IoT lab is used to design and develop IoT based real-time projects and supporting in developing research activities.
- Develop projects that are cost effective and socially relevant.
- Students and faculty can utilize IoT test bed available in IoT lab to get hands-on exposure on IoT platform.

- To develop trained manpower through student projects in the field of IoT based application development.

Utilization of IoT Lab:

Students developed IoT based projects like e-notice board, solar electric vehicle, and water monitoring system etc., to participate in various technical events. The projects developed in the IoT lab are listed in Table B: 2.2.4.d.

Sl.No.	Title of the Project	Faculty Involved	Regd. No.	Student Batch
1	IoT based e-notice board	Dr. K. Durga Syam Prasad	15NM1A0248	P. Ananthaxmi
			15NM1A0246	P. Hema
			15NM1A0258	S. Swathi
			15NM1A0249	P. Yamuna
2	IoT based solar electric vehicle	Dr. Akanksha Mishra	17NM5A0218	P. Sravani
			16NM1A0270	P. Roshni
			16NM5A0208	B. Sandhya
			17NM5A0202	B. Laxmi lahari
3	IoT based water monitoring system	Mr.P.V.Sarath	15NM1A0256	S.Sushmita
			16NM5A0222	P.Mounika
			15NM1A0242	P.V.Saichinni
			15NM1A0237	M.Gowthami
4	Automatic LPG cylinder booking and leakage detection using arduinoUNO	Mr.V.Avinash	16NM5A0212	K.Ananthakumari
			15NM1A0212	D.SaiSunandha
			15NM1A0211	D.Arunakumari
			15NM1A0217	GedelaPuspa
			16NM5A0209	Gompa Himaja

Table B: 2.2.4.d: Projects Accomplished by IoT Research Lab

Effectiveness of IoT Lab:

- IoT lab provided hands on experience to the students to address real time applications.
- Although the projects suggested are of very basic nature but carrying out these give the confidence to take up difficult ones.
- Students develop keen interest to explore various other interdisciplinary courses due to involvement of several varied technologies in IoT.
- Learning of students as a team improved with enhanced inter personnel communication skill.

- Professional ethics and ample opportunity for modern tool usage was improved as students use open source software and resources.

B. Industry Involvement in the Program Design and Partial Delivery of Any Regular Courses for Students (5)

✓ The Department Advisory Committee (DAC) consults experts from the Industry and Professors from JNTUK and AndhraUniversity to always improve the students in all aspects.

✓ In addition, senior engineers from the industry are also consulted for upgrading the students to latest technologies.

✓ Workshops, Seminars and Guest Lectures are arranged to improve the student's skills.

✓ Involving industry experts in partial delivery of any regular courses

✓ MoUs with industries facilitates both the students and faculty an opportunity to understand the concepts in a better way. MOU's was done with industries to emphasize on:

- Internships
- Project Works for Students
- Industrial Visits
- Students specific training
- Faculty Development Programs

Better interaction between Institutions and Industry is the need of an hour. For students, it is important because they get exposure to industry and subsequent placement in various disciplines. On the other hand, with the advent of globalization and opening of Indian economy to the outside world, competition among the industries has become stiff. So, industries also need good students who are aware of industry standards and capable of achieving so. Therefore, there is an urgent need for interaction of industry and academics where academic institutes can prepare students for jobs in multinational companies and industry will also be benefited by the possibility of receiving a well-trained workforce.

Laboratory experience is an indispensable part of the educational process and a key factor in preparing students for real engineering practical life; For this reason, the Department

of EEE, VIEW operates about 6 laboratories within its premises, some of them are equipped with instruments and kits from the industry for training and research purpose. All these laboratories are equipped with state-of-the-art tools and facilities that provide hands-on practice for students; Furthermore, the laboratories also provide a testbed for research to the faculty. Some of the Industry supported labs are:

1. **Hinduja National Thermal Power Station, Vizag** is a coal-based thermal power plant located in Palavalasa village in Visakhapatnam, provide Power Plant Simulator course for IV B. tech students. Power plant simulator is an advanced hands-on-training tool, used mainly for the plant operation staff training in areas such as unit start-up, shut-down, load, operation, emergency handling etc. Also, a simulator can be used as a powerful tool to verify process design and control strategies before start-up of a plant as well as investigation and testing of operational problems that are normally not allowable under real plant operating conditions.
2. **Indpower, Plot No 61, 'E' Block, Industrial Park, Autonagar, Visakhapatnam**, provided Testing equipment, routine test bed and short circuit of transformer is used in electrical machines and other applications. To prove that the transformer meets the customer's specifications and design expectations, the transformer must go through different testing procedures in manufacturer premises. Some transformer tests are carried out for confirming the basic design expectation of that transformer. These tests are done mainly in a prototype unit not in all manufactured units in a lot. Type test of transformer confirms the main and basic design criteria of a production lot.

List of Technical talks by Industry Experts:

S.No	Topic of Seminar/ Guest Lecture/ Workshop	Resource Person with Designation	Date(s)	No. of Students Participated
1	Machine Learning Using Python	Mr. Rushikesh, Team Leader, ROBOSOL AND AAKAR	06-03-2020 to 07-03-2020	50
2	GOOGLE Android Developer Fundamental Workshop	Mr. Lokesh U, Mr. Gopi M, Trainers, APSSDC, Trainers, APSSDC	05-03-2020 to 07-03-2020	60
3	Robotics	Deepak Mourya JaYh Sharma, Team Leader, ROBOSOL AND AAKAR	24-12-2019 to 26-12-2019	60
4	Importance of IoT in Marine Engineering	Mr. S.K. Dubey, CEO, STBL Projects Pvt. Ltd	11-01-2019	120

5	Bridging the Gap Between the Students and Academia	Mr. T. Suresh, Team Leader, Wipro Technologies	10- 01-2019	150
6	Latest Developments and limitations of Indian Transmission Systems	Sri.S.Narayana Murthy, Superintendent Engineer, AP Transco	28.12.2018	100
7	Basic of Transmission Systems	Sri.G.Mohan Prakash, Deputy Executive Engineer, AP Transco	29.12.2018	120
8	“I Boot Up IoT Series“	Mr.Manikanta.Y Project Manager,IoT at IB Hubs	16.08.2018 to 18.08.2018	90
9	AWS Skill guru workshop	Mr.Sree Kiran Babu, Trainer, APSSDC	30-31 May 2018	50
10	Entrepreneurship Development Program in collaboration with Vignan University	Dr. D. Bhattacharya, VIT Mr. G. Nageswaran Director MSME Mr. B Kalyan Vardhan, Senior coordinator MSME Mr. K Satish,CEO 9 Solutions	02.08.2018 to 06.08.2018	140
11	Entrepreneur Development Program in coordination with Software Technology Parks of India	Mr. P. Dubey, Joint Director STPI Mrs M. Lakshmi, CEO ,PATRAMr. R.L. Narayana, President ITAIP Mrs. P Neeraja, HR IEMEG	26.11.2019	180
12	Faculty Development Program sponsored by DST and Organised by National Institute for Small and Medium Enterprises	Dr. P Satish Dr. P.S. Ravindra Mrs. Padmaja Dr. Ch. Govinda Rao	10.02.2020 to 12-02-2020	20

Table B: 2.2.4.e: List of Technical talks by resource persons from Industry

In order to make our students industry ready, we take the support of various eminent industrialists. They are part of our institute governing body in decision making and framing policies. With the inputs from these members, we encourage our students to take part in

industrial tours and training programs. The following is the list of various industrialists who are part of our institute governing body.

List of Industrialists associated with our institute

S. No	Name of the Industrialist with designation	Industry	Association with our Institute
1	Dr CD Malleswar Former Director-NSTL, DRDO Dr Raja Ramanna Distinguished Fellow	Naval Science & Technological Laboratory (DRDO)	Chairman of Governing Body from June 2017 to October 2019
2	Dr V.Bhujanga Rao ISRO Chair Professor Former DG-DRDO- Delhi. Former Director-NSTL Vizag	National Institute of Advances Studies, IISc Campus, Bangalore.	Chairman of Governing Body from November 2019
3	Dr. V. ViziaSaradhi, Former Director	HPCL, Mumbai.	Governing Body Trust Member from June 2017 to October 2019
4	Sri.VenkataRayuluBonam, Delivery Project Executive	IBM India (P) Ltd. Hyderabad	Governing Body Member from June 2017
5	Mr.SrikanthNandigam Head Project Manager	Excel Global Solutions InfoTech Pvt. Ltd. VSEZ, Visakhapatnam	Governing Body Member from June 2017 to October 2019
6	Dr. B.Subba Rao Programe Director,	SAMEER-Centre for Electromagnetic Environmental Effects, Ministry of Electronics & Information Technology, Visakhapatnam	Governing Body Member from June 2017
7	Dr.Archana Sharma Outstanding Scientist Head, PP & EMD	Bhabha Atomic Research Centre (BARC), Mumbai.	Governing Body Trust Member from November 2019
8	Dr.Rishi Verma Scientist-G	BARC, Atchutapuram	Governing Body

		Visakhapatnam.	Member from November 2019
9	Mr.Suresh Kumar Tankala Lead Consultant	Wipro Limited, Visakhapatnam	Governing Body Member from November 2019

Table B: 2.2.4.f: List of Industrialists associated with our institute

C. Impact Analysis of industry-Institute Interaction and actions taken (5)

The Industry-Institute Interaction is highly essential to run longer period for preparing the students, the manpower of world class in the field of science and technology by inculcating the various skills required by the industry, thereby contributing to the economic and social development at large.

Industry institute interaction is effected through

- i. Guest lectures by industry experts
- ii. Membership of industry experts in Institute Governing body
- iii. Membership of industry experts in Department Advisory committee
- iv. Industrial visits by students
- v. Student Project work with involvement of industry
- vi. Workshops /seminars /guest lecturers make the students gain knowledge on latest technologies and tools and they and practices.
- vii. Industry built Labs with modern methodologies provides a practical environment to implement creativity in project work.

Impact analysis:

- Establishment of Industry-Institute Partnership /interaction Cell.
- Organizing Workshops, conferences and symposia with joint participation of the faculty and the industries with students.
- Encouraging engineers from industry to visit the college to deliver lectures.

- Participation of experts from industry in curriculum development, the same intimated to JNTUK.
- Arranging visits of staff members to various industry.
- Professional consultancy by the faculty to industries.
- Industrial testing by faculty & students at site or in laboratory.
- Joint research programmes and field studies by faculty and people from industries.
- Visits of faculty to industry for study and discussions or delivering lectures on subjects of mutual interest.
- Visits of students to industry in upgrading their skills.
- Visits of industry executives and practicing engineers to the Institute for seeing research work and laboratories, discussions and delivering lectures on industrial practices, trends and experiences.
- Memoranda of Understanding between the Institute and industries to bring the two sides emotionally and strategically closer.
- Human resource development programmes by the faculty for practicing engineers.
- B.Tech. projects work in industries under joint guidance of the faculty and experts from industry.
- Short-term assignment to students/faculty members in industries.
- Visiting faculty/professors from industries.
- Professorial Chairs sponsored by industries at the Institute.
- R&D Laboratories sponsored by industries at the Institute.
- Scholarships/fellowships instituted by industries at the Institute for students.
- Practical training of students in industries.

The list of MOUs with various companies is tabulated below

Sl.No.	MOU with companies	MOU with Institution	Description	Date of MoU
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1.	Techno Soft solutions(TSS), Visakhapatnam	VIEW	Imparting training courses	09.01.2012
2.	Glob arena Technologies(P) Ltd., Hyderabad	JNTUK	Centre of Excellence for e- resource Development and Deployment Project(CoEeRD)	06.03.2012
3.	M/s. Consortium of Institutions of Higher Learning(CIHL)	JNTUK	Innovative Inter-disciplinary PG program in information Technology	04.04.2012
4.	Randstad India Limited, Chennai	VIEW	Providing Job placements	05.04.2013
5.	COIGNEDU & IT Services(P) Ltd., Hyderabad	VIEW	Imparting Training courses	03.07.2014
6.	M/s. CADD Box solutions, Visakhapatnam	VIEW	Conducting CAD Training & Certification	19.07.2014
7.	Smart & Soft solutions, Visakhapatnam	VIEW	Certification Training of Microsoft IT Courses	23.07.2014
8.	Focus Academy for Career Enhancement (FACE), Coimbatore	VIEW	IBM Specific aptitude cracker programme	02.12.2014
9.	Focus Academy for Career Enhancement (FACE), Coimbatore	VIEW	Campus placement Cracker programme	14.02.2015
10.	Focus Academy for Career Enhancement(FACE),	VIEW	Company Specific aptitude cracker programme	06.08.2015
11.	M/s.GRAFX IT Solutions Pvt. Ltd.,	VIEW	Skill Development Programme	27.08.2015
12.	Leadership 'Foundation', Srikakulam.	VIEW	Technology incubation Hub	05.01.2016
13.	Talentio solutions India Pvt. Ltd.,Hyderabad.	VIEW	Skill Enhancement Programme	17.02.2016
14.	Focus Academy for Career Enhancement(FACE), Coimbatore	VIEW	WIZARD IT	03.05.2016
15.	Omni RK Super Specialty Hospital	VIEW	Health Checkup/Treatment	29.06.2017
16.	Confederation of Indian Industry(CII), Visakhapatnam	VIEW	Influence inspire and motivation of Students	25.07.2017
17.	APSSDC, Amaravathi	VIEW	To make qualitative improvements in imparting Technical Skills.	25.07.2017
18.	SatvatInfosol Pvt. Ltd.,	VIEW	Infrastructure cum Facility	27.09.2018
19.	NSE(NSEIT Limited), Mumbai	VIEW	Online Examination Service Provide Centre	28.08.2019
20.	NIT, Warangal Electronics and ICT Academy	VIEW	Organizes various programs to improve the quality of teaching quality of Education	30.08.2019
21.	PARAMARSH Scheme from UGC	VIEW	Quality Education to the next generation	26.08.2019

Table B: 2.2.4.g: List of MOUs between VIEW and JNTUK with Various Companies

2.2.5. Initiatives Related to Industry Internship/Summer Training (15)

(Mention the initiatives, implementation details and impact analysis)

Assessment of PO & PSO attainment for the current academic year, feedback analysis from alumni and industrial experts helps us to improve the industry interaction process for the students. Every year the students are motivated to undergo industrial/internship training during semester break for a period of at least two weeks to get industrial exposure. The students with the support of the department approach the industries with a request for seeking training. The acknowledgment received by the industry will be forwarded to head of the institute to get permission to undergo training. A report on the work carried out during the tenure will be provided by the students to the department after successful completion of training. Assessment on training is conducted either by a seminar or by viva-voce. The feedback analysis on the training is collected for taking necessary measures to improve the process.

A. Industrial Training/Tours for Students (3)

Industrial visit is a self-interest and important in a career for a pursuing engineering degree student. It is a part of our institute schedule, mostly seen in professional degree courses. The main purpose of industrial visit is to understand the internal working process and ethics for the students practically. The department level of our institution had figure-out that the theoretical concept is not sufficient for a professional career, thus industrial visit/training is more important for practical knowledge to the students. This industrial visit/training provides an opportunity to gain the concepts practically via interaction, working process.

1. Indian Space Research Organization, Sriharikota

Overview: Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, the Spaceport of India, is responsible for providing Launch Base Infrastructure for the Indian Space Programme. This Centre has the facilities for solid propellant processing, static testing of solid motors, launch vehicle integration and launch operations, range operations comprising telemetry, tracking and command network and mission control centre.

Type of industry: Space and Research Organization

Planned or Non planned activity: Planned

Objectives:

- To learn the advance technology researching by space applications in field of electrical engineering.

- To explore the research environment of ISRO, for both faculty and students.

2.Powergridcorporation of India limited, Visakhapatnam

Overview:Power Grid Corporation of India Limited (POWERGRID), is an Indian state-owned electric utility company headquartered in Gurugram, India. POWERGRID transmits about 50% of the total power generated in India on its transmission network.

Type of industry:Power Transmission Industry

Planned or Non planned activity: Planned

Objectives:

- To learn the power scheduling process by the experts in the power dispatch field.
- To know the organization structure and know the difference between traditional & restructured power system.
- To know about PPA of solar and wind power plants.

3.Machkund power plant, Orissa

Overview:Machhakund (or Machkund) Hydroelectric Project is located near Duduma Falls between the Andhra Pradesh and Orissa Border. It is a collaborative project of Government of Andhra Pradesh and Government of Odisha. The Maharaja of Jeypore conceived the idea of a dam in 1928. Although the planning for the project started in 1930's, the actual displacement began in the late 1940s. As the project was started before independence no proper records for the displacement and rehabilitation are available. Also, the concept of rehabilitation was not evolved at that time.

Type of industry:Hydro Power Plant

Planned or Non planned activity: Planned

Objectives:

- To learn about different turbines used for different types of hydropower plants.
- To know how to operate and working of hydro power plant.

Date of visit	Name of Industry	NO.of students visited	Faculty Coordinator
30-01-2020	Satish Dhawan Space Centre, ISRO, Sriharikota, Andhra Pradesh.	50	T.Sushma
05-06-2019	PGCIL, Visakhapatnam, Andhra Pradesh	60	K.chiranjeevi
15-07-2019	Machkund Power Plant, Odisha	120	B.Rajesh
27-08-2019	132/33 kV sub-station, Gajuwaka, Visakhapatnam.	120	P.V.Sarath

Table B: 2.2.5.a: Industrial Visits

B. Industrial /Internship /Summer Training of More than Two Weeks and Post Training Assessment

The students of EEE program are motivated to go for internship at various industries in the summer break of their of VI semester. The institute supports students by sanctioning permission to visit industries and gain practical knowledge. The students undergo internship training for a period of one week to a maximum of 20 days. A report on training undergone by the students as a team or as an individual is to be submitted after successful completion of their internship. The training helps them to think innovatively in solving real time problems and implement as working models. The details of internship training are listed below:

Consolidated table

Academic Year	Organization	No. of Students
2019-20	Steelplant,Visakhapatanam	67
	AP Transco,Gajuwaka	41
	BHEL,Visakhapatnam	27
	CoromondelFertilizers,Visakhapatnam	4
	Hindusthan Shipyard	2
2018-19	PGCIL,Visakhapatnam	5
	Steelplant,Visakhapatanam	23
	NTPC,visakhapatnam	26
	BHEL,Visakhapatnam	1
	Electro loco motive shed	3
	APEPDCL,isakhapatnam	30
	AP Transco,Gajuwaka	6
	Hindusthanshipyard,Visakhapatnam	15
2017-18	Steelplant,Visakhapatanam	22
	Hydro power plant,sileru	1
	NCS power,Visakhapatnam	2
	AP Transco,Gajuwaka	6
	Synergies casting,visakapatnam	6
	NTPC,visakhapatnam	16

Table B: 2.2.5.b:Consolidated list of students internship/training details

Effectiveness & Impact through Professional Internships:

Sl.No	Student Name	Graduation year	Company name	Stipend
1	Reeshma Karri	2020	Image Creative Education Private Limited	₹1500 /month
2	NadikoppulaDivya	2020	United Nations Volunteer	Performance Based
3	NadikoppulaDivya	2020	INDIA Redefined	Performance Based
4	Joshi Ramya Teja	2021	Brdgespan Consultants	₹1000-3000 /month
5	Joshi Ramya Teja	2021	The Prayas India	₹1000 /month
6	Bandaru Lakshmi Venkata Sai Jahnavi	2021	Gopal Khandelwal	₹1000 /month
7	Allu Sowjanya	2021	INDIA Redefined	Performance Based
8	Allu Sowjanya	2021	INDIA Redefined	Performance Based
9	Joshi Ramya Teja	2021	Be Of Use	₹1000 /month
10	H T priyanka	2018	Thinktel solutions	Performance Based
11	K.joshna	2018	Thinktel solutions	Performance Based

2019-20 Academic Year				
Sl.No.	Name of the student	Regd.No.	Company Name	Duration
1	GUBBALA MADHURI	16NM1A0232	Steel Plant, Visakhapatnam	Two Weeks (From 09.05.2019 to 22.05.2019)
2	BHUMIREDDI GANGA BHAVANI	16NM1A0212		
3	DUDI SUVARNA	16NM1A0221		
4	GARI HARIKA	16NM1A0227		
5	BONU RAM TULASI	16NM1A0214	Steel Plant, Visakhapatnam	Two Weeks (From 09.05.2019 to 22.05.2019)
6	CHEBROLU ANU PRIYA	16NM1A0217		
7	NAMBARU KANYA KUMARI	16NM1A0260		
8	BHARGAVI PAKALAPATI	16NM1A0211	APTRANSCO, Gajuwaka	Ten Days (From 09.05.2019 to
9	KARRI YAMINI MANI	16NM1A0243		

10	CHINTAPALLI BHAGYA LAKSHMI	16NM1A0219		18.05.2019)
11	GEMBALI AKHILA	16NM1A0228		
12	KADHA LOCHANA	16NM1A0239		
13	NEELAPU SRAVANI	16NM1A0262		
14	DADI BHOOLAKSHMI	17NM5A0203		
15	KARRI NEELIMA	17NM5A0210		
16	JUTTU NAVYA SWATHI	16NM1A0238	APTRANSCO, Gajuwaka	Ten Days (From 09.05.2019 to 18.05.2019)
17	BANDARU SANDHYA RANI	16NM1A0208		
18	SILAPARASETTI GIRISHMA	17NM5A0221		
19	GAVARA HEMA PARVATHI	17NM5A0206		
20	GURRAM LAVANYA	17NM5A0208		
21	GANTLA LAXMI PRIYANKA	17NM5A0205		
22	ALLA JYOTHSNA	17NM1A0204	Steel Plant, Visakhapatnam.	Fifteen Days (From 10.05.2019 to 24.05.2019)
23	CHIKKALA VENKATA SAI SARITHA	17NM1A0223		
24	DODDU SRIVALLIKA	17NM1A0229		
25	GORLE TEJASRI	17NM1A0243		
26	ETI APPALA TIRUMALA ROSHINI KRISHNA SREE	17NM1A0231		
27	GORRIPOTI GAYATRI	17NM1A0245		
28	GANTLA DIVYA	17NM1A0235		
29	JUTTADA CHANDINI	17NM1A0250		
30	CHITTIBOYINA YAMINI SIRISHA	17NM1A0225		
31	CHOKKAPU BHAVANA NIMISHA	17NM1A0226		
32	ALLA JYOTHSNA	17NM1A0204		
33	CHIKKALA VENKATA SAI SARITHA	17NM1A0223		
34	DODDU SRIVALLIKA	17NM1A0229		
35	GORLE TEJASRI	17NM1A0243		
36	ETI APPALA TIRUMALA ROSHINI KRISHNA SREE	17NM1A0231		
37	GORRIPOTI	17NM1A0245		

	GAYATRI			
38	GANTLA DIVYA	17NM1A0235		
39	JUTTADA CHANDINI	17NM1A0250		
40	CHITTIBOYINA YAMINI SIRISHA	17NM1A0225		
41	CHOKKAPU BHAVANA NIMISHA	17NM1A0226		
42	BANDARU PRAVALLIKA	17NM1A0209		
43	BOTTA CHITRA MOUNIKA	17NM1A0220		
44	GOLAKOTI LEESHMA KOUSALYA	17NM1A0239		
45	BATCHU SREEJA	17NM1A0211		
46	BANGARU VIKEERNA	17NM1A0210		
47	DASARI PADMAVATHI	17NM1A0227		
48	BANDARU PRAVALLIKA	17NM1A0209	Steel Plant, Visakhapatnam.	Fifteen Days (From 10.05.2019 to 30.05.2019)
49	BANGARU VIKEERNA	17NM1A0210		
50	BATCHU SREEJA	17NM1A0211		
51	DASARI PADMAVATHI	17NM1A0227		
52	ASURI BHAVANA	17NM1A0207		
53	GARA ASHRITHA	17NM1A0236		
54	BOTTA CHITRA MOUNIKA	17NM1A0220		
55	GOPALABATLA VIJAYA VASAVI KRUPA	17NM1A0241		
56	KARANAM LALITHA	17NM1A0252		
57	GUJJU SAI PRIYA	18NM5A0212		
58	GORLE RAMYA SOWBHAGYA	17NM1A0242	Steel Plant, Visakhapatnam	Twenty Days (From 09.05.2019 to 08.06.2019)
59	GONTHINA BHASHITHA	17NM1A0240		
60	GALLA GUNASREE	17NM1A0233		
61	BUDIREDLA ASWINI PRATHYUSHA	17NM1A0222		
62	ALLU SOWJANYA	17NM1A0205		
63	BOKAM DIVYA	17NM1A0218		
64	CHINTADA INDU	17NM1A0224		
65	BHUMIREDDI JHANSI	17NM1A0214		
66	DHARMIREDDI	17NM1A0228		

	VASUDHA			
67	GORLI NEERAJA	17NM1A0244		
68	GORLE RAMYA SOWBHAGYA	17NM1A0242	BHEL, Visakhapatnam.	Fifteen Days (From 09.05.2019 to 08.06.2019)
69	GONTHINA BHASHITHA	17NM1A0240		
70	GALLA GUNASREE	17NM1A0233		
71	BUDIREDLA ASWINI PRATHYUSHA	17NM1A0222		
72	ALLU SOWJANYA	17NM1A0205		
73	BOKAM DIVYA	17NM1A0218		
74	CHINTADA INDU	17NM1A0224		
75	BHUMIREDDI JHANSI	17NM1A0214		
76	DHARMIREDDI VASUDHA	17NM1A0228		
77	GORLI NEERAJA	17NM1A0244		
78	GUJJU SAI PRIYA	18NM5A0212		
79	RAVADA RAJESWARI	17NM5A0220	Steel Plant, Visakhapatnam.	One Month (From 05.05.2019 to 04.06.2019)
80	NOLLU DEVI	17NM5A0215		
81	OMMI MAMATHA	17NM5A0216		
82	NAMBARI MOUNIKA	17NM5A0214	Steel Plant, Visakhapatnam.	One Month (From 05.05.2019 to 04.06.2019)
83	GURANA PARVATHI	17NM5A0207		
84	KAKI BHAVANI KRISHNA VENI	17NM5A0209		
85	YELLANKI SAI TEJASWINI	17NM1A0292	Steel Plant, Visakhapatnam	Fifteen Days (From 20.05.2019 to 08.06.2019).
86	BOBBARADA ELIZABETH DEEVENA	17NM1A0215	NINL, Jajpur	Fifteen Days (From 21.05.2019 to 08.06.2019).
87	BANDARU LAKSHMI VENKATA SAIJAHAVI	17NM1A0208	APTRANSCO, Gajuwaka	Twenty Days (in between 13.05.2019 to 09.06.2019)
88	ALLA JYOTHSNA	17NM1A0204	APTRANSCO, Gajuwaka.	Twenty Days (in between 13.05.2019 to 09.06.2019)
89	BANDARU PRAVALLIKA	17NM1A0209		
90	BANGARU VIKEERNA	17NM1A0210		
91	BATCHU SREEJA	17NM1A0211		
92	BOTTA CHITRA MOUNIKA	17NM1A0220		

93	CHIKKALA VENKATA SAI SARITHA	17NM1A0223		
94	CHITTIBOYINA YAMINI SIRISHA	17NM1A0225		
95	CHOKKAPU BHAVANA NIMISHA	17NM1A0226		
96	DODDU SRIVALLIKA	17NM1A0229		
97	ETI APPALA TIRUMALA ROSHINI KRISHNA SREE	17NM1A0231		
98	GANTLA DIVYA	17NM1A0235		
99	GOLAKOTI LEESHMA KOUSALYA	17NM1A0239		
100	GORLE TEJASRI	17NM1A0243		
101	GORRIPOTI GAYATRI	17NM1A0245		
102	JUTTADA CHANDINI	17NM1A0250		
103	KARANAM LALITHA	17NM1A0252		
104	BANDARU LAKSHMI VENKATA SAIJAHAVI	17NM1A0208	Steel Plant, Visakhapatnam.	Fifteen Days (From 20.05.2019 to 03.06.2019)
105	AMARAPINI ROHINI VARALAKSHMI	17NM1A0206		
106	GEDALA PRAMEELA	17NM1A0237		
107	A. SIRISHREE VARMA	16NM1A0203	APTRANSCO, Gajuwaka.	Seven Days (in between 09.05.2019 to 16.05.2019)
108	B. PRIYANKA	16NM1A0205		
109	G. AKANKSHA	16NM1A0225		
110	J. ROOPASRI	16NM1A0235		
111	K.V.S PRASANNA	16NM1A0252		
112	L.NAGA SWETHA	16NM1A0254		
113	YELLANKI SAI TEJASWINI	17NM1A0292	APTRANSCO, Visakhapatnam	Fifteen Days (From 20.05.2019 to 08.06.2019)
114	ANANTARAPU DULEESHA	16NM1A0202	Steel Plant, Visakhapatnam	Three Weeks (From 20.05.2019 to 08.06.2019).
115	KANCHARLA MANI HARIKA	16NM1A0241		
116	MALLAVARAPU MALLIKA	16NM1A0255		
117	DADI BHOOLAKSHMI	17NM5A0203	Steel Plant, Visakhapatnam	15 Days (From 23.05.2019 to 06.06.2019)
118	GANTLA LAXMI PRIYANKA	17NM5A0205		

119	GAVARA HEMA PARVATHI	17NM5A0206		
120	GURANA PARVATHI	17NM5A0207		
121	GURRAM LAVANYA	17NM5A0208		
122	KAKI BHAVANI KRISHNA VENI	17NM5A0209		
123	KARRI NEELIMA	17NM5A0210		
124	SILAPARASETTI GIRISHMA	17NM5A0221		
125	MEDISI BINDU BHAGYA SRI	17NM1A0490	Hindustan Shipyards Ltd, Visakhapatnam.	15 Days (From 24.05.2019 to 09.06.2019)
126	MOTURU KUSUMA KUMARI	17NM1A0494		
127	M KEERTHANA	17NM1A0265		
128	N TEJASWINI	17NM1A0266	Coromandel, Visakhapatnam	15 Days (From 27.05.2019 to 06.06.2019)
129	S KAVITHA	17NM1A0277		
130	V SRUTHI	17NM1A0288		
131	B SRUTHI	17NM1A0221		
132	A VYSHNAVI	17NM1A0202	Steel Plant, Visakhapatnam.	07 Days (From 03.06.2019 to 09.06.2019).
133	G SATYA ISHWARYA	17NM1A0234		
134	G.SATYA AISHWARYA	17NM1A0234		
135	G.SAI PRIYA	18NM5A0212	AP TRANSCO, Visakhapatnam	11 Days (From 28.05.2019 to 07.06.2019)
136	D.PADMAVATHI	17NM1A0227		
137	G.VIJAYAVASAVI KRUPA	17NM1A0241		
138	PINDI SRI AMULYA	17NM1A0270		
139	SANGAMREDDY NAVYA SREE	17NM1A0276	Steel Plant, Visakhapatnam.	Fifteen Days (From 11.11.2019 to 25.11.2019)
140	VELUGULA LEELA SUDHA	17NM1A0287		
141	VUJJI RENUKA	17NM1A0289		
142	VAJRAPU HEMAMBIKA SRI HARSHINI,	18NM5A0234	Steel Plant, Visakhapatnam.	Fifteen days (From 04.05.2020 to 18.05.2020)

Table B: 2.2.5.c:Details of student internship for year 2019-20

Post Training Assessment:

(i) Post Training Certification:

Certification is one of the most important elements of training and essential to increase the uptake and encourage the completion of training. The students are awarded with certificates after the summer training Internship. A sample certificate is shown below

**TRANSMISSION CORPORATION OF ANDHRA
PRADESH LIMITED**



CERTIFICATE OF INTERNSHIP

This is to certify that **Gujju Sai priya (18NM5A0212)** ,D/o.
G.Roop Kumar Reddy , a student of **Vignan's institute of
Engineering for women, duvvada** have done internship training at
220/132/33 KV Dairy Farm SS, Visakhapatnam, APTRANSCO
for the period from **27-05-2019** to **07-06-2019** as a partial
fulfillment for the award of engineering.

K. Venkata Rao
Er. K. VENKATA RAO, ME
Deputy Executive Engineer
Maintenance
220/132/33 KV Dairy farm SS

M. Sundeep Kumar
Er. MSUNDEEP KUMAR
Assistant Executive Engineer
Maintenance
220/132/33 KV Dairy farm SS

(ii) Post Training Evaluation:

- Post Training Evaluation is a very important part of the learning and development process and checks whether the training has had the desired effect.

- Training evaluation ensures that whether students are able to implement their learning in their respective courses.
- The tests and assessments are designed and conducted to all the students who underwent training, and results presented back to the learners to understand their level of training.
- The exam is online in which 10 MCQs are given on the trained topic.
- The students have to give the exam before 1 week after the training.
- The students who have scored at least 50% of marks in the exam only can claim that they have completed their training.

F. Impact Analysis of Industrial Training (4)

For the last three years, more than 200 students received training from various industries in and around Visakhapatnam during semester break. The major industries in which students have undergone training are STEEL PLANT, NTPC, PGCIL, AP TRANSCO and etc.

- Awareness on recent tools used in industry help them to learn and grab opportunities in various MNC companies.
- Product based projects are implemented by the students.
- Team work, communication skills, soft skills are improved.
- Industry expert interaction helps them to understand the need of applying contextual knowledge to assess societal, health and safety issues.
- The visit to industry helps the student to improve the practical knowledge of the processes and systems.
- Students are motivated towards research-based knowledge by improving their degree through higher studies.

Academic Year	No. of students participated in Industrial training/ tours	No. of students implemented product-based projects	No. of students placed	No. of students successfully graduated	No. of students implemented research-based projects
2019-20	105	20	91	-	60
2018-19	85	16	67	80	50
2017-18	62	12	48	59	48

D. Student Feedback on Initiative (4)

The feedback from the students who have visited the industries for internship/ training is collected and reviewed for further improvement in conducting such activities. The feedback collected helps the department to take necessary measures to improve and increase such activities that benefits the successive student batches. The following are some of the comments received by the students after their successful completion of training / industrial visit:

- Demonstrate the three-phase distribution transformers used in APEPDCL.
- Describe the HVAC and DC transmission used in PGCIL.
- Discuss the testing of transformers and classification of transmission lines used in electrical transmission ant APTRANSCO.
- Working of thermal power plant and generator operation at matchkund thermal power plant
- Describe operation of rolling mills at RINL,steelplant

Sl.No.	Company Name	Total Students Attended	Feedback Comment (Good/bad/Satisfied)	Remarks
1.	BHEL, Visakhapatnam	27	Satisfied	
2.	RINL, Steel Plant, Visakhapatnam	67	Good	
3.	AP TRANSCO 132/33 kV, Gajuwaka, Visakhapatnam	41	Good	

Table B: 2.2.5.d: Feedback on Internship Program Training 2019-2020

Sl.No.	Company Name	Total Students Attended	Feedback Comment (Good/bad/Satisfied)	Remarks
1.	APEPDCL, Visakhapatnam	30	Satisfied	
2.	AP TRANSCO, Visakhapatnam	6	Good	
3.	Hindustan Shipyard, Visakhapatnam	15	Good	
4.	NTPC, Visakhapatnam	26	Satisfied	
5.	Steel Plant, Visakhapatnam	23	Good	
6.	TL&SS, Gajuwaka Substation	5	Good	
7.	Power Grid Corporation of India	5	Good	
8.	BHEL, Visakhapatnam	1	Satisfied	
9.	132 KV Substation at Gajuwaka,	2	Good	

Table B: 2.2.5.e: Feedback on Internship Program Training 2018-2019

Sl.No.	Company Name	Total Students Attended	Feedback Comment (Good/bad/Satisfied)	Remarks
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1.	Steel Plant, Visakhapatnam	22	Satisfied	
2.	NTPC, Visakhapatnam	16	Good	
3.	Hydro Power Plant, Lower Sileru (60MW)	1	Good	
4.	NCS Power Plant(20MW), Latchayyapeta, Vizianagaram	2	Good	
5.	APEPDCL, Opp.: Green Park Hotel, Visakhapatnam	12	Satisfied	
6.	AP TRANSCO, Pendurthi division, Visakhapatnam.	6	Good	

Table B: 2.2.5.f: Feedback on Internship Program Training 2017-2018

S.No.	Company Name	Visited Students	Feedback Comment (Good/bad/Satisfied)	Remarks
1.	Satish Dhawan Space Centre, ISRO, Sriharikota, Andhra Pradesh.	22	Satisfied	
2.	PGCIL, Visakhapatnam, Andhra Pradesh	16	Good	
3.	Machukund Power Plant, Odisha	120	Good	
4.	132/33 kV sub-station, Gajuwaka, Visakhapatnam.	100	Good	

Table B: 2.2.5.g: Feedback on Industrial Visits 2019-20

In 2018-19, the number of students completed industrial training in steel plant are twenty three. The feedback is collected from all the students and consolidated. The consolidated report is given below.

S.No	Parameter	Feedback grades				
		5	4	3	2	1
1	Usefulness of the content learnt at training place	13	8	2		
2	Hands on experience at training place	10	10	3		
3	Was the training above or below your current skill level	15	8			
4	Overall, how would you rate the internship/ training program	20	3			
5	Did the training program achieve your program objective	Y: 23		No:		

Table B: 2.2.5.h: Feedback analysis of industrial visit

Internship / Summer Training Feedback Form

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Kapujaggarajupeta, Duvvada, Visakhapatnam-530 049)

**FEEDBACK FORM
INTERNSHIP/ SUMMER TRAINING PROGRAM**

Name of the Student: G. Anvitha Roll Number: 15NH1A0220 Year: 2018

Attended Location: NTPC, VIZAG. Attended Date: 4-05-2019.

Industry/ Organization name:	<u>NTPC, VIZAG.</u>
Name of the project in-charge/ guide/trainer	<u>B. Venkateswara Rao.</u>
Topic/ session/ project name:	<u>Performance and analysis of alternators.</u>

Feedback:

S.No.		Excellent	Good	Fair	Poor
1	Training is relevant to my needs	✓			
2	The material provided is helpful	✓			
3	Length of the training is sufficient		✓		
4	Training meet my expectations		✓		
5	The illustrations, videos and interactions are used at the right level		✓		
6	The training has improved my knowledge on the subject	✓			
7	Did your trainers answer the questions posted	✓			
8	Is the level of instruction appropriate		✓		
9	Questions are encouraged		✓		
10	The trainer is effective		✓		
How would you rate the overall skills of the trainer (out of 10):		<u>10.</u>			

About Course curriculum training:

Please specify any course/subject/tools/ concepts which are observed to be improved or needed to add or give additional training in our curriculum to make students industry-ready

electrical machines has to be explained with models.

Note: please put a tick mark in the appropriate column.

Anvitha
Signature of the Student

Criterion 3	Course Outcomes (CO) and Program Outcomes (PO)	120
3.1	Establish the Correlation between the Courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs)	20
3.2	Attainment of Course Outcomes	50
3.3	Attainment of Program Outcomes and Program Specific Outcomes	50

3.1 Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) (20)

(Program Outcomes as mentioned in Appendix I of SAR and program specific outcomes are defined by the program)

3.1.1. Course Outcomes (COs) (SAR should include Course Outcomes of one course from each semester of study, however, should be prepared for all courses and made available as evidence, if asked) (05)

Course Outcomes are designed by the course coordinator along with faculty handling the course using blooms taxonomy action verbs as per the syllabus prescribed by JNTUK-Kakinada. Course Outcomes starts with an action verb, subject of content and condition of performance. Course Outcomes are the statements that are required for establishing the correlation between the course and the program. With the approval of Program Assessment Quality Improvement Committee (PAQIC) and Head of the Department, the outcomes are finalized. The same procedure is followed if any refinements are required in the outcomes. The following represents the outcomes of individual course considered one course per semester. The outcomes for three academic years i.e., CAY (2018-19), CAYm1 (2017-18) and CAYm2 (2016-17) are tabulated below.

Course Outcomes of admitted batch 2013

Course Name: Basic Electronics and Devices ; Year of Study: 2014-15 ; Year/Sem: II/I	
C203.1	Determine the basic concepts of semiconductor physics for the operation of diodes and transistors.
C203.2	Analyze the operation and characteristics of PN junction diode and special diodes of load flow methods.
C203.3	Describe the operation aspects of rectifiers and regulators.
C203.4	Analyze the characteristics of various transistor configurations - with different biasing, stabilization and compensation techniques in transistor circuits.
C203.5	Illustrate the operation and characteristics of FET, thyristors, Power IGBTs and Power MOSFETs.
C203.6	Deduce the merits and demerits of positive and negative feedback and the role of feedback in oscillators and amplifiers.

Course Name: Control Systems ; Year of Study: 2014-15 ; Year/Sem: II/II	
C214.1	Discuss the mathematical modelling of physical systems, to use block diagram algebra and signal flow graph for the transfer function.
C214.2	Analyze the time response of first and second order systems with proportional plus derivative and proportional plus integral controllers.

C214.3	Determine the stability of closed loop systems using Routh's stability criterion and root locus method.
C214.4	Determine the Frequency Response approaches for the analysis of linear time invariant (LTI) systems using Bode plots, polar plots and Nyquist stability criterion.
C214.5	Examine basic aspects of compensation of linear control systems and different compensators by Bode plots.
C214.6	Analyze state-model systems with the concepts of controllability and observability.

Course Name: Power Electronics; Year of Study: 2015-16; Year/Sem: III/I	
C305.1	Illustrate the characteristics of various power semiconductor devices and operation of diode bridge rectifier.
C305.2	Categorize the operation of AC voltage controller and half-wave phase-controlled rectifiers.
C305.3	Analyze the operation of single phase full-wave converters and harmonics in the input current.
C305.4	Discriminate the operation of three phase full-wave converters and dual converters.
C305.5	Analyze the operation of single phase cyclo-converters and high frequency dc-dc converters.
C305.6	Distinguish the types of inverters and PWM techniques for voltage control and harmonic mitigation.

Course Name: Power System Analysis ; Year of Study: 2015-16; Year/Sem: III/II	
C313.1	Sketch of impedance diagram for a power system network.
C313.2	Compute the load flow solution of power system network using different types of load flow methods.
C313.3	Develop Z bus for a partial network and algorithm modification of power system network.
C313.4	Calculate 3-phase short circuit currents, reactance of synchronous machine and MVA.
C313.5	Determine the sequence components of currents for any unbalanced power system network.
C313.6	Analyze the steady state, transient and dynamic stability concepts of power systems.

Course Name: Renewable Energy Sources & System; Year of Study: 2016-17; Year/Sem: IV/I	
C401.1	Summarize solar radiation data, extra-terrestrial radiation and radiation on earth surface.
C401.2	Discuss solar thermal collectors, concentrating collectors and solar ponds.
C401.3	Identify the proper solar photo voltaic system by using photovoltaic sizing.
C401.4	Illustrate maximum power point techniques in wind energy system.
C401.5	Examine the kinetic energy equation of various power plants.
C401.6	Illustrate the operation of biomass, fuel cell and geothermal systems.

Course Name: Flexible AC Transmission Systems ; Year of Study: 2016-17 ; Year/Sem: IV/II	
C411.1	Illustrate power flow control in transmission lines by using FACTS controllers.
C411.2	Discuss the operation and control of voltage source converter.
C411.3	Observe compensation methods to improve stability and reduce power oscillations in the transmission lines.
C411.4	Discuss the method of shunt compensation by using static VAR compensators.
C411.5	Classify methods of compensations by using series compensators.
C411.6	Describe operation of modern power electronic controllers (Unified Power Quality Conditioner and Interline Power Flow Controller).

Table B.3.1.1.a: Course Outcomes for 2013 admitted Batch (R13 Regulations)

Course Outcomes of admitted batch 2014

Course Name: Basic Electronics and Devices ; Year of Study: 2015-16 ; Year/Sem: II/I	
C203.1	Determine the basic concepts of semiconductor physics for the operation of diodes and transistors.
C203.2	Analyze the operation and characteristics of PN junction diode and special diodes of load flow methods.
C203.3	Describe the operation aspects of rectifiers and regulators.
C203.4	Analyze the characteristics of various transistor configurations - with different biasing, stabilization and compensation techniques in transistor circuits.
C203.5	Illustrate the operation and characteristics of FET, thyristors, Power IGBTs and Power MOSFETs.
C203.6	Deduce the merits and demerits of positive and negative feedback and the role of feedback in oscillators and amplifiers.

Course Name: Control Systems ; Year of Study: 2015-16 ; Year/Sem: II/II	
C214.1	Discuss the mathematical modelling of physical systems, to use block diagram algebra and signal flow graph for the transfer function.
C214.2	Analyze the time response of first and second order systems with proportional plus derivative and proportional plus integral controllers.
C214.3	Determine the stability of closed loop systems using Routh's stability criterion and root locus method.
C214.4	Determine the Frequency Response approaches for the analysis of linear time invariant (LTI) systems using Bode plots, polar plots and Nyquist stability criterion.
C214.5	Examine basic aspects of compensation of linear control systems and different compensators by Bode plots.
C214.6	Analyze state-model systems with the concepts of controllability and observability.

Course Name: Power Electronics ;Year of Study: 2016-17 ; Year/Sem: III/I	
C305.1	Illustrate the characteristics of various power semiconductor devices and operation of diode bridge rectifier.

C305.2	Categorize the operation of AC voltage controller and half-wave phase-controlled rectifiers.
C305.3	Analyze the operation of single phase full-wave converters and harmonics in the input current.
C305.4	Discriminate the operation of three phase full-wave converters and dual converters.
C305.5	Analyze the operation of single phase cyclo-converters and high frequency dc-dc converters.
C305.6	Distinguish the types of inverters and PWM techniques for voltage control and harmonic mitigation.

Course Name: Power System Analysis ;Year of Study: 2016-17; Year/Sem: III/II	
C313.1	Sketch of impedance diagram for a power system network.
C313.2	Compute the load flow solution of power system network using different types of load flow methods.
C313.3	Develop Z bus for a partial network and algorithm modification of power system network.
C313.4	Calculate 3-phase short circuit currents, reactance of synchronous machine and MVA.
C313.5	Determine the sequence components of currents for any unbalanced power system network.
C313.6	Analyze the steady state, transient and dynamic stability concepts of power systems.

Course Name: Renewable Energy Sources & System; Year of Study: 2017-18;Year/Sem: IV/I	
C401.1	Summarize solar radiation data, extra-terrestrial radiation and radiation on earth surface.
C401.2	Discuss solar thermal collectors, concentrating collectors and solar ponds.
C401.3	Identify the proper solar photo voltaic system by using photovoltaic sizing.
C401.4	Illustrate maximum power point techniques in wind energy system.
C401.5	Examine the kinetic energy equation of various power plants.
C401.6	Illustrate the operation of biomass, fuel cell and geothermal systems.

Course Name: Flexible AC Transmission Systems ;Year of Study: 2017-18; Year/Sem: IV/II	
C411.1	Illustrate power flow control in transmission lines by using FACTS controllers.
C411.2	Discuss the operation and control of voltage source converter.
C411.3	Observe compensation methods to improve stability and reduce power oscillations in the transmission lines.
C411.4	Discuss the method of shunt compensation by using static VAR compensators.
C411.5	Classify methods of compensations by using series compensators.
C411.6	Describe operation of modern power electronic controllers (Unified Power Quality Conditioner and Interline Power Flow Controller).

Table B.3.1.1.b: Course Outcomes for 2014 admitted Batch (R13 Regulations)**Course Outcomes of admitted batch 2015**

Course Name: Basic Electronics and Devices ; Year of Study: 2016-17 ; Year/Sem: II/I	
C203.1	Determine the basic concepts of semiconductor physics for the operation of diodes and transistors.
C203.2	Analyze the operation and characteristics of PN junction diode and special diodes of load flow methods.
C203.3	Describe the operation aspects of rectifiers and regulators.
C203.4	Analyze the characteristics of various transistor configurations - with different biasing, stabilization and compensation techniques in transistor circuits.
C203.5	Illustrate the operation and characteristics of FET, thyristors, Power IGBTs and Power MOSFETs.
C203.6	Deduce the merits and demerits of positive and negative feedback and the role of feedback in oscillators and amplifiers.

Course Name: Control Systems ;Year of Study: 2016-17 ; Year/Sem: II/II	
C214.1	Discuss the mathematical modelling of physical systems, to use block diagram algebra and signal flow graph for the transfer function.
C214.2	Analyse the time response of first and second order systems with proportional plus derivative and proportional plus integral controllers.
C214.3	Determine the stability of closed loop systems using Routh's stability criterion and root locus method.
C214.4	Determine the Frequency Response approaches for the analysis of linear time invariant (LTI) systems using Bode plots, polar plots and Nyquist stability criterion.
C214.5	Examine basic aspects of compensation of linear control systems and different compensators by Bode plots.
C214.6	Analyse state-model systems with the concepts of controllability and observability.

Course Name: Power Electronics ;Year of Study: 2017-18 ; Year/Sem: III/I	
C305.1	Illustrate the characteristics of various power semiconductor devices and operation of diode bridge rectifier.
C305.2	Categorize the operation of AC voltage controller and half-wave phase-controlled rectifiers.
C305.3	Analyse the operation of single phase full-wave converters and harmonics in the input current.
C305.4	Discriminate the operation of three phase full-wave converters and dual converters.
C305.5	Analyse the operation of single phase cyclo-converters and high frequency dc-dc converters.
C305.6	Distinguish the types of inverters and PWM techniques for voltage control and harmonic mitigation.

Course Name: Power System Analysis ; Year of Study: 2017-18 ; Year/Sem: III/II	
C313.1	Sketch of impedance diagram for a power system network.
C313.2	Compute the load flow solution of power system network using different types of load flow methods.
C313.3	Develop Z bus for a partial network and algorithm modification of power system network.
C313.4	Calculate 3-phase short circuit currents, reactance of synchronous machine and MVA.
C313.5	Determine the sequence components of currents for any unbalanced power system network.
C313.6	Analyse the steady state, transient and dynamic stability concepts of power systems.

Course Name: Renewable Energy Sources & System ; Year of Study: 2018-19 ; Year/Sem: IV/I	
C401.1	Summarize solar radiation data, extra-terrestrial radiation and radiation on earth surface.
C401.2	Discuss solar thermal collectors, concentrating collectors and solar ponds.
C401.3	Identify the proper solar photo voltaic system by using photovoltaic sizing.
C401.4	Illustrate maximum power point techniques in wind energy system.
C401.5	Examine the kinetic energy equation of various power plants.
C401.6	Illustrate the operation of biomass, fuel cell and geothermal systems.

Course Name: Flexible AC Transmission Systems ; Year of Study: 2018-19 ; Year/Sem: IV/II	
C411.1	Illustrate power flow control in transmission lines by using FACTS controllers.
C411.2	Discuss the operation and control of voltage source converter.
C411.3	Observe compensation methods to improve stability and reduce power oscillations in the transmission lines.
C411.4	Discuss the method of shunt compensation by using static VAR compensators.
C411.5	Classify methods of compensations by using series compensators.
C411.6	Describe operation of modern power electronic controllers (Unified Power Quality Conditioner and Interline Power Flow Controller).

Table B.3.1.1.c: Course Outcomes for 2015 admitted Batch (R13 Regulations)

3.1.2. CO-PO matrices of courses selected in 3.1.1 (six matrices to be mentioned; one per semester from 3rd to 8th semester) (05)

The table indicates the CO-PO/PSO mapping from 3rd to 8th semester and correlation levels are defined as 1-Slight (Low), 2-Moderate (Medium), 3-Substantial (High) and if there is no correlation then marked with '-'. The table consists of the correlation of the outcomes defined in Sec. 3.1.1 with respect to the Program Outcomes and the PSOs.

CO-PO Mapping of admitted batch: 2013

Course Name: Basic Electronics and Devices (Year of Study: 2014-15) Year/Sem: II/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C203.1	3	3	3	3	2	2	2	-	3	-	3	3
C203.2	3	3	-	2	2	2	2	-	3	-	3	3
C203.3	3	3	3	3	2	3	2	-	3	-	3	2
C203.4	3	3	3	3	2	2	2	-	2	-	2	3
C203.5	3	3	-	3	2	2	3	-	3	-	3	2
C203.6	3	3	-	2	2	2	2	-	3	-	3	2
C203	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50

Course Name: Control Systems (Year of Study: 2014-15) Year/Sem: II/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C214.1	3	3	3	3	2	2	2	-	3	2	3	3
C214.2	3	3	3	2	2	2	2	-	3	2	3	3
C214.3	3	3	3	3	2	2	2	-	3	2	3	2
C214.4	3	3	3	3	2	2	2	-	2	2	2	3
C214.5	3	3	3	3	2	2	2	-	3	2	3	2
C214.6	3	3	3	2	2	2	2	-	3	2	3	2
C214	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50

Course Name: Power Electronics (Year of Study: 2015-16) Year/Sem: III/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	3	3	3	3	3	-	-	3	3	2	2	3
C305.2	3	3	2	2	2	2	-	-	2	2	3	3
C305.3	3	3	2	3	3	-	-	2	2	-	2	2
C305.4	3	3	2	3	2	3	-	-	2	2	2	3
C305.5	3	3	2	3	2	-	2	2	3	-	2	2
C305.6	3	3	2	2	2	-	-	-	2	2	3	3
C305	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67

Course Name: Power System Analysis (Year of Study: 2015-16) Year/Sem: III/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313.1	3	3	3	3	2	2	2	-	2	2	3	3
C313.2	3	3	2	2	2	2	2	-	2	2	3	3
C313.3	3	3	2	3	2	2	2	-	2	2	3	2
C313.4	3	3	2	3	2	2	2	-	2	-	2	3
C313.5	3	3	2	3	2	2	2	-	2	2	3	2
C313.6	3	3	2	2	2	2	2	-	2	2	3	2
C313	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50

Course Name: Renewable Energy Sources & Systems (Year of Study: 2016-17) Year/Sem: IV/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401.1	3	3	3	3	2	2	2	-	3	-	3	3
C401.2	3	3	3	2	2	2	2	-	3	-	3	3
C401.3	3	3	3	3	2	2	2	-	3	-	3	2
C401.4	3	3	3	3	2	2	2	-	2	-	2	3
C401.5	3	3	3	3	2	2	2	-	3	-	3	2
C401.6	3	3	3	2	2	2	2	-	3	-	3	2
C401	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50

Course Name: Flexible AC Transmission System (Year of Study: 2016-17) Year/Sem: IV/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C411.1	3	3	3	3	2	2	3	-	3	-	3	3
C411.2	3	3	3	2	2	2	3	-	3	-	3	3
C411.3	3	3	3	3	2	2	3	-	3	-	3	2
C411.4	3	3	3	3	2	2	3	-	2	-	2	3
C411.5	3	3	3	3	2	2	3	-	3	-	3	2
C411.6	3	3	3	2	2	2	3	-	3	-	3	2
C411	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50

Table: B.3.1.2.a CO-PO mapping for 2013 admitted Batch (R13 Regulations)

CO-PO Mapping of admitted batch: 2014

Course Name: Basic Electronics and Devices (Year of Study: 2015-16) Year/Sem: II/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C203.1	3	3	3	3	2	2	2	-	3	-	3	3
C203.2	3	3	-	2	2	2	2	-	3	-	3	3
C203.3	3	3	3	3	2	3	2	-	3	-	3	2
C203.4	3	3	3	3	2	2	2	-	2	-	2	3
C203.5	3	3	-	3	2	2	3	-	3	-	3	2
C203.6	3	3	-	2	2	2	2	-	3	-	3	2
C203	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50

Course Name: Control Systems (Year of Study: 2015-16) Year/Sem: II/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

C214.1	3	3	3	3	2	2	2	-	3	2	3	3
C214.2	3	3	3	2	2	2	2	-	3	2	3	3
C214.3	3	3	3	3	2	2	2	-	3	2	3	2
C214.4	3	3	3	3	2	2	2	-	2	2	2	3
C214.5	3	3	3	3	2	2	2	-	3	2	3	2
C214.6	3	3	3	2	2	2	2	-	3	2	3	2
C214	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50

Course Name: Power Electronics (Year of Study: 2016-17) Year/Sem: III/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	3	3	3	3	3	-	-	3	3	2	2	3
C305.2	3	3	2	2	2	2	-	-	2	2	3	3
C305.3	3	3	2	3	3	-	-	2	2	-	2	2
C305.4	3	3	2	3	2	3	-	-	2	2	2	3
C305.5	3	3	2	3	2	-	2	2	3	-	2	2
C305.6	3	3	2	2	2	-	-	-	2	2	3	3
C305	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67

Course Name: Power System Analysis (Year of Study: 2016-17) Year/Sem: III/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313.1	3	3	3	3	2	2	2	-	2	2	3	3
C313.2	3	3	2	2	2	2	2	-	2	2	3	3
C313.3	3	3	2	3	2	2	2	-	2	2	3	2
C313.4	3	3	2	3	2	2	2	-	2	-	2	3
C313.5	3	3	2	3	2	2	2	-	2	2	3	2
C313.6	3	3	2	2	2	2	2	-	2	2	3	2
C313	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50

Course Name: Renewable Energy Sources & Systems (Year of Study: 2017-18) Year/Sem: IV/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401.1	3	3	3	3	2	2	2	-	3	-	3	3
C401.2	3	3	3	2	2	2	2	-	3	-	3	3
C401.3	3	3	3	3	2	2	2	-	3	-	3	2
C401.4	3	3	3	3	2	2	2	-	2	-	2	3
C401.5	3	3	3	3	2	2	2	-	3	-	3	2
C401.6	3	3	3	2	2	2	2	-	3	-	3	2
C401	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50

Course Name: Flexible AC Transmission System (Year of Study: 2017-18) Year/Sem: IV/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C411.1	3	3	3	3	2	2	3	-	3	-	3	3
C411.2	3	3	3	2	2	2	3	-	3	-	3	3
C411.3	3	3	3	3	2	2	3	-	3	-	3	2
C411.4	3	3	3	3	2	2	3	-	2	-	2	3
C411.5	3	3	3	3	2	2	3	-	3	-	3	2
C411.6	3	3	3	2	2	2	3	-	3	-	3	2
C411	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50

Table: B.3.1.2.b CO-PO mapping for 2014 admitted Batch (R13 Regulations)

CO-PO Mapping of admitted batch: 2015

Course Name: Basic Electronics and Devices (Year of Study: 2016-17) Year/Sem: II/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C203.1	3	3	3	3	2	2	2	-	3	-	3	3
C203.2	3	3	-	2	2	2	2	-	3	-	3	3
C203.3	3	3	3	3	2	3	2	-	3	-	3	2
C203.4	3	3	3	3	2	2	2	-	2	-	2	3
C203.5	3	3	-	3	2	2	3	-	3	-	3	2
C203.6	3	3	-	2	2	2	2	-	3	-	3	2
C203	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50

Course Name: Control Systems (Year of Study: 2016-17) Year/Sem: II/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C214.1	3	3	3	3	2	2	2	-	3	2	3	3
C214.2	3	3	3	2	2	2	2	-	3	2	3	3
C214.3	3	3	3	3	2	2	2	-	3	2	3	2
C214.4	3	3	3	3	2	2	2	-	2	2	2	3
C214.5	3	3	3	3	2	2	2	-	3	2	3	2
C214.6	3	3	3	2	2	2	2	-	3	2	3	2
C214	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50

Course Name: Power Electronics (Year of Study: 2017-18) Year/Sem: III/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	3	3	3	3	3	-	-	3	3	2	2	3
C305.2	3	3	2	2	2	2	-	-	2	2	3	3

C305.3	3	3	2	3	3	-	-	2	2	-	2	2
C305.4	3	3	2	3	2	3	-	-	2	2	2	3
C305.5	3	3	2	3	2	-	2	2	3	-	2	2
C305.6	3	3	2	2	2	-	-	-	2	2	3	3
C305	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67

Course Name: Power System Analysis (Year of Study: 2017-18) Year/Sem: III/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313.1	3	3	3	3	2	2	2	-	2	2	3	3
C313.2	3	3	2	2	2	2	2	-	2	2	3	3
C313.3	3	3	2	3	2	2	2	-	2	2	3	2
C313.4	3	3	2	3	2	2	2	-	2	-	2	3
C313.5	3	3	2	3	2	2	2	-	2	2	3	2
C313.6	3	3	2	2	2	2	2	-	2	2	3	2
C313	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50

Course Name: Renewable Energy Sources & Systems (Year of Study: 2018-19) Year/Sem: IV/I												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401.1	3	3	3	3	2	2	2	-	3	-	3	3
C401.2	3	3	3	2	2	2	2	-	3	-	3	3
C401.3	3	3	3	3	2	2	2	-	3	-	3	2
C401.4	3	3	3	3	2	2	2	-	2	-	2	3
C401.5	3	3	3	3	2	2	2	-	3	-	3	2
C401.6	3	3	3	2	2	2	2	-	3	-	3	2
C401	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50

Course Name: Flexible AC Transmission System (Year of Study: 2018-19) Year/Sem: IV/II												
Course Code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C411.1	3	3	3	3	2	2	3	-	3	-	3	3
C411.2	3	3	3	2	2	2	3	-	3	-	3	3
C411.3	3	3	3	3	2	2	3	-	3	-	3	2
C411.4	3	3	3	3	2	2	3	-	2	-	2	3
C411.5	3	3	3	3	2	2	3	-	3	-	3	2
C411.6	3	3	3	2	2	2	3	-	3	-	3	2
C411	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50

Table: B.3.1.2.c CO-PO mapping for 2015 admitted Batch (R13 Regulations)**CO-PSO matrices of courses selected in 3.1.1 from 3rd to 8th semester)**

The table indicates the CO-PSO mapping from 3rd to 8th semester and correlation levels are defined as 1-Slight (Low), 2-Moderate (Medium), 3-Substantial (High) and if there is no correlation then marked with '-'.
correlation then marked with '-'.

CO-PSO mapping of admitted batch: 2013

Course Name: Basic Electronics and Devices (Year of Study: 2014-15) Year/Sem: II/I		
Course Code	PSO1	PSO2
C203.1	-	3
C203.2	-	-
C203.3	-	3
C203.4	-	3
C203.5	-	3
C203.6	-	3
C203	-	3.00

Course Name: Control Systems (Year of Study: 2014-15) Year/Sem: II/II		
Course Code	Course Code	Course Code
C214.1	3	-
C214.2	3	2
C214.3	3	2
C214.4	3	-
C214.5	3	-
C214.6	3	-
C214	3.00	2.00

Course Name: Power Electronics (Year of Study: 2015-16) Year/Sem: III/I		
Course Code	PSO1	PSO2
C305.1	-	3
C305.2	-	3
C305.3	-	3
C305.4	-	3
C305.5	-	3
C305.6	-	3

C305	-	3.00
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Course Name: Power System Analysis (Year of Study: 2015-16) Year/Sem: III/II		
Course Code	PSO1	PSO2
C313.1	3	-
C313.2	3	-
C313.3	3	-
C313.4	3	-
C313.5	3	-
C313.6	3	-
C313	3.00	-

Course Name: Renewable Energy Sources & Systems (Year of Study: 2016-17) Year/Sem: IV/I		
Course Code	PSO1	PSO2
C401.1	3	-
C401.2	3	-
C401.3	3	-
C401.4	3	-
C401.4	3	-
C401.6	3	-
C401	3.00	-

Course Name: Flexible AC Transmission Systems (Year of Study: 2016-17) Year/Sem: IV/II		
Course Code	PSO1	PSO2
C411.1	3	-
C411.2	3	-
C411.3	3	-
C411.4	3	-
C411.5	3	-
C411.6	3	-
C411	3.00	-

Table B.3.1.2.d CO-PSO mapping for 2013 admitted Batch (R13 Regulations)

CO-PSO mapping of admitted batch: 2014

Course Name: Basic Electronics and Devices (Year of Study: 2015-16) Year/Sem: II/I		
Course Code	PSO1	PSO2
C203.1	-	3
C203.2	-	-
C203.3	-	3
C203.4	-	3
C203.5	-	3
C203.6	-	3
C203	-	3.00

Course Name: Control Systems (Year of Study: 2015-16) Year/Sem: II/II		
Course Code	PSO1	PSO2
C214.1	3	-
C214.2	3	2
C214.3	3	2
C214.4	3	-
C214.5	3	-
C214.6	3	-
C214	3.00	2.00

Course Name: Power Electronics (Year of Study: 2016-17) Year/Sem: III/I		
Course Code	PSO1	PSO2
C305.1	-	3
C305.2	-	3
C305.3	-	3
C305.4	-	3
C305.5	-	3
C305.6	-	3
C305	-	3.00

Course Name: Power System Analysis (Year of Study: 2016-17) Year/Sem: III/II		
Course Code	PSO1	PSO2
C313.1	3	-

C313.2	3	-
C313.3	3	-
C313.4	3	-
C313.5	3	-
C313.6	3	-
C313	3.00	-

Course Name: Renewable Energy Sources & Systems (Year of Study: 2017-18) Year/Sem: IV/I		
Course Code	PSO1	PSO2
C401.1	3	-
C401.2	3	-
C401.3	3	-
C401.4	3	-
C401.4	3	-
C401.6	3	-
C401	3.00	-

Course Name: Flexible AC Transmission Systems (Year of Study: 2017-18) Year/Sem: IV/II		
Course Code	PSO1	PSO2
C411.1	3	-
C411.2	3	-
C411.3	3	-
C411.4	3	-
C411.5	3	-
C411.6	3	-
C411	3.00	-

Table B.3.1.2.e CO-PSO mapping for 2014 admitted Batch (R13 Regulations)

CO-PSO mapping of admitted batch: 2015

Course Name: Basic Electronics and Devices (Year of Study: 2016-17) Year/Sem: II/I		
Course Code	PSO1	PSO2
C203.1	-	3

C203.2	-	-
C203.3	-	3
C203.4	-	3
C203.5	-	3
C203.6	-	3
C203	-	3.00

Course Name: Control Systems (Year of Study: 2016-17) Year/Sem: II/II		
Course Code	Course Code	Course Code
C214.1	3	-
C214.2	3	2
C214.3	3	2
C214.4	3	-
C214.5	3	-
C214.6	3	-
C214	3.00	2.00

Course Name: Power Electronics (Year of Study: 2017-18) Year/ Sem: III/I		
Course Code	PSO1	PSO2
C305.1	-	3
C305.2	-	3
C305.3	-	3
C305.4	-	3
C305.5	-	3
C305.6	-	3
C305	-	3.00

Course Name: Power System Analysis (Year of Study: 2017-18) Year/Sem: III/II		
Course Code	PSO1	PSO2
C313.1	3	-
C313.2	3	-
C313.3	3	-
C313.4	3	-

C313.5	3	-
C313.6	3	-
C313	3.00	-

Course Name: Renewable Energy Sources & Systems (Year of Study: 2018-19) Year/Sem: IV/I		
Course Code	PSO1	PSO2
C401.1	3	-
C401.2	3	-
C401.3	3	-
C401.4	3	-
C401.4	3	-
C401.6	3	-
C401	3.00	-

Course Name: Flexible AC Transmission Systems (Year of Study: 2018-19) Year/Sem: IV/II		
Course Code	PSO1	PSO2
C411.1	3	-
C411.2	3	-
C411.3	3	-
C411.4	3	-
C411.5	3	-
C411.6	3	-
C411	3.00	-

Table B.3.1.2.f CO-PSO mapping for 2015 admitted Batch (R13 Regulations)

3.1.3. Program level course-PO matrix of all courses including first year courses (10)

The following table represents the correlation between individual courses and the Program Outcomes/ Program Specific Outcomes. These values are the average values obtained from the correlation of Course Outcomes with PO/PSO from tables 3.1.2.a to 3.1.2.f.

Admitted Batch: 2013												
Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	-	-	-	-	-	2.33	2.33	2.33	2.33	3.00	2.50	3.00
C102	3.00	3.00	3.00	3.00	-	3.00	2.50	2.50	-	-	2.50	3.00
C103	2.83	2.67	2.60	2.60	2.50	-	3.00	3.00	-	-	2.60	2.80
C104	3.00	2.67	3.00	3.00	-	2.67	2.75	2.75	-	-	-	2.67
C105	-	-	2.50	-	-	2.00	2.25	2.25	2.25	-	2.33	2.33
C106	2.67	2.50	2.50	2.50	-	2.50	3.00	3.00	3.00	-	3.00	3.00
C107	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C108	3.00	2.50	2.33	2.33	2.33	2.00	2.00	2.00	2.00	2.00	-	2.00
C109	2.33	2.50	3.00	-	2.33	-	-	-	2.33	-	-	3.00
C110	-	-	-	-	-	2.50	2.33	2.50	2.33	2.50	2.50	3.00
C111	3.00	3.00	3.00	3.00	-	2.33	2.33	2.33	-	-	2.33	3.00
C112	3.00	3.00	2.50	2.50	-	2.50	2.50	2.50	-	-	-	2.50
C113	3.00	3.00	3.00	3.00	2.00	2.50	-	-	-	-	-	-
C114	3.00	2.50	2.50	2.50	2.00	2.50	-	-	-	-	-	-
C115	2.67	2.67	2.50	2.50	2.50	-	-	-	2.50	-	-	2.50
C116	2.67	2.33	-	2.50	2.50	-	2.00	-	2.00	2.00	-	2.00
C117	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C118	3.00	2.67	2.33	2.33	2.33	-	-	2.33	2.33	-	-	-
C201	3.00	3.00	3.00	2.67	2.00	2.33	2.33	-	2.83	-	2.83	2.50
C202	3.00	3.00	-	2.67	2.00	2.17	2.00	-	3.00	-	2.83	2.67
C203	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50
C204	3.00	3.00	-	3.00	2.00	-	-	-	2.83	-	2.83	2.50
C205	3.00	3.00	3.00	3.00	2.00	2.50	2.50	-	2.83	-	2.83	2.50
C206	3.00	3.00	-	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C207	3.00	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	2.00	-
C208	3.00	3.00	3.00	2.00	2.00	3.00	3.00	-	2.00	-	-	-
C209	-	-	3.00	-	-	3.00	2.83	3.00	2.00	-	2.00	3.00
C210	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C211	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C212	3.00	3.00	3.00	2.67	2.00	2.00	2.00	3.00	2.83	3.00	2.83	2.50
C213	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C214	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50
C215	2.67	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	-	2.00
C216	3.00	3.00	3.00	-	-	3.00	-	-	3.00	-	-	2.00
C301	3.00	3.00	2.50	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C302	3.00	3.00	-	2.67	2.00	-	-	2.00	-	2.00	2.83	2.50
C303	2.83	3.00	3.00	2.67	2.00	2.00	2.00	3.00	2.83	3.00	2.83	2.50
C304	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C305	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67
C306	3.00	3.00	2.17	2.67	2.00	-	-	-	2.83	-	2.83	2.50

C307	2.67	3.00	3.00	2.00	3.00	3.00	3.00	-	3.00	-	2.00	-
C308	2.67	3.00	3.00	2.00	-	3.00	3.00	-	3.00	-	2.00	3.00
C309	3.00	3.00	2.17	2.67	2.00	2.00	3.00	3.00	2.83	3.00	2.83	2.50
C310	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C311	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	3.00	-	2.83	2.50
C312	3.00	3.00	2.17	2.67	2.00	2.50	2.00	2.00	2.00	-	2.83	2.50
C313	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C314	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C315	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.00	-	2.83	2.50
C316	2.67	3.00	3.00	2.33	2.00	2.00	-	-	2.33	2.00	2.00	2.00
C317	2.67	3.00	3.00	2.33	2.00	3.00	-	-	2.33	-	2.00	2.00
C401	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C402	3.00	3.00	2.67	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C403	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.83	2.00	2.83	2.50
C404	2.75	3.00	3.00	3.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00
C405	2.67	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	3.00	2.83	2.50
C406	2.67	2.67	3.00	3.00	3.00	2.00	-	-	3.00	2.00	2.50	2.00
C407	2.67	3.00	3.00	3.00	3.00	-	3.00	-	3.00	2.50	3.00	-
C408	2.67	3.00	3.00	2.67	2.00	-	-	-	2.67	2.50	2.00	-
C409	3.00	3.00	3.00	3.00	1.00	-	-	3.00	3.00	3.00	3.00	2.00
C410	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C411	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50
C412	3.00	3.00	2.17	2.67	2.00	3.00	3.00	2.00	2.83	-	2.83	2.50
C413	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Table B.3.1.3.a: CO-PO Correlation matrix for 2013 Admitted Batch

Admitted Batch: 2014												
Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	-	-	-	-	-	2.33	2.33	2.33	2.33	3.00	2.50	3.00
C102	3.00	3.00	3.00	3.00	-	3.00	2.50	2.50	-	-	2.50	3.00
C103	2.83	2.67	2.60	2.60	2.50	-	3.00	3.00	-	-	2.60	2.80
C104	3.00	2.67	3.00	3.00	-	2.67	2.75	2.75	-	-	-	2.67
C105	-	-	2.50	-	-	2.00	2.25	2.25	2.25	-	2.33	2.33
C106	2.67	2.50	2.50	2.50	-	2.50	3.00	3.00	3.00	-	3.00	3.00
C107	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C108	3.00	2.50	2.33	2.33	2.33	2.00	2.00	2.00	2.00	2.00	-	2.00
C109	2.33	2.50	3.00	-	2.33	-	-	-	2.33	-	-	3.00
C110	-	-	-	-	-	2.50	2.33	2.50	2.33	2.50	2.50	3.00
C111	3.00	3.00	3.00	3.00	-	2.33	2.33	2.33	-	-	2.33	3.00
C112	3.00	3.00	2.50	2.50	-	2.50	2.50	2.50	-	-	-	2.50
C113	3.00	3.00	3.00	3.00	2.00	2.50	-	-	-	-	-	-
C114	3.00	2.50	2.50	2.50	2.00	2.50	-	-	-	-	-	-
C115	2.67	2.67	2.50	2.50	2.50	-	-	-	2.50	-	-	2.50
C116	2.67	2.33	-	2.50	2.50	-	2.00	-	2.00	2.00	-	2.00
C117	-	-	-	-	-	2.00	2.00	2.00	3.00	3.00	2.00	3.00
C118	3.00	2.67	2.33	2.33	2.33	-	-	2.33	2.33	-	-	-
C201	3.00	3.00	3.00	2.67	2.00	2.33	2.33	-	2.83	-	2.83	2.50
C202	3.00	3.00	-	2.67	2.00	2.17	2.00	-	3.00	-	2.83	2.67
C203	3.00	3.00	3.00	2.67	2.00	2.17	2.17	-	2.83	-	2.83	2.50

C204	3.00	3.00	-	3.00	2.00	-	-	-	2.83	-	2.83	2.50
C205	3.00	3.00	3.00	3.00	2.00	2.50	2.50	-	2.83	-	2.83	2.50
C206	3.00	3.00	-	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C207	3.00	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	2.00	-
C208	3.00	3.00	3.00	2.00	2.00	3.00	3.00	-	2.00	-	-	-
C209	-	-	3.00	-	-	3.00	2.83	3.00	2.00	-	2.00	3.00
C210	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C211	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C212	3.00	3.00	3.00	2.67	2.00	2.00	2.00	3.00	2.83	3.00	2.83	2.50
C213	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C214	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	2.00	2.83	2.50
C215	2.67	3.00	3.00	2.00	-	3.00	3.00	-	2.00	-	-	2.00
C216	3.00	3.00	3.00	-	-	3.00	-	-	3.00	-	-	2.00
C301	3.00	3.00	2.50	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C302	3.00	3.00	-	2.67	2.00	-	-	2.00	-	2.00	2.83	2.50
C303	2.83	3.00	3.00	2.67	2.00	2.00	2.00	3.00	2.83	3.00	2.83	2.50
C304	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C305	3.00	3.00	2.17	2.67	2.33	2.50	2.00	2.33	2.33	2.00	2.33	2.67
C306	3.00	3.00	2.17	2.67	2.00	-	-	-	2.83	-	2.83	2.50
C307	2.67	3.00	3.00	2.00	3.00	3.00	3.00	-	3.00	-	2.00	-
C308	2.67	3.00	3.00	2.00	-	3.00	3.00	-	3.00	-	2.00	3.00
C309	3.00	3.00	2.17	2.67	2.00	2.00	3.00	3.00	2.83	3.00	2.83	2.50
C310	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C311	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	3.00	-	2.83	2.50
C312	3.00	3.00	2.17	2.67	2.00	2.50	2.00	2.00	2.00	-	2.83	2.50
C313	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C314	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C315	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.00	-	2.83	2.50
C316	2.67	3.00	3.00	2.33	2.00	2.00	-	-	2.33	2.00	2.00	2.00
C317	2.67	3.00	3.00	2.33	2.00	3.00	-	-	2.33	-	2.00	2.00
C401	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C402	3.00	3.00	2.67	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C403	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.83	2.00	2.83	2.50
C404	2.75	3.00	3.00	3.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00
C405	2.67	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	3.00	2.83	2.50
C406	2.67	2.67	3.00	3.00	3.00	2.00	-	-	3.00	2.00	2.50	2.00
C407	2.67	3.00	3.00	3.00	3.00	-	3.00	-	3.00	2.50	3.00	-
C408	2.67	3.00	3.00	2.67	2.00	-	-	-	2.67	2.50	2.00	-
C409	3.00	3.00	3.00	3.00	1.00	-	-	3.00	3.00	3.00	3.00	2.00
C410	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C411	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50
C412	3.00	3.00	2.17	2.67	2.00	3.00	3.00	2.00	2.83	-	2.83	2.50
C413	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

C313	3.00	3.00	2.17	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C314	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.00	2.00	2.83	2.50
C315	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.00	-	2.83	2.50
C316	2.67	3.00	3.00	2.33	2.00	2.00	-	-	2.33	2.00	2.00	2.00
C317	2.67	3.00	3.00	2.33	2.00	3.00	-	-	2.33	-	2.00	2.00
C401	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C402	3.00	3.00	2.67	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C403	3.00	3.00	2.17	2.67	2.00	2.00	2.00	2.00	2.83	2.00	2.83	2.50
C404	2.75	3.00	3.00	3.00	2.00	2.00	2.00	-	2.00	2.00	2.00	2.00
C405	2.67	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	3.00	2.83	2.50
C406	2.67	2.67	3.00	3.00	3.00	2.00	-	-	3.00	2.00	2.50	2.00
C407	2.67	3.00	3.00	3.00	3.00	-	3.00	-	3.00	2.50	3.00	-
C408	2.67	3.00	3.00	2.67	2.00	-	-	-	2.67	2.50	2.00	-
C409	3.00	3.00	3.00	3.00	1.00	-	-	3.00	3.00	3.00	3.00	2.00
C410	3.00	3.00	3.00	2.67	2.00	2.00	2.00	-	2.83	-	2.83	2.50
C411	3.00	3.00	3.00	2.67	2.00	2.00	3.00	-	2.83	-	2.83	2.50
C412	3.00	3.00	2.17	2.67	2.00	3.00	3.00	2.00	2.83	-	2.83	2.50
C413	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

Table B.3.1.3.c: CO-PO Correlation matrix for 2015 Admitted Batch

Program Level Course-PSO Matrix of all Courses including First Year Courses

Admitted Batch: 2013

Course	PSO1	PSO2
C101	-	-
C102	2.67	-
C103	2.67	-
C104	-	-
C105	-	-
C106	2.00	2.00
C107	-	-
C108	-	-
C109	-	-
C110	-	-
C111	2.00	2.00
C112	2.00	-
C113	-	-
C114	3.00	3.00
C115	2.67	2.67
C116	-	-
C117	-	-
C118	3.00	3.00
C201	3.00	2.80
C202	-	-

C203	-	3.00
C204	-	-
C205	-	-
C206	-	3.00
C207	-	-
C208	3.00	3.00
C209	-	-
C210	3.00	3.00
C211	2.00	2.00
C212	3.00	-
C213	-	3.00
C214	3.00	2.00
C215	3.00	3.00
C216	3.00	3.00
C301	-	-
C302	-	2.40
C303	3.00	-
C304	-	3.00
C305	-	3.00
C306	-	-
C307	-	3.00
C308	3.00	-
C309	-	-
C310	3.00	-
C311	3.00	-
C312	3.00	3.00
C313	3.00	-
C314	-	3.00
C315	3.00	3.00
C316	2.33	3.00
C317	3.00	2.67
C401	3.00	-
C402	3.00	2.50
C403	3.00	-
C404	-	-
C405	3.00	-
C406	3.00	3.00
C407	3.00	3.00
C408	3.00	3.00
C409	3.00	3.00
C410	-	3.00
C411	3.00	-

C412	3.00	3.00
C413	3.00	3.00

Table B.3.1.3.d: CO-PSO Correlation matrix for 2013 Admitted Batch**Admitted Batch: 2014**

Course	PSO1	PSO2
C101	-	-
C102	2.67	-
C103	2.67	-
C104	-	-
C105	-	-
C106	2.00	2.00
C107	-	-
C108	-	-
C109	-	-
C110	-	-
C111	2.00	2.00
C112	2.00	-
C113	-	-
C114	3.00	3.00
C115	2.67	2.67
C116	-	-
C117	-	-
C118	3.00	3.00
C201	3.00	2.80
C202	-	-
C203	-	3.00
C204	-	-
C205	-	-
C206	-	3.00
C207	-	-
C208	3.00	3.00
C209	-	-
C210	3.00	3.00
C211	2.00	2.00
C212	3.00	-
C213	-	3.00
C214	3.00	2.00
C215	3.00	3.00
C216	3.00	3.00

C301	-	-
C302	-	2.40
C303	3.00	-
C304	-	3.00
C305	-	3.00
C306	-	-
C307	-	3.00
C308	3.00	-
C309	-	-
C310	3.00	-
C311	3.00	-
C312	3.00	3.00
C313	3.00	-
C314	-	3.00
C315	3.00	3.00
C316	2.33	3.00
C317	3.00	2.67
C401	3.00	-
C402	3.00	2.50
C403	3.00	-
C404	-	-
C405	3.00	-
C406	3.00	3.00
C407	3.00	3.00
C408	3.00	3.00
C409	3.00	3.00
C410	-	3.00
C411	3.00	-
C412	3.00	3.00
C413	3.00	3.00

Table B.3.1.3.e: CO-PSO Correlation matrix for 2013 Admitted Batch

Admitted Batch: 2015

Course	PSO1	PSO2
C101	-	-
C102	2.67	-
C103	2.67	-
C104	-	-
C105	-	-
C106	2.00	2.00
C107	-	-

C108	-	-
C109	-	-
C110	-	-
C111	2.00	2.00
C112	2.00	-
C113	-	-
C114	3.00	3.00
C115	2.67	2.67
C116	-	-
C117	-	-
C118	3.00	3.00
C201	3.00	2.80
C202	-	-
C203	-	3.00
C204	-	-
C205	-	-
C206	-	3.00
C207	-	-
C208	3.00	3.00
C209	-	-
C210	3.00	3.00
C211	2.00	2.00
C212	3.00	-
C213	-	3.00
C214	3.00	2.00
C215	3.00	3.00
C216	3.00	3.00
C301	-	-
C302	-	2.40
C303	3.00	-
C304	-	3.00
C305	-	3.00
C306	-	-
C307	-	3.00
C308	3.00	-
C309	-	-
C310	3.00	-
C311	3.00	-
C312	3.00	3.00
C313	3.00	-
C314	-	3.00
C315	3.00	3.00

C316	2.33	3.00
C317	3.00	2.67
C401	3.00	-
C402	3.00	2.50
C403	3.00	-
C404	-	-
C405	3.00	-
C406	3.00	3.00
C407	3.00	3.00
C408	3.00	3.00
C409	3.00	3.00
C410	-	3.00
C411	3.00	-
C412	3.00	3.00
C413	3.00	3.00

Table B.3.1.3.f: CO-PSO Correlation matrix for 2013 Admitted Batch

3.2. Attainment of Course Outcomes (50)

3.2.1. Describe the Assessment Processes used to gather the data upon which the Evaluation of Course Outcome is based (10)

(Examples of data collection processes may include, but are not limited to, specific exam/tutorial questions, assignments, laboratory tests, project evaluation, student portfolios (A portfolio is a collection of artifacts that demonstrate skills, personal characteristics and accomplishments created by the student during study period), internally developed assessment exams, project presentations, oral exams, etc.)

The attainment process for the evaluation of Course Outcomes is based on by taking 80% of direct attainment and 20% of indirect attainment. The direct attainment includes evaluation of Course Outcome attainment through internal and external attainment like marks in theory courses, laboratory courses, project course and seminar. The weightage of indirect attainment is 20% taken from Course end survey.

Assessment tools for calculation of Course Outcome Attainment:

The process of assessment through the marks includes:

1. Internal marks (30 marks)
2. External marks (70 marks)
3. Course end survey on the respective Course Outcomes.

❖ Theory Assessment**Internal Marks:**

As prescribed by the JNTUK-Kakinada, the internal marks are assessed from MID –I and MID-II examinations. However, for evaluating the student, best of one is considered. Each mid examination consists of 30 marks which are split into:

i) Descriptive exam for 15 marks

The questions for descriptive examination are set by the faculty concerning the course coordinator. It constitutes of three questions with each question carrying equal marks. These questions reflect the Course Outcomes of the course defined by the course coordinator. The answer scripts of the exam are evaluated by the faculty with a scheme of evaluation.

ii) Online exam for 10 marks.

The online exam questions are provided by the University. There will be one online exam for each mid. 20 multiple choice questions covering the three units of syllabus and to complete in 20 minutes of time.

iii) Student's assignment for 5 marks.

Based on the concepts discussed with the students, few questions like application oriented, problematic, analytical etc. are given as assignment to the students. One assignment per each unit and hence six assignments for six units will cover each course outcome.

External Marks:

The external marks are obtained from the end exams conducted by the JNTUK- Kakinada. This carries 70 marks. However, the institution cannot have the access to the answer scripts and will not be aware of the marks with respect to Course Outcomes. Hence, the overall marks are considered to be uniformly distributed among all the outcomes of a respective course.

Assigning of Attainment levels

For the calculation of individual course outcome, attainment levels are assigned based on the continuous monitoring, basic knowledge, and skills, etc.

Attainment levels:

Four values of attainment levels are assigned as:

- *Attainment level 1:* If 60% of the total students had achieved the target marks for a Course Outcome, then the Attainment level is 1.
- *Attainment level 2:* If 70% of the total students had achieved the target marks for a Course Outcome, then the Attainment level is 2.

- *Attainment level 3*: If 80% of the total students had achieved the target marks for a Course Outcome, then the Attainment level is 3.
- However, if at least 60% of the total students didn't achieved the target marks for a Course Outcome and then the Attainment level is 0.

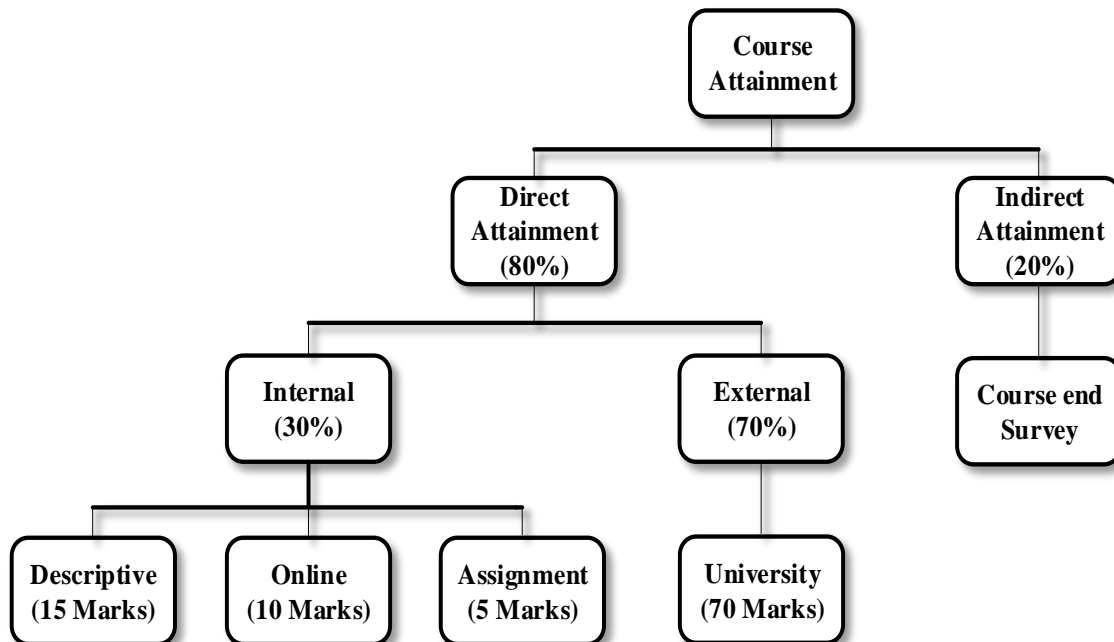


Figure 3.2.1.a: Assessment tools for the calculation of CO attainment for theory course

❖ **Laboratory Assessment:**

The marks allotted for laboratory course are 75 marks, out of which 25 marks are allotted as internal and 50 marks as external. The course attainments of laboratory with respect to the tools are described below:

Internal Assessment:

- i) Day to day evaluation for 10 marks

The students are regularly monitored with respect to the preparation of the experiments. Based on their performance in conduction of experiment, regularity, viva and the results obtained, ten marks are allotted.

- ii) Record for 5 marks

Students will prepare the records after obtaining the valid results for each experiment. On the basis of quality of record preparation and in time submission the marks are allotted

- iii) Internal exam for 10 marks

Internal lab exam is conducted at the end of the course based on the experiments/programs reflecting the course outcomes.

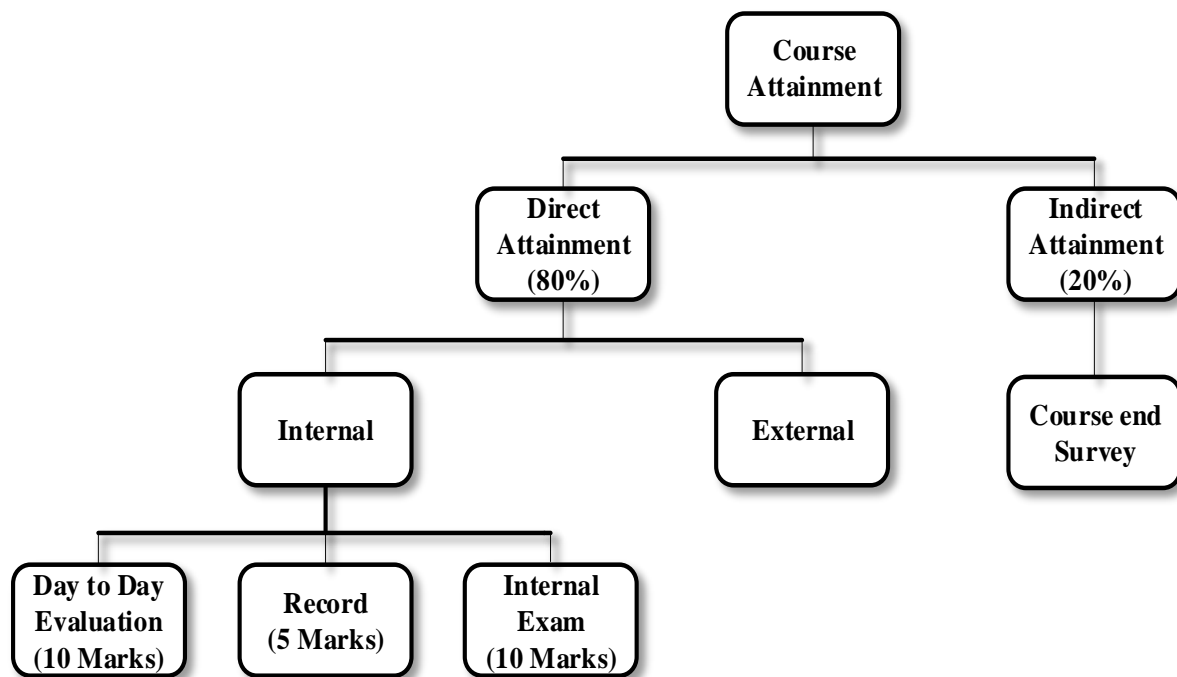


Figure 3.2.1.b: Assessment tools for calculation of CO Attainment for laboratory course

❖ **Project Assessment:**

The marks allotted for project are 200 marks which are split into 60 marks as internal and 140 marks as external. Internal reviews are conducted in two divisions as Project Review Committee (PRC-1) and Project Review Committee (PRC-2).

PRC1 is based on the following parameters:

- Project Description
- Technical Knowledge
- Presentation Skills
- Contribution
- Quality of work

PRC2 is based on the following parameters:

- PRC-1 Justification
- Overall Presentation
- Outputs/Results
- Output/Result verification

External project reviews are conducted in the presence of external examiner which is based on complete project review with design, simulation, results etc. These on a whole produce direct attainment. Course end surveys are taken for indirect attainment.

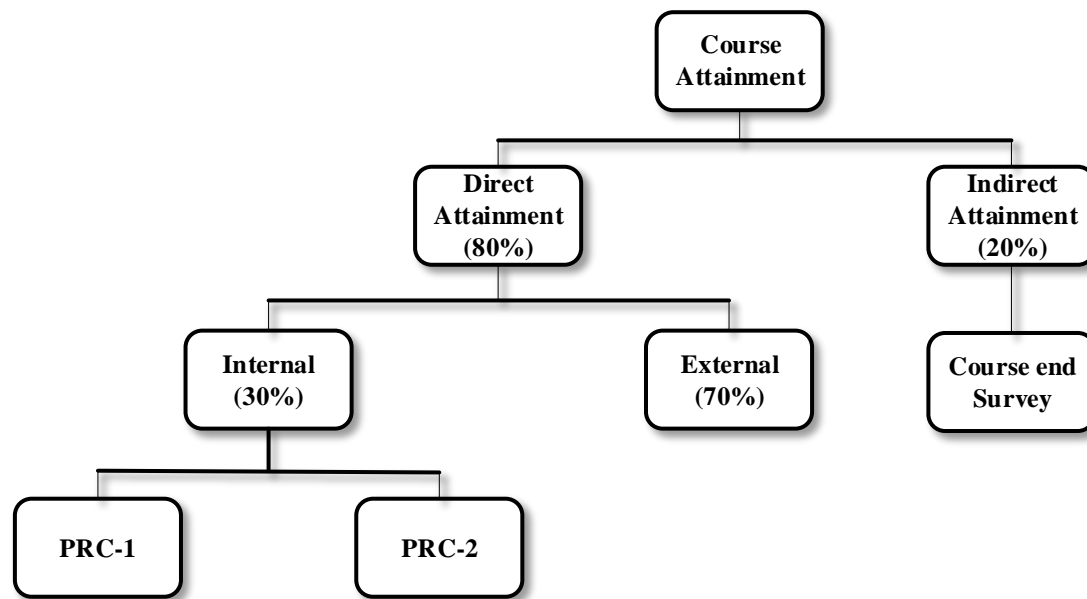


Figure 3.2.1.c: Assessment tools for the calculation of CO attainment for Project course


❖ **Seminar Assessment:**

The Seminar carries 50M. An evaluation panel consists of coordinator and senior faculties. Each student has to give her own presentation before the panel. The student will be evaluated based on the following points:

- Selection of the topic
- Presentation skills
- Viva
- Quality of seminar document.

Indirect Assessment:

A survey on the course outcomes is conducted at the end of the semester, before the University examination. Course coordinator will prepare the questionnaire on the outcomes and will submit the same to Program Assessment Quality Internal Committee (PAQIC). These feedback forms are distributed among the students and are collected by PAQIC. A sample copy of Course End survey form for one course is shown below.


VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN
 (Approved by AICTE & Affiliated to JNT University, Kakinada) Estd. 2008
 ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Institution
 Kapujaggarajupeta, VSEZ (Post), Visakhapatnam-530 049, Andhra Pradesh, India
 Phone : 9133300357, 8886066339 :: Fax : 0891-2010485
 Email : viewvizag@yahoo.com, viewprincipal@gmail.com website : www.vignanview.org

Department of Electrical & Electronics Engineering
COURSE END SURVEY FORM

Name of the Faculty: **K.V. Sri Ram Prasad**

Name of the Course	Electro Magnetic Fields	Course Code	C205
Name of the Student	Nakkela Shalmini	Regd. No.	14NM1A0227

Course Outcomes

On successful completion of the course the students should able to:

CO1	Illustrate the electric field, electric potential, Gauss's law, Laplace and Poisson's equations.	K2
CO2	Determine the capacitance; energy stored in dielectrics, conduction and convection currents.	K3
CO3	Deduce an expression for magnetic field intensity due to current, Ampere's circuit law and Maxwell's equations.	K4
CO4	Predict the magnetic forces and torque produced by currents in the magnetic field.	K3
CO5	Calculate self, mutual inductances and the energy stored in the magnetic field.	K3
CO6	Deduce an expression for induced EMF, displacement current and Poynting vector in time varying fields.	K4

Mark a tick '√' in the appropriate cell.

(Note: High-3; Medium-2; Low-1)

Course Outcome	Questionnaires	Rating		
CO-1	Are you able to illustrate the electric fields and electric potential?	3 <input checked="" type="radio"/>	2 <input type="radio"/>	1 <input type="radio"/>
CO-2	Are you able to determine the capacitance and energy stored in dielectrics?	3 <input checked="" type="radio"/>	2 <input type="radio"/>	1 <input type="radio"/>
CO-3	Are you able to deduce expressions for magnetic field intensity due to current, Ampere's circuit law and Maxwell's equations?	3 <input type="radio"/>	2 <input checked="" type="radio"/>	1 <input type="radio"/>
CO-4	Are you able to predict the magnetic forces and torque produced by currents in the magnetic field?	3 <input checked="" type="radio"/>	2 <input type="radio"/>	1 <input type="radio"/>
CO-5	Are you able to calculate self, mutual inductances and the energy stored in the magnetic field?	3 <input checked="" type="radio"/>	2 <input type="radio"/>	1 <input type="radio"/>
CO-6	Are you able to Deduce an expression for induced EMF, displacement current and Poynting vector in time varying fields?	3 <input checked="" type="radio"/>	2 <input type="radio"/>	1 <input type="radio"/>

Figure 3.2.1.d: Sample of course end survey

Assigning of Attainment levels:

For the assessment of a course, the outcomes of the course are assigned with certain attainment levels based on the continuous monitoring, their basic knowledge, their skills, etc.

Attainment levels:

Four values of attainment levels are assigned as:

- *Attainment level 1:* If 60% of the total students had achieved the target marks for a Course Outcome, then the outcome is assigned with Attainment level 1.
- *Attainment level 2:* If 70% of the total students had achieved the target marks for a Course Outcome, then the outcome is assigned with Attainment level 2.

- *Attainment level 3*: If 80% of the total students had achieved the target marks for a Course Outcome, then the outcome is assigned with Attainment level 3.

If at least 60% of the total students didn't achieved the target marks for a Course Outcome, then the outcome is assigned with Attainment level 0.

Calculation of Course Attainment:

The process of calculating course outcome attainment is described below:

1. Marks obtained by the students in Mid-I and Mid-II are collected.
2. Each Course Outcome is calculated from marks obtained by each student.
3. From the assigned attainment levels, the attainment level of each course outcome is calculated.
4. The average of attainment levels of all the Course Outcomes gives the internal attainment level of the course.
5. Attainment level of the external examination is also calculated.
6. According to the weightage given by the University, 30% of the internal attainment and 70% of the external attainment is considered to calculate the direct attainment of the Course Outcome.
7. Individual faculty will take the course end survey on the Course Outcomes at the end of every semester.
8. Hence, 80% of the attainment obtained through marks and 20% of the attainment obtained through end survey, feedback, is considered to be the total Course Attainment.

Sample attainment calculation for a course is described below:

Course: EMF, Course Code: C205

Internal Attainment:

The following table represents the evaluation of Mid-I. The table consists of total number of students, their marks for individual questions, assignment marks and online marks. Six Course Outcomes were defined for the course, each outcome reflects one unit. Therefore, Mid-I cover first three Course Outcomes and Mid-II covers remaining Outcomes.

According to mid examination syllabus, CO1 covers Question (Q1), Assignment (A1). Similarly, CO2 & CO3 cover Q2, A2 and Q3, A3 respectively. Online is shared equally among the three outcomes which are provided by JNTUK. The marks obtained by the candidate corresponding to each Course Outcome are:

CO1= Marks of Question1+ (Marks of Assignment 1)/3+ (Online quiz marks)/3.

CO2= Marks of Question2+ (Marks of Assignment 2)/3+ (Online quiz marks)/3.

CO3= Marks of Question3+ (Marks of Assignment 3)/3+ (Online quiz marks)/3.

Target fixed for the internal examination: 60%

Total number of students: 62

Total absentees: 1

Total number of students attended the exam: 61

From the calculation, the marks for each CO are 10. Hence, the target marks will be 6M.

Mid-I Evaluation													
S.No.	Reg. No.	Student Name	Descriptive			Assignment			Online	Marks for CO1	Marks for CO2	Marks for CO3	Total
			Q1	Q2	Q3	A1	A2	A3	Quiz				
			CO1	CO2	CO3	CO1	CO2	CO3	10M				
1	14NM1A0201	ADIREDDI SOWJANYA	2	3	4	5	5	5	5	5.33	6.33	7.33	19
2	14NM1A0202	BONDA MADHURI	1	2	2	5	5	5	4	4.00	5.00	5.00	14
3	14NM1A0204	P SNEHA	1	0	0	5	5	5	2	3.33	2.33	2.33	8
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.
60	15NMSA0212	JAGAVARAPU REVATHI	4	4	3	5	5	5	2	6.33	6.33	5.33	18
61	15NMSA0213	CHAMALLA .MOUNIKA	1	1	4	5	5	5	4	4.00	4.00	7.00	15
62	14NMSA0206	TUMMA GOWRI	0	2	4	5	5	5	3	2.67	4.67	6.67	14
BLOOMS TAXONOMY			Remembering (R)			Analyzing (A)			Target 60%				
			Understanding (U)			Evaluating (E)							
			Applying (P)			Creating (C)							
Question wise Max Marks			5	5	5	5	5	5	10	10	10	10	
Level/Competance			15			5			10				
Number of students above Target			U	P	A	U	A	P		6	6	6	
			CO1	CO2	CO3	CO1	CO2	CO3		26	22	37	

Figure 3.2.1.e: Mid-I evaluation format for course attainment

Total number of students attained the target for CO1 =26

%age of students attained CO1 = 26/61*100 = 42.62%

Since 42.62% < 60%, the attainment level of CO1 is 0.

Total number of students attained the target for CO2 = 22

%age of students attained CO2 = 22/61*100=36.06%

Since 36.06% < 60%, the attainment level of CO2 is 0.

Total number of students attained the target for CO3 = 37

%age of students attained CO3 = 37/61*100 = 60.65%

Since 60.65% > 60%, the attainment level of CO3 is 1.

Similarly for Mid-II, the marks obtained by each candidate corresponding to each Course Outcome are

CO4 = Marks of Question1+ (Marks of Assignment 1)/3+ (Online quiz marks)/3.

CO5 = Marks of Question2+ (Marks of Assignment 2)/3+ (Online quiz marks)/3.

CO6 = Marks of Question3+ (Marks of Assignment 3)/3+ (Online quiz marks)/3.

Target fixed for the internal examination: 60%

Total number of students: 62

Total absentees: 0

Total number of students attended the exam: 62

Mid-II Evaluation														
S.No.	Reg. No.	Student Name	Descriptive			Assignment			Online	Marks for CO1	Marks for CO2	Marks for CO3	Total	
			Q1	Q2	Q3	A4	A5	A6	Quiz					
			CO4	CO5	CO6	CO4	CO5	CO6	10M					
			5M	5M	5M	5M	5M	5M	10M					
1	14NM1A0201	ADIREDDI SOWJANYA	5	5	5	5	5	5	3	7.67	7.67	7.67	23	
2	14NM1A0202	BONDA MADHURI	3	5	2	5	5	5	5	6.33	8.33	5.33	20	
3	14NM1A0204	P SNEHA	5	5	3	5	5	5	6	8.67	8.67	6.67	24	
.	
.	
60	15NM5A0212	JAGAVARAPU REVATHI	5	5	4	5	5	5	3	7.67	7.67	6.67	22	
61	15NM5A0213	CHAMALLA MOUNIKA	5	5	5	5	5	5	4	8.00	8.00	8.00	24	
62	14NM5A0206	TUMMA GOWRI	5	5	3	5	5	5	3	7.67	7.67	5.67	21	
BLOOMS TAXONOMY			Remembering (R)			Analyzing (A)			Target 60%					
			Understanding (U)			Evaluating (E)								
			Applying (P)			Creating (C)			CO4	CO5	CO6			
			Question wise Max Marks			5	5	5	5	5	5	10	10	10
Level Competance			U	P	A	U	A	P		6	6	6		
Number of students above target			CO4	CO5	CO6	CO4	CO5	CO6		60	54	51		

Figure 3.2.1.f: Mid-II evaluation format for course attainment

From the calculation, the marks for each CO are 10. Hence, the target marks will be 6M.

Total number of students attained the target for CO4 = 60

%age of students attained CO4 = $60/62 \times 100 = 96.97\%$

Since $96.97\% > 80\%$, the attainment level of CO4 is 3.

Total number of students attained the target for CO5 = 54

%age of students attained CO5 = $54/62 \times 100 = 87.09\%$

Since $87.09\% > 80\%$, the attainment level of CO5 is 3.

Total number of students attained the target for CO6 = 51

%age of students attained CO6 = $51/62 \times 100 = 82.25\%$

Since $82.25\% > 80\%$, the attainment level of CO6 is 3.

External Attainment:

Collecting the marks from the University, the external attainment is calculated as follows:

Target fixed for External examination: 40%

Total number of students: 62

Total absentees: 0

Total number of students attended the exam: 62

External comprises of 70M. Hence, the target marks will be 28M.

Total number of students attained the target for external examination = 58

%age of students attained = $58/62 * 100 = 93.54\%$

Since $93.54\% > 80\%$, the attainment level for External examination is 3.

University Exam Assessment

S.No.	Reg. No.	Student Name	University Exam Marks
			70M
1	14NM1A0201	ADIREDDI SOWJANYA	53
2	14NM1A0202	BONDA MADHURI	24
3	14NM1A0204	P SNEHA	38
4	14NM1A0205	BUDIREDDY JYOTHI	32
5	14NM1A0206	CHIKKALA POOJA	25
6	14NM1A0207	CHINTALA VIMALA	68
7	14NM1A0208	DADI CHANDI NAVYA	70
11	14NM1A0212	KALAVALAPALLI SANTHOSHI	63
12	14NM1A0213	KALLA SWATHI	38
13	14NM1A0214	KATTAMANCHI YAMINI	58
14	14NM1A0215	KINTADA BHAVYA VINEETHA	68
15	14NM1A0216	KOKKIRIGADDA PRAKASHMERCY	64
16	14NM1A0217	KOMMAMURI SAI SRI DEVI	34
17	14NM1A0218	KOTNANA HARIKA	55
18	14NM1A0219	LATCHUPATULA CHANDRAKALA	28
19	14NM1A0220	LEKKALA SWATHI	67
20	14NM1A0221	MADISA LALITHA	43
21	14NM1A0222	MAJJI SWETHA	51
22	14NM1A0223	MALLA BHARGAVI	41
23	14NM1A0224	MALLA GNANESHWARI	62
24	14NM1A0225	MARADA DIVYA	32
25	14NM1A0226	MERUVA SHRUTHI	44
26	14NM1A0227	NAKKELA SHARMINI	58
27	14NM1A0228	NANDARAPU SWAPNA KUMARI	40
28	14NM1A0230	PEELA ASHWINI	24
29	14NM1A0231	PELLURU LALITHA SAI SRI	61
30	14NM1A0232	PENTA LAXMI PRASANNA	43
31	14NM1A0233	PILLA YASASWINI PRIYANKA	61

32	14NM1A0234	PITLA VIJAYA LAKSHMI	32
33	14NM1A0235	PUPPALA GAYATRI	48
34	14NM1A0236	RAGALA SRI VALYA	69
35	14NM1A0237	ROCHANA MADHULEKHA PEETHALA	48
36	14NM1A0238	SAVITHRI MAHAPATRO	37
37	14NM1A0239	SEEPANA MANJULA	43
38	14NM1A0240	SHAIK MUNTAJ BEGAM	66
39	14NM1A0241	TAMARAPALLI PARVATHI	53
40	14NM1A0242	UPPALAPU SIVARANJANI	45
41	14NM1A0243	VANGAPANDU SUNEETA	41
42	14NM1A0244	VEESAM LIKHITHA LAHARI	38
43	14NM1A0245	VENNELA SWETHA	57
44	14NM1A0246	VIYYAPU SWATHI	46
45	14NM1A0247	MERUGU TRIVENI PADMA PRIYANKA	27
46	14NM1A0248	PALANATI USHA SAI LAKSHMI	55
47	14NM1A0249	SIDDABATTULA HARITHA JYOTHI	53
48	14NM1A0250	USHALINI JAGANNATHAN	39
49	11NM1A0246	NAMMI APARNA	32
50	15NM5A0201	BORRA SAI SUDHA	46
51	15NM5A0203	KOPANATHI SUNDHU PRIYA	60
52	15NM5A0204	LAGUDU ARUNA	70
53	15NM5A0205	MARTIN THERESA BHAGYAM	57
54	15NM5A0206	NAGALA POORNIMA	66
55	15NM5A0207	PALIPINI ANURADHA	54
56	15NM5A0208	PATNALA ANUSHA	43
57	15NM5A0209	ROUTHU SIREESHA	52
58	15NM5A0210	SAALAPU SAI LAKSHMI	58
59	15NM5A0211	YEDURU LAVANYA	56
60	15NM5A0212	JAGAVARAPU REVATHI	35
61	15NM5A0213	CHAMALLA .MOUNIKA	57
62	14NM5A0206	TUMMA GOWRI	52

Figure 3.2.1.g: External examination evaluation format for course attainment

The following figure shows the overall course attainment having tools:

- Internal attainment
- External attainment
- Direct attainment
- Indirect attainment
- Course Attainment

Course Attainment Calculation

Direct Attainment					Indirect Attainment	
	Mid-I	Mid-II	Internal	University	Feedback	2.5
CO1	0		0	3		
CO2	0		0	3		
CO3	1		1	3		
CO4		3	3	3		
CO5		3	3	3		
CO6		3	3	3		
Average			1.67	3.00		
Weightage			30%	70%		
Attainment			0.5	2.1		
Final Direct Attainment			2.6			
Weightage			80%		20%	
Attainment			2.08		0.5	
Course Attainment			2.58			

Figure 3.2.1.h: Course attainment template

The average of attainment levels of CO1, CO2, CO3, CO4, CO5, & CO6 gives the Internal Attainment level of the course.

Direct attainment:

Internal attainment = 1.67

Weighted internal attainment = 30% of Internal Attainment = $0.3 \times 1.67 = 0.5$

External Attainment = 3

Weighted External Attainment = 70% of external attainment = $0.7 \times 3 = 2.1$

Direct attainment = Weighted internal attainment + Weighted external attainment
 $= 0.5 + 2.1 = 2.6$

Indirect attainment:

Feedbacks are collected from the students on the Course Outcomes. This indicates the level of knowledge gained by students in a particular course. The average of all these outcomes results in indirect attainment.

Course attainment:

$$\begin{aligned} \text{Course attainment} &= 80\% \text{ of direct attainment} + 20\% \text{ of indirect attainment} \\ &= 80\% \text{ of } 2.6 + 20\% \text{ of } 2.5 = 2.08 + 0.5 \\ &= 2.58. \end{aligned}$$

Similar procedure is followed for all the courses and is displayed in Table 3.2.2.a.

3.2.2. Record the Attainment of Course Outcomes of all Courses with respect to Set Attainment Levels (40)

Each course attainment will be obtained from indirect attainment and direct attainment. Direct attainment is calculated from internal and external examinations. Indirect attainment is obtained from course end survey. Table 3.2.2.a provides the course attainment values for admitted batch 2013, Table 3.2.2.b provides the course attainment values for admitted batch 2014 and Table 3.2.2.c provides the course attainment values for admitted batch 2015. Setting the target levels for individual subjects, based on the procedure described, Course Attainments for outgoing batches of 2016-17, 2017-18 & 2018-19 are displayed below.

Admitted Batch: 2013

Course Code	Course Name	Direct Attainment [80%]	Indirect Attainment [20%]	Course Attainment
C101	English-I	2.40	0.50	2.90
C102	Mathematics-I	1.48	0.49	1.97
C103	Mathematics-II	2.24	0.49	2.73
C104	Engineering Physics	1.60	0.50	2.10
C105	Professional Ethics & Human Values	2.40	0.50	2.90
C106	Engineering Drawing	1.80	0.49	2.29
C107	English Communication Skills Lab-I	2.40	0.52	2.92
C108	Engineering Physics Laboratory	2.40	0.52	2.92
C109	Engineering Workshop & IT Work Shop	2.40	0.50	2.90
C110	English-II	2.40	0.49	2.89
C111	Mathematics-III	2.08	0.50	2.58

C112	Engineering Chemistry	2.12	0.50	2.62
C113	Engineering Mechanics	2.24	0.50	2.74
C114	Electrical Circuit Analysis-I	1.88	0.49	2.37
C115	Computer Programming	2.24	0.50	2.74
C116	Engineering Chemistry Lab	2.40	0.58	2.98
C117	English Communication Skills Lab-II	2.40	0.50	2.90
C118	C-Programming Lab	2.40	0.50	2.90
C201	Electrical Circuit Analysis-II	1.48	0.49	1.97
C202	Thermal and Hydro Prime movers	1.68	0.49	2.17
C203	Basic Electronic Devices	1.84	0.45	2.29
C204	Complex Variables and statistical Methods	1.28	0.44	1.72
C205	Electro Magnetic Fields	1.84	0.52	2.36
C206	Electrical Machines-I	1.20	0.52	1.72
C207	Thermal and Hydro lab	2.40	0.49	2.89
C208	Electrical circuits lab	2.40	0.49	2.89
C209	Environmental Studies	2.32	0.50	2.82
C210	Switching theory and logic design	1.96	0.49	2.45
C211	Pulse & Digital Circuits	1.44	0.49	1.93
C212	Power systems-II	1.96	0.50	2.46
C213	Electrical Machines-II	1.32	0.47	1.79
C214	Control Systems	1.84	0.51	2.35
C215	Electrical Machines-1 lab	2.40	0.52	2.92
C216	Electronic devices and circuits lab	2.40	0.52	2.92
C301	Managerial Economics and Financial Analysis	2.00	0.49	2.49
C302	Electrical Measurements	0.56	0.52	1.08
C303	Power systems-II	2.00	0.48	2.48
C304	Electrical Machines-III	1.88	0.52	2.40
C305	Power Electronics	1.32	0.49	1.81
C306	Linear and Digital IC applications	0.92	0.51	1.43
C307	Electrical Machines-II Laboratory	2.40	0.52	2.92
C308	Control Systems Laboratory	2.40	0.52	2.92
C309	IPR & Patents	2.28	0.51	2.79
C310	Switchgear and Protection	1.96	0.48	2.44
C311	Micro Processors and Micro controllers	1.64	0.50	2.14
C312	Utilization of Electrical Energy	2.04	0.51	2.55
C313	Power System Analysis	1.96	0.53	2.49
C314	Power Semiconductor Drives	2.16	0.49	2.65

C315	Management Science	2.12	0.51	2.63
C316	Power Electronics Lab	2.40	0.49	2.89
C317	Electrical Measurements Lab	2.40	0.49	2.89
C401	Renewable Energy Sources System	1.84	0.47	2.31
C402	HV AC & DC Transmission	1.84	0.51	2.35
C403	Power System Operation & Control	1.68	0.52	2.20
C404	Instrumentation	1.88	0.48	2.36
C405	Electrical Distribution Systems	2.04	0.49	2.53
C406	Microprocessors & Microcontrollers Lab	2.40	0.50	2.90
C407	Electrical Simulation Lab	2.40	0.51	2.91
C408	Power Systems & Simulation Lab	2.40	0.50	2.90
C409	Digital Control Systems	1.88	0.54	2.42
C410	Special Electrical Machines	2.20	0.51	2.71
C411	Flexible Alternating Current Transmission Systems	1.92	0.53	2.45
C412	AI Techniques	2.04	0.53	2.57
C413	Project	2.40	0.58	2.92

Table 3.2.2.a: Course Attainment values for admitted batch 2013

Admitted Batch: 2014

Course Code	Course Name	Direct Attainment [80%]	Indirect Attainment [20%]	Course Attainment
C101	English-I	2.40	0.58	2.91
C102	Mathematics-I	1.92	0.57	2.43
C103	Mathematics-II	2.28	0.58	2.39
C104	Engineering Physics	1.88	0.58	2.03
C105	Professional Ethics & Human Values	2.40	0.58	2.91
C106	Engineering Drawing	1.28	0.58	1.23
C107	English Communication Skills Lab-I	2.40	0.49	2.89
C108	Engineering Physics Laboratory	2.40	0.58	2.89
C109	Engineering Workshop & IT Work Shop	2.40	0.56	2.89
C110	English-II	2.16	0.58	2.67
C111	Mathematics-III	2.08	0.58	2.23
C112	Engineering Chemistry	1.92	0.56	2.31
C113	Engineering Mechanics	1.80	0.58	2.43
C114	Electrical Circuit Analysis-I	1.88	0.58	2.39
C115	Computer Programming	1.92	0.58	2.39
C116	Engineering Chemistry Lab	2.40	0.58	2.76
C117	English Communication Skills Lab-II	2.40	0.58	2.76
C118	C-Programming Lab	2.40	0.58	2.76

C201	Electrical Circuit Analysis-II	2.08	0.53	2.61
C202	Thermal and Hydro Prime movers	2.20	0.47	2.67
C203	Basic Electronic Devices	1.92	0.55	2.47
C204	Complex Variables and statistical Methods	1.92	0.46	2.38
C205	Electro Magnetic Fields	2.08	0.50	2.58
C206	Electrical Machines-I	1.80	0.53	2.33
C207	Thermal and Hydro lab	2.40	0.49	2.89
C208	Electrical circuits lab	2.40	0.49	2.89
C209	Environmental Studies	2.16	0.52	2.68
C210	Switching theory and logic design	1.04	0.42	1.50
C211	Pulse & Digital Circuits	1.24	0.52	1.76
C212	Power systems-II	2.04	0.53	2.57
C213	Electrical Machines-II	1.96	0.52	2.48
C214	Control Systems	2.16	0.53	2.69
C215	Electrical Machines-1 lab	2.16	0.49	2.65
C216	Electronic devices and circuits lab	2.40	0.49	2.89
C301	Managerial Economics and Financial Analysis	2.32	0.54	2.90
C302	Electrical Measurements	1.96	0.55	2.51
C303	Power systems-II	2.08	0.54	2.74
C304	Electrical Machines-III	2.04	0.52	2.60
C305	Power Electronics	1.44	0.50	2.02
C306	Linear and Digital IC Applications	2.04	0.51	2.51
C307	Electrical Machines-II Laboratory	2.40	0.49	2.89
C308	Control Systems Laboratory	2.40	0.49	2.89
C309	IPR & Patents	2.24	0.52	2.68
C310	Switchgear and Protection	2.40	0.50	2.90
C311	Micro Processors and Micro controllers	2.08	0.53	2.61
C312	Utilization of Electrical Energy	2.40	0.54	2.94
C313	Power System Analysis	1.96	0.56	2.52
C314	Power Semiconductor Drives	2.32	0.54	2.86
C315	Management Science	0.72	0.55	1.27
C316	Power Electronics Lab	2.40	0.49	2.89
C317	Electrical Measurements Lab	2.40	0.49	2.89
C401	Renewable Energy Sources & Systems	2.20	0.52	2.72
C402	HV AC & DC Transmission	1.36	0.51	1.99
C403	Power System Operation & Control	2.00	0.46	2.46
C404	Instrumentation	1.84	0.52	2.36
C405	Electrical Distribution Systems	2.36	0.50	2.86
C406	Microprocessors & Microcontrollers Lab	2.40	0.60	3.00
C407	Electrical Simulation Lab	2.40	0.60	3.00
C408	Power Systems & Simulation Lab	1.60	0.60	3.00
C409	Digital Control Systems	1.84	0.54	2.38

C410	Special Electrical Machines	1.96	0.53	2.49
C411	Flexible Alternating Current Transmission Systems	2.12	0.51	2.55
C412	AI Techniques	1.92	0.51	2.43
C413	Project	2.40	0.55	2.96

Table 3.2.2.b: Course attainment values for admitted batch 2014**Admitted Batch: 2015**

Course Code	Course Name	Direct Attainment [80%]	Indirect Attainment [20%]	Course Attainment
C101	English-I	2.40	0.57	2.97
C102	Mathematics-I	2.36	0.56	2.92
C103	Mathematics-II	2.20	0.58	2.78
C104	Engineering Physics	1.88	0.56	2.44
C105	Professional Ethics & Human Values	2.16	0.57	2.73
C106	Engineering Drawing	2.36	0.58	2.94
C107	English Communication Skills Lab-I	2.40	0.56	2.96
C108	Engineering Physics Laboratory	2.40	0.56	2.96
C109	Engineering Workshop & IT Work Shop	2.40	0.58	2.98
C110	English-II	1.88	0.58	2.46
C111	Mathematics-III	2.36	0.58	2.94
C112	Engineering Chemistry	1.60	0.58	2.18
C113	Engineering Mechanics	1.56	0.55	2.11
C114	Electrical Circuit Analysis-I	1.56	0.59	2.15
C115	Computer Programming	2.20	0.58	2.78
C116	Engineering Chemistry Lab	2.40	0.58	2.98
C117	English Communication Skills Lab-II	2.40	0.58	2.98
C118	C-Programming Lab	2.40	0.58	2.98
C201	Electrical Circuit Analysis-II	2.28	0.52	2.80
C202	Thermal and Hydro Prime movers	1.72	0.48	2.20
C203	Basic Electronic Devices	2.16	0.53	2.69
C204	Complex Variables and statistical Methods	1.72	0.52	2.24
C205	Electro Magnetic Fields	2.16	0.51	2.67
C206	Electrical Machines-I	0.76	0.53	1.29
C207	Thermal and Hydro lab	2.40	0.49	2.89
C208	Electrical circuits lab	2.40	0.49	2.89
C209	Environmental Studies	2.32	0.52	2.84
C210	Switching theory and logic design	2.12	0.52	2.64
C211	Pulse & Digital Circuits	2.20	0.52	2.72
C212	Power systems-II	2.16	0.52	2.68
C213	Electrical Machines-II	1.96	0.52	2.48
C214	Control Systems	1.96	0.52	2.48
C215	Electrical Machines-1 lab	2.40	0.52	2.92

C216	Electronic devices and circuits lab	2.40	0.52	2.92
C301	Managerial Economics and Financial Analysis	2.40	0.50	2.90
C302	Electrical Measurements	1.96	0.53	2.49
C303	Power systems-II	0.44	0.46	0.90
C304	Electrical Machines-III	0.56	0.47	1.03
C305	Power Electronics	2.08	0.51	2.59
C306	Linear and Digital IC applications	2.04	0.51	2.55
C307	Electrical Machines-II Laboratory	2.40	0.56	2.96
C308	Control Systems Laboratory	2.40	0.56	2.96
C309	IPR & Patents	2.36	0.48	2.84
C310	Switchgear and Protection	2.00	0.44	2.44
C311	Micro Processors and Micro controllers	2.04	0.50	2.54
C312	Utilization of Electrical Energy	2.24	0.53	2.77
C313	Power System Analysis	1.28	0.48	1.76
C314	Power Semiconductor Drives	2.32	0.53	2.85
C315	Management Science	2.40	0.52	2.92
C316	Power Electronics Lab	2.40	0.49	2.89
C317	Electrical Measurements Lab	2.40	0.49	2.89
C401	Renewable Energy Sources & Systems	2.28	0.46	2.74
C402	HV AC & DC Transmission	2.00	0.50	2.50
C403	Power System Operation & Control	1.88	0.52	2.40
C404	Instrumentation	1.80	0.47	2.27
C405	Electrical Distribution Systems	1.80	0.48	2.28
C406	Microprocessors & Micro Controllers Lab	2.40	0.50	2.90
C407	Electrical Simulation Lab	2.40	0.51	2.91
C408	Power Systems & Simulation Lab	2.40	0.50	2.90
C409	Digital Control Systems	1.80	0.53	2.33
C410	Special Electrical Machines	2.40	0.53	2.93
C411	Flexible Alternating Current Transmission Systems	1.96	0.53	2.49
C412	AI Techniques	1.80	0.52	2.32
C413	Project	2.40	0.57	2.97

Table 3.2.2.c: Course attainment values for admitted batch 2015.

3.3. Attainment of Program Outcomes and Program Specific Outcomes (50)

3.3.1. Describe Assessment Tools and Processes Used for Measuring the Attainment of each of the Program Outcomes and Program Specific Outcomes (10)

The attainment procedure of program outcome attainment constitutes direct and indirect assessments. The direct assessment is a process of calculating direct attainment through the

marks obtained by the students in all the courses. Indirect assessment is a process of collecting feedbacks from stake holders on the program outcomes.

Attainment tools for calculation of POs and PSOs:

The tools for the calculation of attainments are:

- Course attainments of all the courses for a complete batch
- Correlation matrix, as displayed in Sec. 3.1.3., for all the courses.
- Results of surveys conducted which add indirect attainment in the calculation.

Direct Attainment:

The direct attainment of program outcome is the collection of all the course attainments with the assessment process as described:

1. Course-PO mapping tables, as indicated in Sec.3.1.2, for all the courses are collected from the respective course coordinators.
2. Course attainment values, as described in Sec. 3.2.1, for all the courses are collected from the respective course coordinators.
3. From the above values, Course-PO attainment values are calculated using,

$$\text{Course - PO attainment} = \frac{(\text{Course - PO mapping}) \times \text{Course attainment}}{3}$$

4. The average of all these attainments with respect to individual POs is calculated. This gives the direct PO attainment.

The figure 3.3.1.a shows the Course-PO attainment with respect to C205, EMF. The average of mappings of all the outcomes gives the Course-PO mapping EMF. Using the formula mentioned in the previous procedure, Course-PO attainment values.

Course- PO MAPPING & ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	2	2	3	-	3	-	3	3
CO2	3	3	3	-	2	2	2	-	3	-	3	3
CO3	3	3	3	3	2	3	3	-	3	-	3	2
CO4	3	3	3	3	2	3	2	-	2	-	2	3
CO5	3	3	3	3	2	3	2	-	3	-	3	2
CO6	3	3	3	-	2	2	3	-	3	-	3	2
Average	3	3	3	3	2	2.5	2.5	-	2.83	-	2.83	2.5
Course - PO Attainment	2.58	2.58	2.58	2.58	1.72	2.15	2.15	-	2.44	-	2.44	2.15

Figure 3.3.1.a: Course-PO attainment template

Indirect Attainment:

Various surveys are conducted on Program Outcomes. Feedbacks are taken from few stakeholders like students (to a large extent) and employer (to a small extent). Opinions of these stakeholders are collected in a grading scale of 3 (Substantial or High) to 1 (Slight or Low). Average of all the feedbacks given by the stake holders are considered to be indirect attainment values.

PO attainment calculation:

1. For the final PO attainment values, 80% of the direct attainment value and 20% of indirect attainment value are considered.
2. The similar procedure is followed for the calculation of PSO attainment.

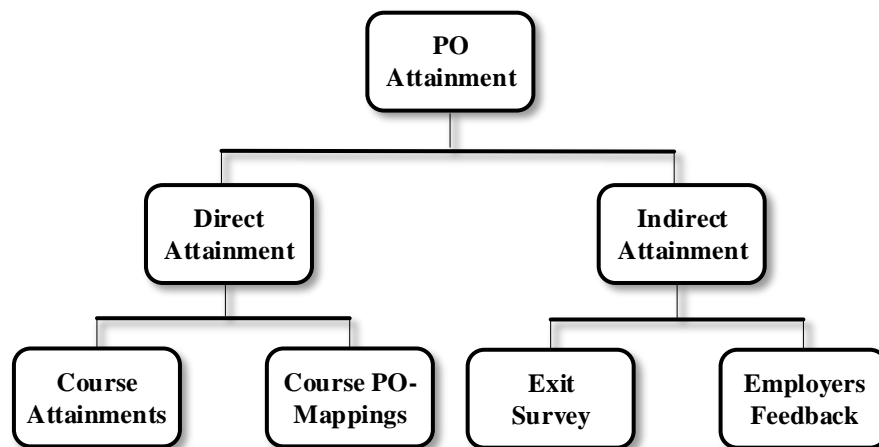


Figure 3.3.1.b: Assessment tools for the calculation of PO attainment

3.3.2. Provide Results of Evaluation of each PO & PSO (40)

The Program Outcome and Program Specific Outcome attainments are displayed for 2016-17, 2017-18 and 2018-19. The process is as described in Sec. 3.3.1.

For 2016-17 the target value is set to 2.20 for PO1 to PO5 and 2.0 for PO6 to PO12, for 2017-18, the target value is set to 2.30 for PO1 to PO5 and 2.10 for PO6 to PO12 and 2018-19, the target value is set to 2.40 for PO1 to PO5 and 2.20 for PO6 to PO12.

Admitted Batch: 2013												
Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	-	-	-	-	-	2.26	2.26	2.26	2.26	2.90	2.42	2.90
C102	1.97	1.97	1.97	1.97	-	1.97	1.64	1.64	-	-	1.64	1.97
C103	2.58	2.43	2.37	2.37	2.28	-	2.73	2.73	-	-	2.37	2.55
C104	2.10	1.87	2.10	2.10	-	1.87	1.93	1.93	-	-	-	1.87
C105	-	-	2.42	-	-	1.93	2.18	2.18	2.18	-	2.26	2.26
C106	2.04	1.91	1.91	1.91	-	1.91	2.29	2.29	2.29	-	2.29	2.29

C107	-	-	-	-	-	1.95	1.95	1.95	2.92	2.92	1.95	2.92
C108	2.92	2.43	2.27	2.27	2.27	1.95	1.95	1.95	1.95	1.95	-	1.95
C109	2.26	2.42	2.90	-	2.25	-	-	-	2.26	-	-	2.90
C110	-	-	-	-	-	2.41	2.25	2.41	2.25	2.41	2.41	2.89
C111	2.58	2.58	2.58	2.58	-	2.00	2.00	2.00	-	-	2.00	2.58
C112	2.62	2.62	2.18	2.18	-	2.18	2.18	2.18	-	-	-	2.18
C113	2.14	2.14	2.14	2.14	1.43	1.78	-	-	-	-	-	-
C114	2.37	1.98	1.98	1.98	1.58	1.98	-	-	-	-	-	-
C115	2.44	2.44	2.28	2.28	2.28	-	-	-	2.28	-	-	2.28
C116	2.65	2.31	-	2.48	2.48	-	1.98	-	1.98	1.98	-	1.98
C117	-	-	-	-	-	1.93	1.93	1.93	2.90	2.90	1.93	2.90
C118	2.90	2.58	2.26	2.26	2.26	-	-	2.26	2.26	-	-	-
C201	1.97	1.97	1.97	1.75	1.31	1.53	1.53	-	1.86	-	1.86	1.64
C202	2.17	2.17	-	1.93	1.45	1.57	1.45	-	2.17	-	2.05	1.93
C203	2.29	2.29	2.29	2.04	1.53	1.65	1.65	-	2.16	-	2.16	1.91
C204	0.86	0.95	0.57	1.03	1.14	-	-	-	1.62	-	1.62	1.43
C205	2.36	2.36	2.36	2.36	1.57	1.96	1.96	-	2.23	-	2.23	1.96
C206	0.86	0.76	-	0.76	1.14	-	-	-	1.62	-	1.62	1.43
C207	2.89	2.89	2.89	1.93	-	2.89	2.89	-	1.93	-	1.93	-
C208	2.89	2.89	2.89	1.93	1.93	2.89	2.89	-	1.93	-	-	-
C209	-	-	2.82	-	-	2.82	2.67	0.94	1.88	-	1.88	2.82
C210	2.45	2.45	2.45	2.18	1.63	1.63	1.63	-	2.31	-	2.31	2.04
C211	0.96	0.96	1.39	0.96	1.28	1.28	1.28	-	1.82	-	1.82	1.61
C212	2.46	2.46	2.46	2.19	1.64	1.64	1.64	0.82	2.32	2.46	2.32	2.05
C213	0.90	0.70	1.29	0.60	1.19	1.19	1.19	-	1.69	-	1.69	1.49
C214	2.35	2.35	2.35	2.09	1.57	1.57	1.57	-	2.22	1.57	2.22	1.96
C215	2.60	2.92	2.92	1.95	-	2.92	2.92	-	1.95	-	-	1.95
C216	2.92	2.92	2.92	-	-	2.92	-	-	2.92	-	-	1.95
C301	2.49	2.49	2.07	2.21	1.66	1.66	1.66	-	2.35	-	2.35	2.07
C302	0.36	1.08	-	0.96	0.72	-	-	0.72	-	0.72	1.02	0.90
C303	2.34	2.48	2.48	2.20	1.65	1.65	1.65	2.48	2.34	2.48	2.34	2.06
C304	2.40	2.40	1.74	2.14	1.60	1.60	1.60	-	2.27	-	2.27	2.00
C305	1.81	1.81	1.30	1.61	1.40	1.51	1.20	1.40	1.40	1.20	1.40	1.61
C306	1.27	0.63	1.03	0.63	0.95	-	-	-	1.35	-	1.35	1.19
C307	2.60	2.92	2.92	1.30	2.92	2.92	2.92	-	2.92	-	1.95	-
C308	2.60	2.92	2.92	0.97	-	2.92	2.92	-	2.92	-	1.95	2.92
C309	2.79	2.79	2.02	2.48	1.86	1.86	2.79	2.79	2.64	2.79	2.64	2.33
C310	2.44	2.44	1.76	2.17	1.63	1.63	1.63	-	1.63	1.63	2.30	2.03
C311	0.71	2.14	1.55	1.91	1.43	1.43	1.43	-	2.14	-	2.02	1.79
C312	2.55	2.55	1.84	2.26	1.70	2.12	1.70	1.70	1.70	-	2.40	2.12
C313	2.37	2.37	1.71	2.11	1.58	1.58	1.58	-	1.58	1.58	2.24	1.98
C314	2.65	2.65	2.65	2.36	1.77	1.77	1.77	-	1.77	1.77	2.50	2.21
C315	2.63	2.63	1.90	2.34	1.75	1.75	1.75	1.75	1.75	-	2.49	2.19

C316	2.57	2.89	2.89	0.96	1.93	1.93	-	-	2.25	1.93	1.93	1.93
C317	2.57	2.89	2.89	0.96	1.93	2.89	-	-	2.25	-	1.93	1.93
C401	2.31	2.31	2.31	2.06	1.54	1.54	1.54	-	2.19	-	2.19	1.93
C402	2.35	2.35	2.09	2.09	1.57	1.57	1.57	-	2.22	-	2.22	1.96
C403	2.20	2.20	1.59	1.95	1.46	1.46	1.46	1.46	2.07	1.46	2.07	1.83
C404	2.16	2.36	2.36	2.36	1.57	1.57	1.57	-	1.57	1.57	1.57	1.57
C405	2.25	2.53	2.53	2.25	1.68	1.68	1.68	-	2.39	2.53	2.39	2.11
C406	2.58	2.58	2.90	1.29	2.90	1.93	-	-	2.90	1.93	2.42	1.93
C407	2.59	2.91	2.91	2.91	2.91	-	2.91	-	2.91	2.43	2.91	-
C408	2.58	2.90	2.90	2.58	1.93	-	-	-	2.58	2.42	1.93	-
C409	2.42	2.42	2.42	2.42	0.81	-	-	2.42	2.42	2.42	2.42	1.61
C410	2.71	2.71	2.71	2.41	1.80	1.80	1.80	-	2.56	-	2.56	2.26
C411	2.45	2.45	2.45	2.17	1.63	1.63	2.45	-	2.31	-	2.31	2.04
C412	2.57	2.57	1.85	2.28	1.71	2.57	2.57	1.71	2.42	-	2.42	2.14
C413	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92
Direct Attainment (100%)	2.27	2.31	2.26	1.95	1.74	1.97	1.99	1.95	2.19	2.12	2.12	2.07
Direct Attainment (DA)(80%)	1.82	1.85	1.81	1.56	1.39	1.58	1.59	1.56	1.75	1.70	1.70	1.66
Indirect Attainment (100%)	2.30	2.10	2.20	2.10	2.60	2.40	2.50	2.10	2.20	2.10	2.20	2.20
Indirect Attainment (IA)(20%)	0.46	0.42	0.44	0.42	0.52	0.48	0.5	0.42	0.44	0.42	0.44	0.44
PO Attainment (0.8*DA+0.2*IA)	2.28	2.27	2.25	1.98	1.91	2.06	2.09	1.98	2.19	2.12	2.14	2.10

Table B.3.3.2.a: PO-Course Attainment for 2013 Admitted Batch

Admitted Batch: 2014												
Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	-	-	-	-	-	2.32	2.32	2.32	2.32	2.98	2.48	2.98
C102	2.49	2.49	2.49	2.49	-	2.49	2.08	2.08	-	-	2.08	2.49
C103	2.70	2.54	2.48	2.48	2.38	-	2.86	2.86	-	-	2.48	2.67
C104	2.46	2.18	2.46	2.46	-	2.46	2.25	2.25	-	-	-	2.18
C105	-	-	2.48	-	-	1.99	2.24	2.24	2.24	-	2.32	2.32
C106	1.65	1.55	1.55	1.55	-	1.55	1.86	1.86	1.86	-	1.86	1.86
C107	-	-	-	-	-	1.99	1.99	1.99	2.98	2.98	1.99	2.98
C108	2.96	2.47	2.30	2.30	2.30	1.97	1.97	1.97	1.97	1.97	-	1.97
C109	2.31	2.47	2.96	-	2.30	-	-	-	2.31	-	-	2.96
C110	-	-	-	-	-	2.28	2.13	2.28	2.13	2.28	2.28	2.74
C111	2.66	2.66	2.66	2.07	-	2.07	2.07	2.07	-	-	2.07	2.66
C112	2.48	2.48	2.07	2.07	-	2.07	2.07	2.07	-	-	-	2.07
C113	2.38	2.38	2.38	2.38	1.59	1.98	-	-	-	-	-	-
C114	2.46	2.05	2.05	2.05	1.64	2.05	-	-	-	-	-	-

C115	2.22	2.22	2.08	2.08	2.08	-	-	-	2.08	-	-	2.08
C116	2.65	2.32	-	2.48	2.48	-	1.99	-	1.99	1.99	-	1.99
C117	-	-	-	-	-	1.99	1.99	1.99	2.98	2.98	1.99	2.98
C118	2.98	2.65	2.32	2.32	2.32	-	-	2.32	2.32	-	-	-
C201	2.61	2.61	2.61	2.32	1.74	2.03	2.03	-	2.47	-	2.47	2.18
C202	2.67	2.67	-	2.38	1.78	1.93	1.78	-	2.67	-	2.52	2.38
C203	2.47	2.47	2.47	2.19	1.65	1.78	1.78	-	2.33	-	2.33	2.06
C204	2.38	2.38	-	2.38	1.58	-	-	-	2.24	-	2.24	1.98
C205	2.58	2.58	2.58	2.58	1.72	2.15	2.15	-	2.44	-	2.44	2.15
C206	2.33	2.33	-	2.07	1.55	-	-	-	2.20	-	2.20	1.94
C207	2.89	2.89	2.89	1.93	-	2.89	2.89	-	1.93	-	1.93	-
C208	2.89	2.89	2.89	1.93	1.93	2.89	2.89	-	1.93	-	-	-
C209	-	-	2.68	-	-	2.68	2.53	2.68	1.79	-	1.79	2.68
C210	0.73	0.73	1.46	1.29	0.97	0.97	0.97	-	0.97	-	1.38	1.21
C211	1.07	0.59	1.27	1.56	1.17	1.17	1.17	-	1.66	-	1.66	1.47
C212	2.57	2.57	2.57	2.29	1.71	1.71	1.71	2.57	2.43	2.57	2.43	2.14
C213	2.48	2.48	1.79	2.20	1.65	1.65	1.65	-	2.34	-	2.34	2.07
C214	2.69	2.69	2.69	2.39	1.79	1.79	1.79	-	2.54	1.79	2.54	2.24
C215	2.36	2.65	2.65	1.77	-	2.65	2.65	-	1.18	-	-	1.77
C216	2.89	2.89	2.89	-	-	2.89	-	-	0.96	-	-	1.93
C301	2.86	2.86	2.38	2.54	1.91	1.91	1.91	-	2.70	-	2.70	2.38
C302	2.51	2.51	-	2.23	1.67	-	-	1.67	-	1.67	2.37	2.09
C303	2.48	2.62	2.62	2.33	1.75	1.75	1.75	2.62	2.48	2.62	2.48	2.19
C304	2.56	2.56	1.85	2.28	1.71	1.71	1.71	-	2.42	-	2.42	2.14
C305	1.94	1.94	1.40	1.72	1.51	1.62	1.29	1.51	1.51	1.29	1.51	1.72
C306	2.55	2.55	1.84	2.27	1.70	-	-	-	2.41	-	2.41	2.13
C307	2.57	2.89	2.89	1.93	2.89	2.89	2.89	-	2.89	-	1.93	-
C308	2.57	2.89	2.89	1.93	-	2.89	2.89	-	2.89	-	1.93	2.89
C309	2.76	2.76	1.99	2.45	1.84	1.84	2.76	0.92	2.60	2.76	2.60	2.30
C310	2.90	2.90	2.09	2.57	1.93	1.93	1.93	-	1.93	1.93	2.74	2.41
C311	2.61	2.61	1.89	2.32	1.74	1.74	1.74	-	2.61	-	2.47	2.18
C312	2.94	2.94	2.12	2.61	1.96	2.45	1.96	1.96	1.96	-	2.77	2.45
C313	2.52	2.52	1.82	2.24	1.68	1.68	1.68	-	1.68	1.68	2.38	2.10
C314	2.86	2.86	2.86	2.54	1.90	1.90	1.90	-	1.90	1.90	2.70	2.38
C315	0.57	0.42	0.92	1.13	0.85	0.85	0.85	0.85	0.85	-	1.20	1.06
C316	2.57	2.89	2.89	2.25	1.93	1.93	-	-	2.25	-	1.93	1.93
C317	2.57	2.89	2.89	2.25	1.93	2.89	-	-	2.25	-	1.93	1.93
C401	2.72	2.72	2.72	2.41	1.81	1.81	1.81	-	2.57	-	2.57	2.26
C402	1.24	0.93	1.66	1.66	1.24	1.24	1.24	-	1.76	-	1.76	1.56
C403	2.46	2.46	1.77	2.18	1.64	1.64	1.64	1.64	2.32	1.64	2.32	2.05
C404	2.16	2.36	2.36	2.36	1.57	1.57	1.57	-	1.57	1.57	1.57	1.57
C405	2.55	2.86	2.86	2.55	1.91	1.91	1.91	-	2.70	2.86	2.70	2.39
C406	2.67	2.67	3.00	3.00	3.00	2.00	-	-	3.00	2.00	2.50	2.00

C407	2.67	3.00	3.00	3.00	3.00	-	3.00	-	3.00	2.50	3.00	-
C408	1.96	2.20	2.20	1.96	1.47	-	-	-	1.96	1.83	1.47	-
C409	2.38	2.38	2.38	2.38	0.79	-	-	2.38	2.38	2.38	2.38	1.58
C410	2.49	2.49	2.49	2.22	1.66	1.66	1.66	-	2.36	-	2.36	2.08
C411	2.63	2.63	2.63	2.34	1.75	1.75	2.63	-	2.49	-	2.49	2.19
C412	2.43	2.43	1.76	2.16	1.62	2.43	2.43	1.62	2.30	-	2.30	2.03
C413	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95	2.95
Direct Attainment (100%)	2.44	2.44	2.34	2.23	1.83	2.03	2.04	2.07	2.21	2.22	2.24	2.18
Direct Attainment (DA)(80%)	1.95	1.95	1.87	1.78	1.46	1.62	1.63	1.65	1.77	1.78	1.79	1.74
Indirect Attainment (100%)	2.20	2.10	2.30	2.70	2.40	2.50	2.60	2.10	2.50	2.10	2.10	2.20
Indirect Attainment (IA)(20%)	0.44	0.42	0.46	0.54	0.48	0.50	0.52	0.42	0.5	0.42	0.42	0.44
PO Attainment (0.8*DA+0.2*IA)	2.39	2.37	2.33	2.32	1.94	2.12	2.15	2.07	2.27	2.20	2.21	2.18

Table B.3.3.2.b: PO-Course Attainment for 2014 Admitted Batch

Admitted Batch: 2015												
Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	-	-	-	-	-	2.31	2.31	2.31	2.31	2.97	2.48	2.97
C102	2.92	2.92	2.92	2.92	-	2.92	2.44	2.44	-	-	2.44	2.92
C103	2.63	2.47	2.41	2.41	2.32	-	2.78	2.78	-	-	2.41	2.59
C104	2.44	2.17	2.44	2.44	-	2.44	2.24	2.24	-	-	-	2.17
C105	-	-	2.28	-	-	1.82	2.05	2.05	2.05	-	2.12	2.12
C106	2.61	2.45	2.45	2.45	-	2.45	2.94	2.94	2.94	-	2.94	2.94
C107	-	-	-	-	-	1.97	1.97	1.97	2.96	2.96	1.97	2.96
C108	2.96	2.47	2.30	2.30	2.30	1.97	1.97	1.97	1.97	1.97	-	1.97
C109	2.32	2.48	2.98	-	2.32	-	-	-	2.32	-	-	2.98
C110	-	-	-	-	-	2.05	1.91	2.05	1.91	2.05	2.05	2.46
C111	2.94	2.94	2.94	2.29	-	2.29	2.29	2.29	-	-	2.29	2.94
C112	2.18	2.18	1.82	1.82	-	1.82	1.82	1.82	-	-	-	1.82
C113	2.11	2.11	2.11	2.11	1.41	1.76	-	-	-	-	-	-
C114	2.15	1.79	1.79	1.79	1.43	1.79	-	-	-	-	-	-
C115	2.47	2.47	2.32	2.32	2.32	-	-	-	2.32	-	-	2.32
C116	2.65	2.32	-	2.48	2.48	-	1.99	-	1.99	1.99	-	1.99
C117	-	-	-	-	-	1.99	1.99	1.99	2.98	2.98	1.99	2.98
C118	2.98	2.65	2.32	2.32	2.32	-	-	2.32	2.32	-	-	-
C201	2.80	2.80	2.80	2.49	1.87	2.18	2.18	-	2.64	-	2.64	2.33
C202	2.20	2.20	-	1.96	1.47	1.59	1.47	-	2.20	-	2.08	1.96
C203	2.69	2.69	2.69	2.39	1.79	1.94	1.94	-	2.54	-	2.54	2.24
C204	2.24	2.24	-	2.24	1.49	-	-	-	2.12	-	2.12	1.87
C205	2.67	2.67	2.67	2.67	1.78	2.22	2.22	-	2.52	-	2.52	2.22

C206	1.29	1.29	-	1.14	0.86	-	-	-	1.21	-	1.21	1.07
C207	2.89	2.89	2.89	1.93	-	2.89	2.89	-	1.93	-	1.93	-
C208	2.89	2.89	2.89	1.93	1.93	2.89	2.89	-	1.93	-	-	-
C209	-	-	2.84	-	-	2.84	2.68	2.84	1.89	-	1.89	2.84
C210	2.64	2.64	2.64	2.35	1.76	1.76	1.76	-	2.49	-	2.49	2.20
C211	2.72	2.72	1.96	2.42	1.81	1.81	1.81	-	2.57	-	2.57	2.27
C212	2.68	2.68	2.68	2.38	1.79	1.79	1.79	2.68	2.53	2.68	2.53	2.23
C213	2.48	2.48	1.79	2.20	1.65	1.65	1.65	-	2.34	-	2.34	2.07
C214	2.48	2.48	2.48	2.20	1.65	1.65	1.65	-	2.34	1.65	2.34	2.07
C215	2.60	2.92	2.92	1.95	-	2.92	2.92	-	1.95	-	-	1.95
C216	2.92	2.92	2.92	-	-	2.92	-	-	2.92	-	-	1.95
C301	2.90	2.90	2.42	2.58	1.94	1.94	1.94	-	2.74	-	2.74	2.42
C302	2.49	2.49	-	2.21	1.66	-	-	1.66	-	1.66	2.35	2.08
C303	0.85	0.90	0.90	0.80	0.60	0.60	0.60	0.90	0.85	0.90	0.85	0.75
C304	1.03	1.03	0.75	0.92	0.69	0.69	0.69	-	0.97	-	0.97	0.86
C305	2.59	2.59	1.87	2.30	2.02	2.16	1.73	2.02	2.02	1.73	2.02	2.30
C306	2.55	2.55	1.84	2.27	1.70	-	-	-	2.41	-	2.41	2.13
C307	2.63	2.96	2.96	1.97	2.96	2.96	2.96	-	2.96	-	1.97	-
C308	2.63	2.96	2.96	2.96	-	2.96	2.96	-	2.96	-	1.97	2.96
C309	2.84	2.84	2.05	2.52	1.89	1.89	2.84	2.84	2.68	2.84	2.68	2.37
C310	2.44	2.44	1.76	2.17	1.62	1.62	1.62	-	1.62	1.62	2.30	2.03
C311	2.54	2.54	1.83	2.26	1.69	1.69	1.69	-	2.54	-	2.40	2.12
C312	2.77	2.77	2.00	2.46	1.84	2.30	1.84	1.84	1.84	-	2.61	2.30
C313	1.76	1.76	1.27	1.57	1.17	1.17	1.17	-	1.17	1.17	1.66	1.47
C314	2.85	2.85	2.85	2.53	1.90	1.90	1.90	-	1.90	1.90	2.69	2.37
C315	2.92	2.92	2.11	2.59	1.95	1.95	1.95	1.95	1.95	-	2.76	2.43
C316	2.57	2.89	2.89	2.89	1.93	1.93	-	-	2.25	-	1.93	1.93
C317	2.57	2.89	2.89	2.89	1.93	2.89	-	-	2.25	-	1.93	1.93
C401	2.74	2.74	2.74	2.43	1.82	1.82	1.82	-	2.58	-	2.58	2.28
C402	2.50	2.50	2.22	2.22	1.67	1.67	1.67	-	2.36	-	2.36	2.08
C403	2.40	2.40	1.73	2.14	1.60	1.60	1.60	1.60	2.27	1.60	2.27	2.00
C404	2.08	2.27	2.27	2.27	1.51	1.51	1.51	-	1.51	1.51	1.51	1.51
C405	2.02	2.28	2.28	2.02	1.52	1.52	1.52	-	2.15	2.28	2.15	1.90
C406	2.58	2.58	2.90	2.90	2.90	1.93	-	-	2.90	1.93	2.42	1.93
C407	2.59	2.91	2.91	2.91	2.91	-	2.91	-	2.91	2.43	2.91	-
C408	2.58	2.90	2.90	2.90	1.93	-	-	-	2.58	2.42	1.93	-
C409	2.33	2.33	2.33	2.33	1.55	-	-	2.33	2.33	2.33	2.33	1.55
C410	2.93	2.93	2.93	2.60	1.95	1.95	2.93	-	2.76	-	2.76	2.44
C411	2.49	2.49	2.49	2.21	1.66	1.66	2.49	-	2.35	-	2.35	2.07
C412	2.32	2.32	1.68	2.06	1.55	2.32	2.32	1.55	2.19	-	2.19	1.94
C413	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97
Direct Attainment (100%)	2.50	2.51	2.38	2.28	1.83	2.04	2.09	2.17	2.27	2.11	2.25	2.19

Direct Attainment (DA)(80%)	2.00	2.01	1.90	1.82	1.47	1.63	1.67	1.74	1.82	1.69	1.80	1.75
Indirect Attainment (100%)	2.40	2.30	2.60	2.90	2.90	2.90	2.90	2.70	2.40	2.90	2.50	2.90
Indirect Attainment (IA)(20%)	0.48	0.46	0.52	0.58	0.58	0.58	0.58	0.54	0.48	0.58	0.50	0.58
PO Attainment (0.8*DA+0.2*IA)	2.48	2.47	2.42	2.40	2.04	2.21	2.25	2.28	2.30	2.27	2.30	2.33

Table B.3.3.2.c: PO-Course Attainment for 2015 Admitted Batch

PO Attainment Analysis

PO attainment for the three consecutive assessment years 2018-19, 2017-18, 2016-17 had been increasing for our core courses of the department and lifelong learning. Our department is very keen in implementing new teaching learning process and effective content delivery. This is shown in the improvement of attainment levels. Attainments of PO1 to PO4 were significantly improved due to continuous monitoring of slow learners. Improvement in PO12 resulted as there is a continuous motivation towards the enhancing technologies by organizing various workshops and guest lecturers regarding the emerging trends. PO9 and PO10 were enhanced through various activities conducted by the program so that the students will be successful as a team and as an individual in their career with social responsibility.

Batch	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2016-17	2.28	2.27	2.25	1.98	1.91	2.06	2.09	1.98	2.19	2.12	2.14	2.10
2017-18	2.39	2.37	2.33	2.32	1.94	2.12	2.15	2.07	2.27	2.20	2.21	2.18
2018-19	2.48	2.47	2.42	2.40	2.04	2.21	2.25	2.28	2.30	2.27	2.30	2.33

Table 3.3.2.d: PO attainment values for three assessment years

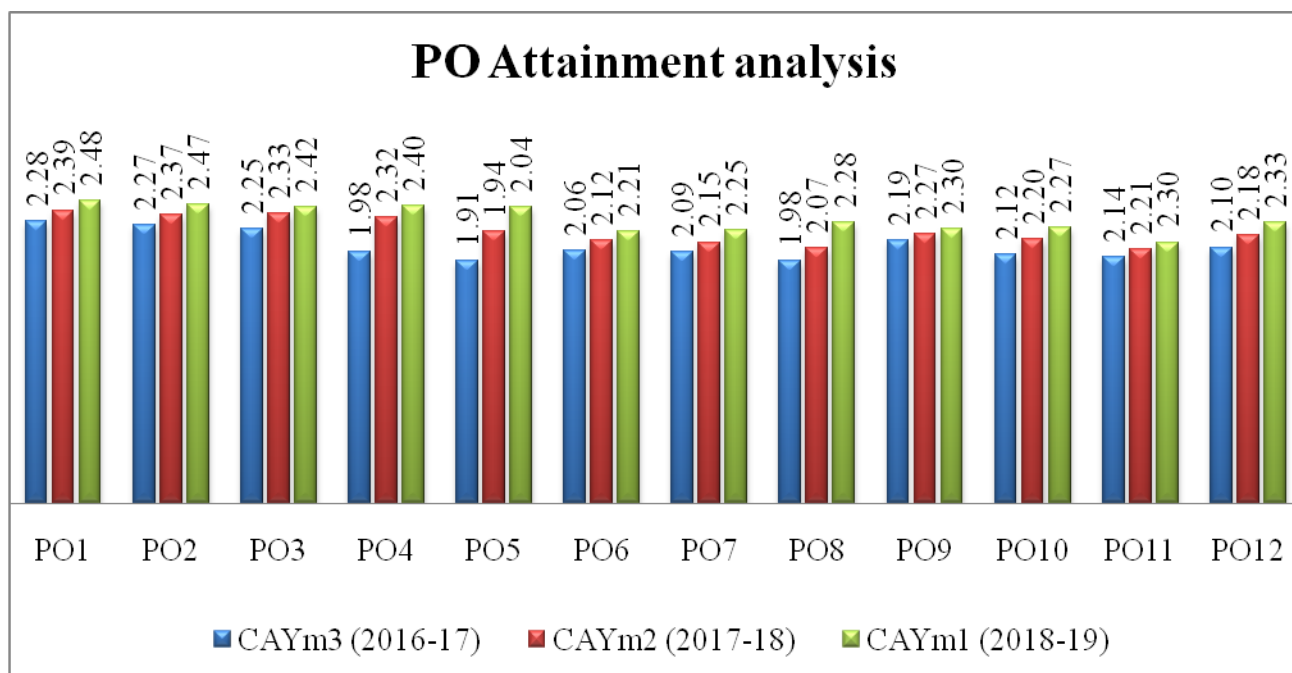


Figure 3.3.2.a: Comparison of PO attainments

Summary:

For 2016-17, the target value is set to 2.20 for PO1 to PO5 and 2.0 for PO6 to PO12, for 2017-18, the target value is set to 2.30 for PO1 to PO5 and 2.10 for PO6 to PO12 and 2018-19, the target value is set to 2.40 for PO1 to PO5 and 2.20 for PO6 to PO12. It was observed that out of 12 POs, few POs were not attained. Department Advisory Committee (DAC) has taken certain actions to improve the PO attainment for the next coming batches For CAYm2, PO4, PO5& PO8 were not attained.

- ◆ For PO4, subjects that deal with data collection and synthesis were identified. GATE questions were practiced in tutorial classes. Faculty members are advised to discuss simple and relevant journal papers in class room to improve research-based knowledge.
- ◆ For PO5, additional lab experiments were included for lab associated courses. Faculties were advised to use different simulation tools to demonstrate the theoretical concepts.
- ◆ For PO8, identified more courses on ethics and social values. Special lectures were arranged on professional ethics in engineering and value education.
- ◆ Design workshops were arranged for the improvement of practical applications. DAC proposed to organize workshops on different programming tools for the

upgrading of skills. Projects were inclined towards the expansion of tools. Motivational lectures were arranged by eminent people to develop self-consciousness on ethics and human values also identified more courses on ethics and social values. Students were encouraged to organize department associations.

- For CAYm1, PO5& PO8 were not attained.
 - ♦ For PO5, DAC proposed to organize workshops for the upgrading of latest tools. PCB Design workshop was arranged for improving the practical applications. Projects should be inclined towards the expansion of tools.
 - ♦ For PO8, Motivational lectures were arranged by eminent people to develop self-consciousness on ethics and human values.
- For CAY, PO5was not attained.
 - ♦ For PO5, DAC proposed to organize workshops for the upgrading of latest tools. PCB Design workshop was arranged for improving the practical applications. Projects should be inclined towards the expansion of tools.

In similar way, PSO attainment for three consecutive assessment years 2016-17, 2017-18, & 2018-19 is given below:

Admitted Batch: 2013		
Course	PSO1	PSO2
C101	-	-
C102	1.75	-
C103	2.43	-
C104	-	-
C105	-	-
C106	1.53	1.53
C107	-	-
C108	-	-
C109	-	-
C110	-	-
C111	1.72	1.72
C112	1.75	-
C113	-	-
C114	2.03	2.03
C115	2.16	2.16
C116	-	-
C117	-	-
C118	2.89	2.89
C201	1.97	1.83

C202	-	-
C203	-	2.29
C204	-	-
C205	-	-
C206	-	1.72
C207	-	-
C208	2.89	2.89
C209	-	-
C210	2.45	2.45
C211	1.28	1.28
C212	2.46	-
C213	-	1.79
C214	2.35	1.57
C215	2.92	2.92
C216	2.92	2.92
C301	-	-
C302	-	0.87
C303	2.48	-
C304	-	2.40
C305	-	1.81
C306	-	-
C307	-	2.92
C308	2.92	-
C309	-	-
C310	2.44	-
C311	2.14	-
C312	2.55	2.55
C313	2.37	-
C314	-	2.65
C315	2.63	2.63
C316	2.24	2.89
C317	2.89	2.57
C401	2.31	-
C402	2.35	1.96
C403	2.20	-
C404	-	-
C405	2.53	-
C406	2.90	2.90
C407	2.91	2.91
C408	2.90	2.90
C409	2.42	2.42
C410	-	2.71

C411	2.45	-
C412	2.57	2.57
C413	2.92	2.92
Direct Attainment (100%)	2.41	2.33
Direct Attainment (DA)(80%)	1.92	1.86
Indirect Attainment (100%)	2.50	2.70
Indirect Attainment (IA)(20%)	0.50	0.54
PO Attainment (0.8*DA+0.2*IA)	2.42	2.40

Table B.3.3.2.e: PO-Course Attainment for 2013 Admitted Batch

Admitted Batch: 2014		
Course	PSO1	PSO2
C101	-	-
C102	2.22	-
C103	2.54	-
C104	-	-
C105	-	-
C106	1.24	1.24
C107	-	-
C108	-	-
C109	-	-
C110	-	-
C111	1.77	1.77
C112	1.66	-
C113		-
C114	2.46	2.46
C115	2.22	2.22
C116	-	-
C117	-	-
C118	2.98	2.98
C201	2.61	2.44
C202	-	-
C203	-	2.67
C204	-	-
C205	-	-
C206	-	2.33
C207	-	-

C208	2.89	2.89
C209	-	-
C210	1.46	1.46
C211	1.17	1.17
C212	2.57	-
C213	-	2.48
C214	2.69	1.79
C215	2.89	2.89
C216	2.89	2.89
C301	-	-
C302	-	2.00
C303	2.62	
C304	-	2.56
C305	-	1.94
C306	-	-
C307	-	2.89
C308	2.89	-
C309	-	-
C310	2.90	-
C311	2.61	-
C312	2.94	2.94
C313	2.52	-
C314	-	2.86
C315	1.27	1.27
C316	2.24	2.89
C317	2.89	2.57
C401	2.72	-
C402	1.87	1.56
C403	2.46	-
C404	-	-
C405	2.86	-
C406	3.00	3.00
C407	3.00	3.00
C408	2.20	2.20
C409	2.38	2.38
C410	-	2.49
C411	2.63	-
C412	2.43	2.43
C413	2.95	2.95
Direct Attainment (100%)	2.43	2.36

Direct Attainment (DA)(80%)	1.94	1.88
Indirect Attainment (100%)	2.80	2.70
Indirect Attainment (IA)(20%)	0.56	0.54
PO Attainment (0.8*DA+0.2*IA)	2.51	2.43

Table B.3.3.2.f: PO-Course Attainment for 2014 Admitted Batch

Admitted Batch: 2015		
Course	PSO1	PSO2
C101	-	-
C102	2.60	-
C103	2.47	-
C104	-	-
C105	-	-
C106	1.96	1.96
C107	-	-
C108	-	-
C109	-	-
C110	-	-
C111	1.96	1.96
C112	1.45	-
C113	-	-
C114	2.15	2.15
C115	2.47	2.47
C116	-	-
C117	-	-
C118	2.98	2.98
C201	2.80	2.61
C202	-	-
C203	-	2.69
C204	-	-
C205	-	-
C206	-	1.29
C207	-	-
C208	2.89	2.89
C209	-	-
C210	2.64	2.64
C211	1.81	1.81
C212	2.68	-

C213	-	2.48
C214	2.48	1.65
C215	2.92	2.92
C216	2.92	2.92
C301	-	-
C302	-	1.99
C303	0.90	-
C304	-	1.03
C305	-	2.59
C306	-	-
C307	-	2.96
C308	2.96	-
C309	-	-
C310	2.44	-
C311	2.54	-
C312	2.77	2.77
C313	1.76	-
C314	-	2.85
C315	2.92	2.92
C316	2.24	2.89
C317	2.89	2.57
C401	2.74	-
C402	2.50	2.08
C403	2.40	-
C404	-	-
C405	2.28	-
C406	2.90	2.90
C407	2.91	2.91
C408	2.90	2.90
C409	2.33	2.33
C410	-	2.93
C411	2.49	-
C412	2.32	2.32
C413	2.97	2.97
Direct Attainment (100%)	2.48	2.48
Direct Attainment (DA)(80%)	1.98	1.98
Indirect Attainment (100%)	2.90	2.80
Indirect Attainment (IA)(20%)	0.58	0.56

PO Attainment (0.8*DA+0.2*IA)	2.56	2.54
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Table B.3.3.2.g: PO-Course Attainment for 2015 Admitted Batch

PSO Attainment Analysis:

For the last three consecutive years, the PSO has been increasing gradually. There were various industry interactions and technical events being conducted every year like technical expo which develop the skill of the students in technical aspects.

Year of Study	PSO1	PSO2
2016-17	2.42	2.40
2017-18)	2.51	2.43
2018-19	2.56	2.54

Table B.3.3.2.h: PSO attainment values for three assessment years

Due to the availability of research facilities and specialised experts in the department being effectively utilised, has enhanced the achievement of the specific outcomes.

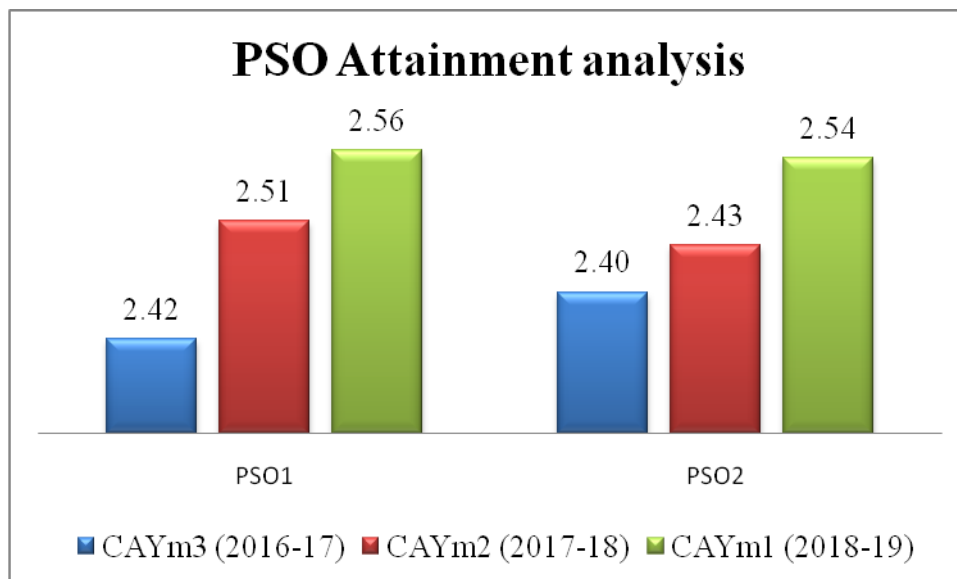


Figure B. 3.3.2.b: Comparison of PSO attainment

Criterion 4	Students Performance	150M
4.1	Enrollment Ratio	20M
4.2	Success Rate in the Stipulated Period of the Program	40M
4.3	Academic Performance in Third Year	15M
4.4	Academic Performance in Second Year	15M
4.5	Placement, Higher Studies and Entrepreneurship	40M
4.6	Professional Activities	20M

CRITERION 4	Students Performance	150
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4. STUDENTS PERFORMANCE (150)

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	CAY (2019-20)	CAYm1 (2018-19)	CAYm2 (2017-18)	CAYm3 (2016-17)	CAYm4 (2015-16)	CAYm5 (2014-15)	CAYm6 (2013-14)
Sanctioned intake of the program (N)	120	120	120	120	120	120	120
Total number of students admitted in first year minus number of students migrated to other programs/institutions plus number of students migrated to this program (N1)	38	74	92	97	64	51	78
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	0	33	34	24	30	13	07
Separate division students, If applicable (N3)	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total number of students admitted in the programme (N1+N2+N3)	38	107	126	121	94	64	85

Table: B.4.a: Total Intake Students Information**CAY- Current Academic Year****CAYm1- Current Academic Yearminus1=Current Assessment Year****CAYm2- Current Academic Yearminus2=Current Assessment Year minus1****CAYm3- Current Academic Yearminus2=Current Assessment Year minus2****LYG- Last Year Graduation****LYGm1- Last Year Graduation minus1****LYGm2- Last Year Graduation minus2**

Year of entry	N1 + N2 + N3 (As defined above)	Number of students who have successfully graduated without backlogs in any semester/ year of study (Without Backlog means no compartment or failures in any semester/ year of study)			
		I Year	II Year	III Year	IV Year
2019-20 (CAY)	38(38+0+0)	-	-	-	-
2018-19 (CAYm1)	107(74+33+0)	55	-	-	-
2017-18 (CAYm2)	126(92+34+0)	73	92	-	-
2016-17 (CAYm3)	121(97+24+0)	62	68	66	-
2015-16 (LYG)	94(64+30+0)	29	44	42	40
2014-15 (LYGm1)	64(51+13+0)	28	35	31	31
2013-14 (LYGm2)	85(78+7+0)	57	53	49	48

Table: B.4.b: Total Students successfully graduated without Backlogs

Year of entry	N1 + N2 + N3 (As defined above)	Number of Students who have Successfully Graduated (Students with backlog in stipulated period of study)			
		I Year	II Year	III Year	IV Year
2019-20 (CAY)	38(38+0+0)	-	-	-	-
2018-19 (CAYm1)	107(74+33+0)	74	-	-	-
2017-18 (CAYm2)	126(92+34+0)	91	124	-	-
2016-17 (CAYm3)	121(97+24+0)	96	119	118	-
2015-16 (LYG)	94(64+30+0)	61	87	86	80
2014-15 (LYGm1)	64(51+13+0)	48	60	59	59
2013-14 (LYGm2)	85(78+7+0)	78	83	80	77

Table: B.4.c Total students successfully graduated with backlogs

4.1 Enrolment Ratio (20)

Enrolment Ratio = $N1/N$

<i>Item</i> (Students enrolled at the First Year Level on average basis during the previous three academic Years starting from current academic Year)	<i>Marks</i>
<i>$\geq 90\%$ students enrolled</i>	<i>20</i>
<i>$\geq 80\%$ students enrolled</i>	<i>18</i>
<i>$\geq 70\%$ students enrolled</i>	<i>16</i>
<i>$\geq 60\%$ students enrolled</i>	<i>14</i>
<i>$\geq 50\%$ students enrolled</i>	<i>12</i>
<i>Otherwise</i>	<i>0</i>

Table B.4.1a: Enrolment Ratio

Academic Year	N (From table B.4a)	N1 (From table B.4a)	Enrolment Ratio [(N1/N)*100]
CAY (2019-20)	120	38	31.67
CAYm1 (2018-19)	120	74	61.67
CAYm2 (2017-18)	120	92	76.67
Average of 3 Academic years			56.67
Marks			12

Table: B.4.1b Enrolment Ratios**4.2 Success Rate in the Stipulated Period of the Program (40)****4.2.1. Success Rate without Backlogs in any Semester/ Year of Study (25)**

SI = (Number of students who have graduated from the program without backlog) / (Number of students admitted in the first year of that batch and actually admitted in 2nd year via lateral entry and separate division, if applicable)

Average SI = Mean of Success Index (SI) for past three batches

Success rate without backlogs in any year of study = $25 \times$ Average SI

Successful students are those who are permitted to proceed to the Third year.

Item	Latest Year of Graduate LYG (2015-16)	Latest Year of Graduate minus LYGm1 (2014-15)	Latest Year of Graduate minus 2 LYGm2 (2013-14)
Number of students Admitted in the corresponding First year + admitted in 2nd year via lateral entry and separated division (X)	94	64	85
Number of students who have graduated without backlogs in the stipulated period (Y)	40	31	48
Success Index (SI) = Y/X	0.43	0.48	0.56
Average SI = (SI1 + SI2 + SI3) / 3	0.49		
Success rate without backlogs in any year of study = 25* Average SI	12.25		

Table B.4.2.1: Success rate without backlogs

4.2.2. Success Rate in Stipulated Period of Study (15)

SI = (Number of students who graduated from the program in the stipulated period of course duration) / (Number of students admitted in the first year of that batch and actual admitted in 2nd year via lateral entry and separate division, if applicable)

Average SI = mean of Success Index (SI) for past three batches

$$\text{Success rate} = 15 \times \text{Average SI}$$

Item	Latest Year of Graduation LYG (2015-16)	Latest Year of Graduation minus 1 LYGm1 (2014-15)	Latest Year of Graduation minus 2 LYGm2 (2013-14)
Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and separated division, if applicable (X)	94	64	85
Number of students who have graduated in the stipulated period (Y)	80	59	77
Success Index (SI) = Y/X	0.85	0.92	0.91

Average SI = $(SI1 + SI2 + SI3) / 3$	0.89
Success rate = $15 \times$ Average SI	13.4

Table B.4.2.2: Success rate with backlogs**4.3. Academic Performance in Third Year (15)**

Academic Performance = 1.5 Average API (Academic Performance Index), where
API = ((Mean of 3rd Year Grade Point Average of all successful Students on a 10 point scale) or
(Mean of percentage of marks of all successful students in Third Year/10)) x (number of successful
students/number of students appeared in the examination)*

Successful students are those who are permitted to proceed to the final year.

Academic Performance	CAYm3 (2016-17)	LYG (2015-16)	LYGm1 (2014-15)
Mean of CGPA or mean percentage of all successful students (X)	7.53	6.97	7.07
Total number of successful students (Y)	118	86	59
Total number of students appeared in the examination (Z)	119	87	60
API = $X * (Y/Z)$	7.47	6.89	6.95
Average API = $(AP1 + AP2 + AP3)/3$	7.10		
Academic Performance = $1.5 * \text{Average API}$	10.66		

Table B.4.3: Academic performance of Third year**4.4. Academic Performance in Second Year (15)**

*Academic Performance Level = 1.5 * Average API (Academic Performance Index)
API = ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point
scale) or (Mean of the percentage of marks of all successful students in Second Year/10)) x
(number of successful students/number of students appeared in the examination)*

Successful students are those who are permitted to proceed to the Third year.

Academic Performance	CAYm2 (2017-18)	CAYm3 (2016-17)	LYG (2015-16)
Mean of CGPA or mean percentage of all successful students (X)	7	7	7.03
Total number of successful students (Y)	124	119	87
Total number of students appeared in the examination (Z)	125	120	91
API = $X * (Y/Z)$	6.94	6.94	6.72
Average API = $(AP1 + AP2 + AP3)/3$	6.87		
Academic Performance Level = $(1.5 * \text{Average API})$	10.30		

Table B.4.4: Academic performance of Second year

4.5. Placement, Higher Studies and Entrepreneurship (40)

Assessment Points = $40 \times$ average placement

Item	LYG (2015-16)	LYGm1 (2014-15)	LYGm2 (2013-14)
Total No of Final Year Students (N)	86	59	80
No of students placed in the companies or government sector (X)	67	47	65
No of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level tests, GRE, GMAT etc.) (Y)	1	5	3
No of students turned entrepreneur in engineering/technology (Z)	3	2	2
$X + Y + Z$	71	54	70
Placement Index = $(X+Y+Z) / N$	0.83	0.92	0.88
Average placement = $(P1 + P2 + P3) / 3$	0.88		
Assessment Points = $40 \times$ average placement	35.07		

Table B.4.5: Placement, Higher Studies and Entrepreneurship

4.5.a. Provide the placement data in the below mentioned format with the name of the program and the assessment year

The department of EEE adopts various innovative teaching learning practices and very keen in training the students in latest technologies as per the industry requirements. We incorporated Campus Recruitment Training (CRT) and Campus Specific Trainings for the students along with regular academic curriculum.

Due to these efforts, students achieved good placements in various reputed MNC's with good packages. In 2018-19, MNC's like Capgemini, Infosys, HCL and other top MNCs visited the campus and selected 75 students with highest package of **3.50 LPA** and an average of **2.16 LPA**.

Placement data of Electrical and Electronics Engineering, 2018-19				
SL. NO.	NAME OF THE STUDENT	REG. NO.	COMPANY	Ref No
1	AKHIRI MADHAVI	15NM1A0201	THINKSYNQ	VIEW/TP/20190236
2	B LAVANYA	15NM1A0202	THINKSYNQ	VIEW/TP/20190237
3	BALLA HYMA SAI RAJESWARI	15NM1A0203	CAPGEMINI	HR/CAMPUS/LO201941852
4	BUDDHA VARDHINI	15NM1A0206	PATHFRONT	PFSDS/B001/281/22122018
5	CHEEPURUBILLI HYMASRI	15NM1A0208	TRIGEO	VIEW/TP/20190307
6	DADI ANUSHA	15NM1A0209	HCL	VIEW/TP/20190318
7	DAMA BALA KAVYA	15NM1A0210	THINKSYNQ	VIEW/TP/20190423
8	DASARI ARUNA KUMARI	15NM1A0211	PATHFRONT	PFSDS/B001/282/22122018
9	DASARI SAI SUNANDHA	15NM1A0212	VSEZ	VIEW/TP/20190315
10	DEKKA RAMANAMMA	15NM1A0213	THINKSYNQ	VIEW/TP/20190424
11	ERLA USHA RANI	15NM1A0214	THINKSYNQ	VIEW/TP/20190238
12	GANDI RAMYA	15NM1A0215	CAPGEMINI	HR/CAMPUS/LO201941882
13	GANDREDDI VELANGINI MANISHA	15NM1A0216	CONVERGYS	VIEW/TP/20190292
14	GEDELA PUSPA	15NM1A0217	THINKSYNQ	VIEW/TP/20190425
15	GULLU ANKITHA	15NM1A0220	THINKSYNQ	VIEW/TP/20190240
16	KAJAL SINGH	15NM1A0222	IBeON INFOTECH	VIEW/TP/20190141
17	KAMMELLA SAI SUCHITRA	15NM1A0223	THINKSYNQ	VIEW/TP/20190241
18	KANDISA KRUPAVATHI	15NM1A0224	NIFCO	VIEW/TP/20190290
19	KANDREGULA JHANCY	15NM1A0225	THINKSYNQ	VIEW/TP/20190242
20	KANDREGULA PRIYASWI	15NM1A0226	PATHFRONT	PFSDS/B001/283/22122018
21	KOTANI VENKATA	15NM1A0228	I PROCESS	VIEW/TP/20190082

	SRAVANI			
22	KUJUR ANKITA SIKHA	15NM1A0230	NET2SOURCE	VIEW/TP/20190287
23	LAKKARAJU ASWINI	15NM1A0231	PATHFRONT	PFSDS/B001/284/22122 018
24	MAADISA SRIDEVI	15NM1A0232	CAPGEMINI	HR/CAMPUS/LO20194 1803
25	MADDU PARVATHI	15NM1A0233	THINKSYNQ	VIEW/TP/20190244
26	MAMIDI BHARATHI	15NM1A0234	THINKSYNQ	VIEW/TP/20190245
27	MAMIDI NANDINI	15NM1A0235	I PROCESS	VIEW/TP/20190084
28	MUVVALA PUNYAVATHI	15NM1A0238	I PROCESS	VIEW/TP/20190085
29	NELLI GIRIJA GAYATRI	15NM1A0241	PATHFRONT	PFSDS/B001/285/22122 018
30	PACHIGOLLA SRI VENKATA SAI CHINNI	15NM1A0242	THINKSYNQ	VIEW/TP/20190246
31	PAILA GOWTHAMI	15NM1A0243	IBeON INFOTECH	VIEW/TP/20190142
32	PILLA HEMA	15NM1A0246	CAPGEMINI	HR/CAMPUS/LO20194 1807
33	PODIPIREDDY RESHMA	15NM1A0247	THINKSYNQ	VIEW/TP/20190247
34	POLAMARASETTI PRASANNA ANANTHA LAKSHMI	15NM1A0248	I PROCESS	VIEW/TP/20190087
35	PUDU MANEESHA	15NM1A0250	THINKSYNQ	VIEW/TP/20190248
36	SANAPATHI ANUSHA	15NM1A0252	PATHFRONT	PFSDS/B001/286/22122 018
37	SETHI PRAGATI	15NM1A0254	NET2SOURCE	VIEW/TP/20190288
38	SIMHADRI SUSHMITA	15NM1A0256	CAPGEMINI	HR/CAMPUS/LO20194 1811
39	SINGIREDDI MANISHA	15NM1A0257	THINKSYNQ	VIEW/TP/20190249
40	SREE RAGA SWATHI PEKETI	15NM1A0258	THINKSYNQ	VIEW/TP/20190250
41	SUDAMALLA HARITHA	15NM1A0259	I PROCESS	VIEW/TP/20190088
42	THATTIKOTA DHANALAKSHMI	15NM1A0260	THINKSYNQ	VIEW/TP/20190251
43	VANTHRAM YAMINI	15NM1A0262	IBeON INFOTECH	VIEW/TP/20190143
44	VARSHA TEJASWI KILAPARTHI	15NM1A0263	PATHFRONT	PFSDS/B001/287/22122 018

45	BANGARU DILLESWARI	16NM5A0201	PATHFRONT	PFSDS/B001/288/22122 018
46	BARATAM SIREESHA	16NM5A0202	CAPGEMINI	HR/CAMPUS/LO20194 1813
47	BHALLAMUDI BHARATHI	16NM5A0203	THINKSYNQ	VIEW/TP/20190252
48	BHEEMARASETTI JHANSI LAKSHMI	16NM5A0204	I PROCESS	VIEW/TP/20190089
49	CHINTALAPUDI SAI SURYA ANUSHA	16NM5A0205	I PROCESS	VIEW/TP/20190090
50	DADI DIVYA NANDHINI	16NM5A0206	INFOSYS	VIEW/TP/20190357
51	DASARI SRAVANI	16NM5A0208	Steel Plant	VIEW/TP/20190331
52	GONTHINA MOUNIKA	16NM5A0210	PATHFRONT	PFSDS/B001/289/22122 018
53	INDALA VASANTHI	16NM5A0211	CAPGEMINI	HR/CAMPUS/LO20194 1826
54	KAROTHI ANUSHA	16NM5A0213	THINKSYNQ	VIEW/TP/20190253
55	KATTA DEEPIKA	16NM5A0214	THINKSYNQ	VIEW/TP/20190254
56	KOMMAJOSYULA LAKSHMI KEERTHI	16NM5A0215	I PROCESS	VIEW/TP/20190091
57	KORADA KAVYA	16NM5A0217	Pathro Pvt Ltd	VIEW/TP/20190422
58	MADETI LAVANYA	16NM5A0218	PATHFRONT	PFSDS/B001/290/22122 018
59	MADHA DIVYA	16NM5A0219	CAPGEMINI	HR/CAMPUS/LO20194 1827
60	PALLA INDUMATHI	16NM5A0220	Oromotors	VIEW/TP/20190291
61	PINAPAREDDI PAVANIKUMARI	16NM5A0221	THINKSYNQ	VIEW/TP/20190255
62	RAJANA DIVYA	16NM5A0224	I PROCESS	VIEW/TP/20190092
63	RAPETI JISHITHA	16NM5A0226	PATHFRONT	PFSDS/B001/291/22122 018
64	SANGANI HARIKA	16NM5A0227	CAPGEMINI	HR/CAMPUS/LO20194 1836
65	VAILANKANNI JASMIN COOPER	16NM5A0228	THINKSYNQ	VIEW/TP/20190256
66	VANAM PUSHPALATHA	16NM5A0229	THINKSYNQ	VIEW/TP/20190257
67	YARRAVARAPU LIKITHA RATNAM	16NM5A0230	THINKSYNQ	VIEW/TP/20190258

Table B.4.5.a: Placements Information of 2018-19

In 2017-18, MNC's like CTS, IBM, Capgemini, Infosys, Micromax and other top MNC's visited the campus and selected 60 students with highest package of **6.0 LPA** and an average of **2.44 LPA**.

Placement data of Electrical and Electronics Engineering, 2017-18				
S No	NAME OF THE STUDENT	REG. NO.	COMPANY	Reference ID
1	ADIREDDI SOWJANYA	14NM1A0201	FACE	VIEW/TP/20170300
2	BONDA MADHURI	14NM1A0202	IBM	VIEW/TP/20170327
3	BUDIREDDY JYOTHI	14NM1A0205	INFOSYS	VIEW/TP/20170283
4	CHINTALA VIMALA	14NM1A0207	SUTHERLAND	VIEW/TP/20170341
5	DADI CHANDI NAVYA	14NM1A0208	CAPGEMINI	HR/Campus/201842526
6	GANDI KUSUMA PRABHA	14NM1A0209	CAPGEMINI	HR/Campus/201842583
7	HECHERELLA TRIVENI PRIYANKA	14NM1A0210	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170311
8	K JOSHNA	14NM1A0211	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170316
9	KALAVALAPALLI SANTHOSHI	14NM1A0212	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170321
10	KALLA SWATHI	14NM1A0213	FACE	VIEW/TP/20170305
11	KATTAMANCHI YAMINI	14NM1A0214	WIPRO	VIEW/TP/20170004
12	KINTADA BHAVYA VINEETHA	14NM1A0215	IBM	VIEW/TP/20170332
13	KOMMAMURI SAI SRI DEVI	14NM1A0217	INFOSYS	VIEW/TP/20170293
14	KOTNANA HARIKA	14NM1A0218	COGNIZANT (CTS)	VIEW/TP/20170159
15	LEKKALA SWATHI	14NM1A0220	SUTHERLAND	VIEW/TP/20170343
16	MAJJI SWETHA	14NM1A0222	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170357
17	MALLA BHARGAVI	14NM1A0223	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170358

18	MALLA GNANESHWARI	14NM1A0224	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170359
19	MARADA DIVYA	14NM1A0225	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170360
20	MERUVA SHRUTHI	14NM1A0226	VDART SOFTWARE SERVICES	VIEW/TP/20170197
21	PEELA ASHWINI	14NM1A0230	ALEXA SOFTWARE	VIEW/TP/20170068
22	PELLURU LALITHA SAI SRI	14NM1A0231	VDART SOFTWARE SERVICES	VIEW/TP/20170206
23	PILLA YASASWINI PRIYANKA	14NM1A0233	CAPGEMINI	HR/Campus/201842469
24	RAGALA SRI VALYA	14NM1A0236	TCS	VIEW/TP/20170158
25	ROCHANA MADHULEKHA PEETHALA	14NM1A0237	INFOSYS	VIEW/TP/20170298
26	SAVITHRI MAHAPATRO	14NM1A0238	HYOSEONG ELECTRIC CO.,LTD	VIEW/TP/20170151
27	SHAIK MUNTAJ BEGAM	14NM1A0240	CHANDUSOFT TECHNOLOGIES PVT.LTD	VIEW/TP/20170092
28	TAMARAPALLI PARVATHI	14NM1A0241	Syenainfosoft private limited	VIEW/TP/20170080
29	UPPALAPU SIVARANJANI	14NM1A0242	Jobiak software Pvt Ltd	VIEW/TP/20170064
30	VANGAPANDU SUNEETA	14NM1A0243	HDFC BANK	VIEW/TP/20170103
31	VEESAM LIKHITHA LAHARI	14NM1A0244	Global Logic	VIEW/TP/20170070
32	VENNELA SWETHA	14NM1A0245	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170331
33	VIYYAPU SWATHI	14NM1A0246	FACE	VIEW/TP/20170315
34	MERUGU TRIVENI PADMA PRIYANKA	14NM1A0247	IBM	VIEW/TP/20170336
35	PALANATI USHA SAI LAKSHMI	14NM1A0248	INFOSYS	VIEW/TP/20170303
36	SIDDABATTULA HARITHA JYOTHI	14NM1A0249	SUTHERLAND	VIEW/TP/20170348

37	BORRA SAI SUDHA	15NM5A0201	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170335
38	KOPANATHI SUNDHU PRIYA	15NM5A0203	Concentrix	VIEW/TP/20170128
39	LAGUDU ARUNA	15NM5A0204	FACE	VIEW/TP/20170320
40	MARTIN THERESA BHAGYAM	15NM5A0205	L&T	VIEW/TP/20170104
41	NAGALA POORNIMA	15NM5A0206	VEE TECHNOLOGIES	VIEW/TP/20170041
42	PALIPINI ANURADHA	15NM5A0207	IBM	VIEW/TP/20170340
43	PATNALA ANUSHA	15NM5A0208	INFOSYS	VIEW/TP/20170308
44	ROUTHU SIREESHA	15NM5A0209	Tech mahindra	VIEW/TP/20170208
45	SAALAPU SAI LAKSHMI	15NM5A0210	SUTHERLAND	VIEW/TP/20170349
46	YEDURU LAVANYA	15NM5A0211	CAPGEMINI	HR/Campus/201842585
47	JAGAVARAPU REVATHI	15NM5A0212	THINKTEL SOLUTIONS INDIA PVT LTD	VIEW/TP/20170339

Table B.4.5.b: Placements Information of 2017-18

In 2016-17, MNCs like Tech Mahindra, CTS, Wipro, HCL, Capgemini and other top MNC's visited the campus and selected 121 students with highest package of **3.5 LPA** and average of **2.24 LPA**.

Placement data of Electrical and Electronics Engineering, 2016-17				
S.No	NAME OF THE STUDENT	REG. NO.	COMPANY	Ref No
1	A.NAGA SRI VALLI	13NM1A0201	CAPGEMINI	HR/Campus/2017101486
2	ARASADA SRAVYA	13NM1A0202	TECH MAHINDRA	1488876/ELTP/2017
3	B.SANTOSHI KUMARI	13NM1A0204	SUTHERLAND	VIEW/TP/20170168
4	B.PRAMILA	13NM1A0205	SUTHERLAND	VIEW/TP/20170169
5	BEVARA NAVEENA	13NM1A0206	TECH MAHINDRA	1488877/ELTP/2017
6	BHARTI KUMARI	13NM1A0207	GLEENWOOD	VIEW/TP/20170107
7	B.TEJA SIRISHA	13NM1A0209	HGS	VIEW/TP/20170246
8	BOTSA SWAPNA	13NM1A0210	TECH MAHINDRA	1488878/ELTP/2017
9	CHAPPA CHANDRA KALA	13NM1A0211	SUTHERLAND	VIEW/TP/20170171

10	CHINTHA PRASANNA	13NM1A0213	TECH MAHINDRA	1488879/ELTP/2017
11	CHOPPA RADHA RANI	13NM1A0214	WIPRO	VIEW/TP/20170048
12	DHANALAKSHMI DHANESH KUMAR	13NM1A0216	HCL	VIEW/TP/20170307
13	DUNGA MADHAVI	13NM1A0218	TECH MAHINDRA	1488890/ELTP/2017
14	DUVVARI HEMALATHA	13NM1A0219	WIPRO	VIEW/TP/20170085
15	EROTHI VENKATA LAHARI	13NM1A0220	SUTHERLAND	VIEW/TP/20170173
16	GANTHAKORU LAKSHMI PRASANNA	13NM1A0222	TECH MAHINDRA	1488891/ELTP/2017
17	GANTYADA NAGA LAKSHMI	13NM1A0223	TECH MAHINDRA	1488892/ELTP/2017
18	GEDELA DIVYA	13NM1A0224	HCL	VIEW/TP/20170308
19	GILAGAMSETTY NAVYA	13NM1A0225	SUTHERLAND	VIEW/TP/20170174
20	GONNABATTULA SHARMILA	13NM1A0226	HCL	VIEW/TP/20170309
21	GORLE VINEELA PRIYANKA	13NM1A0227	SUTHERLAND	VIEW/TP/20170175
22	GORREPOTU VANITHA LAKSHMI	13NM1A0228	HGS	VIEW/TP/20170252
23	HARI CHANDANA PASUPUREDDY	13NM1A0229	SUTHERLAND	VIEW/TP/20170176
24	KALLA ANJI MANSA ALEKYA	13NM1A0231	HCL	VIEW/TP/20170310
25	KALLA YAMINI	13NM1A0232	TECH MAHINDRA	1488894/ELTP/2017
26	KALLIMPUDI MOUNIKA	13NM1A0233	HCL	VIEW/TP/20170311
27	KANDREGULA AKHILA	13NM1A0234	HCL	VIEW/TP/20170312
28	GANGA BHAVANI KANNURU	13NM1A0235	CTS	VIEW/TP/20170006
29	KANTUBOTHU NANDHINI	13NM1A0236	TECH MAHINDRA	1488895/ELTP/2017
30	KAPISETTY NAVYA	13NM1A0237	HCL	VIEW/TP/20170313
31	KILLADA NEELIMA	13NM1A0239	SUTHERLAND	VIEW/TP/20170180
32	KONA BHANU	13NM1A0240	HCL	VIEW/TP/20170314
33	KOYLADA LAKSHMI SRAVYA	13NM1A0241	HGS	VIEW/TP/20170254
34	LAGUDU MEGHANA SRUTHI	13NM1A0242	HCL	VIEW/TP/20170315
35	MAJJI VINEETHA	13NM1A0244	TECH MAHINDRA	1488896/ELTP/2017

36	MARIDU SATYA SOWJANYA	13NM1A0246	GENPACT	VIEW/TP/20170097
37	MOLLI TULASI KRISHNA	13NM1A0248	SUTHERLAND	VIEW/TP/20170181
38	MUDADLA PRIYANKA	13NM1A0249	HCL	VIEW/TP/20170316
39	NULAKASAVALLA SARAH LYDIA	13NM1A0250	SUTHERLAND	VIEW/TP/20170182
40	PACHAMATLA DIVYA	13NM1A0251	COGNIGENT	VIEW/TP/20170004
41	PALLAPATI ANUSHA	13NM1A0252	JET AIRWAYS	VIEW/TP/20170019
42	PAPPALA KALYANI	13NM1A0253	TECH MAHINDRA	1488897/ELTP/2017
43	PATNALA LAKSHMI SRAVANI	13NM1A0254	SUTHERLAND	VIEW/TP/20170184
44	POTHU RAJU SWATHI	13NM1A0255	HGS	VIEW/TP/20170256
45	POTNURU KAVYA SAI ROSHINI	13NM1A0256	SUTHERLAND	VIEW/TP/20170185
46	RACHERLA GAYATRI	13NM1A0258	TECH MAHINDRA	1488898/ELTP/2017
47	RAVADA SUNITHA	13NM1A0259	HCL	VIEW/TP/20170317
48	RAVIPALLI MOUNICA	13NM1A0260	TECH MAHINDRA	1488899/ELTP/2017
49	RAYAVARAPU HARIKA RAMANI	13NM1A0261	TECH MAHINDRA	1488893/ELTP/2017
50	RUTTALA SYAMALA	13NM1A0262	SUTHERLAND	VIEW/TP/20170186
51	SANAPATHI MANIHARIKA	13NM1A0264	HCL	VIEW/TP/20170318
52	SASUMANTU SUPRIYA	13NM1A0265	TECH MAHINDRA	1488849/ELTP/2017
53	SEERAPU DEEPIKA	13NM1A0267	TECH MAHINDRA	1488828/ELTP/2017
54	SINGAMPALLI PUSHPA RANI	13NM1A0268	HCL	VIEW/TP/20170327
55	SURADA VIHAYASI	13NM1A0271	SUTHERLAND	VIEW/TP/20170187
56	SURISSETTY PADMAJA	13NM1A0272	HCL	VIEW/TP/20170319
57	TARINI RENUKA PRIYA	13NM1A0273	HGS	VIEW/TP/20170264
58	UMMADISSETTI BHARATHI DEVI	13NM1A0274	TECH MAHINDRA	1488851/ELTP/2017
59	VUDI ANUSHA	13NM1A0277	HCL	VIEW/TP/20170326
60	Y V S SRI LEKHA	13NM1A0278	SUTHERLAND	VIEW/TP/20170188
61	MALLA PAVANI NAGA MRUDULA	14NM5A0202	SUTHERLAND	VIEW/TP/20170189

62	PONNADA VANI	14NM5A0203	TECH MAHINDRA	1488834/ELTP/2017
63	POOLLA DEVI SRI DEVI	14NM5A0204	HCL	VIEW/TP/20170328
64	SINGIDI PRASANNA	14NM5A0205	HCL	VIEW/TP/20170320
65	YANDRAPU SUSEELA	14NM5A0207	HCL	VIEW/TP/20170321

Table B.4.5.c: Placements Information of 2016-17

4.6 Professional Activities (20)

4.6.1. Professional Societies / Chapters and Organizing Engineering Events

The EEE department had initiated two student chapters, IE(I) and ISTE, in order to have a mutual exchange of information for technical up-gradation with technical experts to enhance the knowledge of students and staff.

1. Institution of Engineers (India) [IE(I)]

IEI student chapter was inaugurated in VIEW in the year 2015. Electrical and Electronics Engineering department runs a Student Chapter of Institution of Engineers (India). All students admitted in the EEE department are enrolled to IEI student chapter. The student chapter of IEI conducts various activities every year to bring out the innovative skills of the students and enhance them with the latest updates and technologies in the respective field. Activities like guest lectures, workshops, competitions viz. quiz, essay writing, poster presentation and live model making are held from time to time.

2. Indian Society for Technical Education [ISTE]

ISTE provides quality training programs to students of technical institutions to update their knowledge and skills in their fields of activity. It is to assist and contribute in the production and development of top quality professional engineers and technicians needed by the industry and other organizations. It also provides guidance and training to students to develop better learning skills and personality. ISTE student chapter was inaugurated in VIEW in the year 2019.




Sl. No	Professional Society	Logo
1.	Institution of Engineers (India) [IEI]	
2.	Indian Society for Technical Education [ISTE]	
3	APSSDC- Skill Development Centre	
4	Internshala Student partner	
5	Department Association of Electrical and Electronics Engineering (DAEEE)	

Table B. 4.6.1: Professional Societies Details

Students Enrolled in Professional Societies / Chapters:

Sl. No	Name of the Professional Societies / Chapters	Student Memberships		
		2019-20	2018-19	2017-2018
1.	Institution of Engineers (India) [IEI]	246	340	279
2.	Indian Society for Technical Education [ISTE]	146	-	-
3.	APSSDC- Skill Development Centre	240	325	272
4.	Internshala Student partner	70	53	52
5.	Department Association of Electrical and Electronics Engineering (DAEEE)	247	342	279

Table B.4.6.1.b: Student Memberships in Professional society / Student chapters

Activities conducted under professional bodies:

Academic year: 2019-20

Sl. No	Type of Activity	Topic	Date of Activity	No of Students Participated	Outcome	Relevance to POs/PSOs
1	STTP	A short-term course on advanced simulation tool for Power Electronics, Electromagnetic, and Power Systems	01-06-20 to 05-06-20	90	To Understand the tool usage in multidisciplinary with lifelong learning skills	PO5, PO9, PO12 and PSO1 & PSO2
2	Workshop	Biped Robot (Mini Humanoid Robot)	06-03-20 to 07-03-20	127	To understand the design, development of Biped Robot	PO6, PO7, PO9, PO11 and PSO2
3	Guest Lecture	High Voltage DC and AC transmission	14-12-19	114	To understand the Control techniques in HVDC and AC Substation in real-time world	PO6, PO11 and PSO1
4	Guest Lecture	Soft computing techniques	17-12-19.	80	Explains day to day advancements and technologies in Soft Computing Techniques for power system.	PO5, PO8, & PSO1, PSO2
5	Workshop	Smart grid automation	04-12-19 to	85	To understand the design	PO11, PO12 and PSO1

			05-12-19		and use of the grid connected power system in practical applications.	
6	Workshop	IOT with cloud robotics	6-12-19 to 7-12-19	80	To Improve their knowledge the importance of robotics with cloud computing for industrial education and explained their importance for designing automated systems.	PO6, PO9, PO11 and PSO2
7	Seminar	Renewable energy sources	28-08-19.	100	To understand the necessity of grid integrated system and its benefits in today's scenario	PO6, PO7, and PO11

Table B.4.6.1.c: Events organized in 2019-20

Academic year: 2018-19

Sl.No	Type of Activity	Topic	Date of Activity	No of Students Participated	OUTCOME	Relevance to POs/PSOs
1	Workshop	Stem robots for Industrial education and Industrial robots for manufacturing automation	22-02-19	100	Exposure on the latest trends in the technologies which will help the students to acquire skills required for the industry.	PO11, PO12 & PSO2 PO6, PO7 & PSO1
2	Guest Lecture	Introduction to MATLAB and	28-12-18.	80	Using MATLAB, a	PO6, PO7 & PSO1

		Applications			student can analyze modeling of the system, develop algorithms, and applications	PO5,PO6, PO7 & PSO1
3	Guest Lecture	Introduction to Smart Grid and sustainable Applications	27-12-18	90	Create awareness and importance of a Smart grid and research opportunities and its advantages.	PO6, PO7 & PSO1 PO11, PO12 & PSO2
4	Seminar	Electrical Industry safety culture and safety measures	29-11-18	80	Create the awareness of safety measurements of electrical equipment in industry.	PO6, PO7 & PSO1 PO5,PO6, PO7 & PSO1
5	Guest Lecture	Artificial Intelligence techniques for future trends	24-8-18	85	Analyse the the role of Artificial Intelligence techniques for future trends and Importance of future trends resources is growing day by day..	PO6, PO7 & PSO1 PO11, PO12 & PSO2
6	Guest Lecture	Renewable and Non-renewable resources and types of energy storage system	23-08-18	90	Understand the importance of Power Electronics. He explained the about latest batteries and their Storage processes.	PO11, PO12 & PSO 2

Table B.4.6.1.d: Events organized in 2018-19

Academic year: 2017-18

Sl.No	Type of Activity	Topic	Date of Activity	No of Students Participated	OUTCOME	Relevance to POs/PSOs
1	Workshop	Embedded Systems (IoT)	09-03-2018	90	Understand the Microcontroller architectures and concepts of Embedded C language from an industry perspective.	PO11, PO12 & PSO2 PO6, PO7 & PSO1
2	Workshop	Speech control Robot	22-02-18	100	Enhance the knowledge of the speech recognition is to analyse a word or phrase picked up by a microphone and transcribe it in text form onto a computer so that it can be used.	PO6, PO11 & PSO2
3	Seminar	Unified power quality conditioners	20-12-17	80	Students learn basic concepts of mitigation of voltage and current disturbances that could affect sensitive electrical loads while compensating the load reactive power.	PO5, PO6, PO12 & PSO1
4	Guest Lecture	Recent trends on Non-conventional energy	12-12-17	90	Understand the need of energy conversion and concepts of direct energy conversion systems & their applications.	PO6, PO11 & PSO1
5	Guest Lecture	High voltage power	29-08-17	90	It gives an insight on the latest trends of high voltage	PO6, PO11 & PSO1

		system operation and instrument Calibration and safety measures			power system operation and instrument calibration that are the challenges in a real-time world in functioning the various industrial needs.	
6	Workshop	MATLAB, SIMULINK for Electrical Engineering Applications	22-02-17	85	Using MATLAB, a student can analyze data, develop algorithms, and create models and applications.	PO6, PO7 & PSO1 PO5,PO6, PO7 & PSO1

Table B.4.6.1.d: Events organized in 2017-18

Seminar/Workshop organized**Academic Year: 2019-20****Workshop on “Biped Robot (Mini Humanoid Robot)****Date: 06-03-2020 to 07-03-2020**

Presentation was given by **Mr. M.Suyog, Aakaar IIT Bombay** . He delivered various ideas on the importance of robots for industrial education and explained their importance for designing automated systems.

**Guest Lecture “ High Voltage DC and AC Transmission”****Date:14-12-2019**

Presentation was given by **Prof. Sastry V. Vedula garu, GVP College of Engineering (Autonomous)**, and **Shri Venkata Ratnam M, SO/H, BARC Facilities, Visakhapatnam** about the present ‘control techniques in HVDC and AC Substation in real-time world’. They encouraged the participants to develop interest on research by providing awareness of day to

day advancements in technologies.



Guest lecture on “Soft Computing Techniques”

Date: 17-12-2019.

A National Level Workshop with **Dr. Salma U** from GITAM University, Visakhapatnam on Soft Computing Techniques was organized. Explains day to day advancements and technologies Soft Computing Techniques on power system.



Workshop on "Smart Grid Automation"

Date: 04-12-2019 to 05-12-2019

Workshop was organized with **Mr. R. Sandeep** as resource person from **IIT, Bombay** and **Dr Visakha, Professor, Andhra university** who enlightened the participants on the use of the grid connected power system in practical applications. He highlighted the opportunities of

self-employment in different sectors for women



Workshop on "IOT with Cloud Robotics"

Date: 6-12-2019 to 7-12-2019

Presentation was given by **Mr. M.Suyog, Aakaar IIT Bombay** . He delivered various ideas on the importance of robotics with cloud computing for industrial education and explained their importance for designing automated systems.



Seminar on “Grid Connected Power system and its Applications”

Date: 28-08-2019.

Workshop organized in association with Sri B. Hume Sastry, Chief Engineer (Rtd.), APEPDCL, Visakhapatnam provided information of the necessity of grid integrated system and its benefits in today’s scenario.

Academic year: 2018-19



Workshop on “Stem robots for Industrial education and Industrial robots for manufacturing automation”.

Date: 22-02-2019

Presentation was given by **Mr.Sudhir Reddy, Director, Jay Robotix Hyderabad, Sudhir Sanna, Professor and CEO Robotics and Automation, Visakhapatnam** delivered the importance of robots for industrial education. He explained the importance of Industrial robots for manufacturing automation



Guest Lecture on “Guest Lecture on "Introduction to MATLAB and Applications”

Date: 28-12-2018.

Guest Lecture by **Mr. C. Rama krishna, Sri.S.Sanjay, Deputy Executive Engineer, AP TRANSCO** was organized. They explained how MATLAB can be used for math computations, modelling and simulations, and algorithm development in transmission systems.



Guest Lecture on " Introduction to Smart Grid and sustainable Applications "

Date: 27-12-2018

The presentation was given by **Dr. B. Durga Prasaad, GITAM University, Visakhapatnam** delivered the Introduction to Smart Grid. He explained the importance of a Smart grid and shared his research experience on its advantages.



Seminar On "Electrical Industry safety culture and safety measures"

Date: 29-11-2018.

Seminar by **Dr. G. Saraswathi, Professor, JNTUV, Vizianagaram** was organized. She gives Awareness of electrical hazards and self-discipline of employee and explains Identification of electrically safe work procedures, tools, and personal protective equipment



Guest Lecture “Artificial Intelligence techniques for future trends”

Date: 24-8-2018

Presentation given by Mrs.Niharika, Additional General Manager, Hinduja Corporation Pvt Ltd, and given inputs about Power generation systems. She Explains how AI And Machine Learning Trends used in Power Sector.

Guest Lecture “Renewable and Nonrenewable resources and types of energy storage system”.

Date: 23-08-2018

presentation was given by **Dr. Sura Srinivasa Rao**, Gitam University .He delivered the importance of Renewable Energy Sources. He explained the about latest batteries and their Storage processes.

Academic year: 2017-18



Workshop on Embedded Systems (IoT)

Date: 09-03-2018.

Workshop on Embedded Systems (IoT) by S. Murali Krushna, K.Madhavi and U.Sumanth from APSSDC. This Workshop aims at imparting job-oriented training on Microcontroller architectures and concepts of Embedded C language from an industry perspective. By providing Hands-on workshop to students, they will get idea on hardware

components.



Workshop on “Speech control and IOT Robot”

Date: 22-02-2018.

Presentation was given by **Mr.M. Ajay Kumar**, Robosol, IIT Bobay. He delivered speech recognition is to analyse a word or phrase picked up by a microphone and transcribe it in text form onto a computer so that it can be used. The main uses of speech recognition are automatic dictation or vocal applications over the telephone.



Seminar on “Unified power quality conditioners”

Date: 20-12-2017.

Seminar by **Dr. K Ramasudha**, Professor, **Andhra University** was organized. She explained the mitigation of voltage and current disturbances that could affect sensitive electrical loads while compensating the load reactive power. It aims at the integration of series-active and shunt-active power filters. The main purpose of a UPQC is to compensate for voltage imbalance, reactive power, negative sequence current and harmonics.



Guest Lecture on “Recent trends on Non-conventional energy”.

Date: 12-12-2017

Presentation was given by **Sri.B.Durga Prasad**, Associate Professor explained Modern Trends Renewable Energy Sources and Impact of Renewable Energy Sources in India.



Guest Lecture “High voltage power system operation and instrument Calibration and safety measures” Date: 29-08-2017

Presentation given by **Sri.Manoj Kumar**, Dy.General Manager, RINL-Visakhapatnam Steel Plant and given inputs about High voltage power system operation and instrument calibration that are the challenges in a real-time world in functioning the various industrial needs.



Workshop on “MATLAB, SIMULINK for Electrical Engineering Applications”

Date: 22-07-2017.

Workshop by Dr. R. Ram Prasad had focussed on softwares used in electrical engineering which are used for research and advanced studies. The workshop mainly focuses on the basics of MATLAB and its applications in engineering fields. Using MATLAB, a student can analyze data, develop algorithms, and create models and applications.

4.6.2. Publication of Technical Magazines, Newsletters, etc. (5)

The department is publishing a quarterly newsletter containing intramural events, technical innovations and activities conducted / participated. The below table indicates the members of editorial board of 2019-20 academic year.

1	Chief Editor	Dr. J. Sudhakar, Principal
2	Editor	Dr. K. Durga Syam Prasad, HOD,EEE
3	Members	Dr. Akanksha Mishra, Associate Professor, EEE Dr. K Kusal Kumar, Associate Professor, EEE Ms. V.V. Sai Santoshi Assistant Professor, EEE Nakkela Sharmini, IV EEE K. Lakshmi Keerthi, IV EEE Palisetti Sravani, III EEE R. Padmavathi, III EEE

Table B.4.6.2a: Newsletter Editorial Board for the Calendar year 2020

The newsletter's first page consists of department vision and mission with Principal and HOD message. The page consists of different technical event photographs under the department DAEED Association. The second page is concerned about faculty awards and achievements in the fields of research and technical courses. The third page pertains to the student's awards

and achievements in curricular and co-curricular activities. The fourth page interrelates about department student campus placements of an academic year in various multinational companies (MNCs).

Academic Year 2019-20			
Sl. No	Dept. News Letter	Period	Volume & Issue No
1	VIEWVOICEEE	Jun-Aug	Volume-5 Issue-1
2	VIEWVOICEEE	Sep-Nov	Volume-5 Issue-2
3	VIEWVOICEEE	Dec-Feb	Volume-5 Issue-3
4	VIEWVOICEEE	Mar-May	Volume-5 Issue-4

Academic Year 2018-19			
Sl. No	Dept. News Letter	Period	Volume & Issue No
1	VIEWVOICEEE	Jun-Aug	Volume-4 Issue-1
2	VIEWVOICEEE	Sep-Nov	Volume-4 Issue-2
3	VIEWVOICEEE	Dec-Feb	Volume-4 Issue-3
4	VIEWVOICEEE	Mar-May	Volume-4 Issue-4

Academic Year 2017-18			
Sl. No	Dept. News Letter	Period	Volume & Issue No
1	VIEWVOICEEE	June-Nov	Volume-3 Issue-1
2	VIEWVOICEEE	Dec-May	Volume-3 Issue-2

Table B.4.6.2.b: List of Publications of Newsletters

4.6.3. Participation in Inter-institution Events by Students of the Program of Study (10)

Co curricular Activities:

The Department encourages the students to actively participate in various Extra & Co-curricular activities like Publications, Paper presentations, Technical quiz, Poster presentations, Live model exhibitions, Sports, etc. These are promoted in view of developing leadership, communication & presentation skills, etc. As a result, many of the students won prizes and rewards in various competitions. Live model exhibitions are a very effective tool for the learning process. It helps the students to showcase their talent and present in public

Academic Year	No of Awards	No of Participants	No of Awards	No of Participants
	Within the State		Outside of The State	
CAY (2019-20)	6	37	3	23
CAYm1 (2018-19)	5	15	2	10
CAYm2 (2017-18)	3	11	1	6

.Co-Curricular Activities in State Level During CAY: 2019-20					
Technical Events					
Sl.No	Date	Event	Venue	Name of the Student	Awards
1	22-09-19	Spectra-2019	Andhra University Visakhapatnam	B. Vardhini	First Prize
2	22-12-19	PPT	DIET, Anakapalli	K. Ankita Sikha	First Prize
3	27-12-19	EIPOTA-19	GVPCOE	V. Usha Sri	Second Prize
4	03-01-20	Paper Presentation	Ramachandra Engineering College	Sai Chinni	Second Prize
5	18-12-20	Live Model	GIET, Rajahmundry	A. Madhavi	Second Prize
6				G.Ankitha	
7				L. Aswini	
8	04-02-20	Technical Quiz	AITAM, Tekkali	A. Anjali Devi	First Prize
9				G. Yamuna	
10				L. Nagaswetha	
11				S. Sharmila	
12	19-02-20	Poster Presentation	GMRIT, Rajam	S. Monika	Second Prize

Co-Curricular Activities in National Level During CAY: 2019-20					
Technical Events					
Sl.No	Date	Event	Venue	Name of the Student	Awards
1	13-08-19	Paper Presentation	Arora Engineering College, Hyderabad	D. Amrutha	Second Prize
2	24-08-19	Paper Presentation	Methodist College of Engineering and Technology, Hyderabad	G. Lohitha	First Prize

Co-Curricular Activities in State Level During CAYm1: 2018-19					
Technical Events					
Sl.No	Date	Event	Venue	Name of the Student	Awards
1	16-09-18	Paper Presentation	MLEC, Singarayakonda	C. Pooja	Second Prize
2	16-12-18	Live Model	ANITS, Viskhapatnam	K. Yamini	Second Prize
3	19-12-18	Technical Quiz	NEC, Narasarao pet	D.Chandi Navya	First Prize
4	13-01-19	Poster Presentation	VITAM, Visakhapatnam	K. Bhavya Vineetha	First Prize
5	13-01-19	PPT	RVR & JC , Guntur	K. Harika	Second Prize

Co-Curricular Activities In National Level During CAYm1: 2018-19					
Technical Events					
Sl.No	Date	Event	Venue	Name of the Student	Awards
1	20-11-18	Paper Presentation	Nawab shah alam khan college of engineering and Technology, Hyderabad	G. Swathi	Second Prize
2	20-11-18	Poster Presentation	Nawab shah alam khan college of engineering and Technology, Hyderabad	K. Ramya	Second Prize

Co-Curricular Activities In State Level During CAYm2: 2017-18					
Technical Events					
Sl.No	Date	Event	Venue	Name of the student	Awards
1	23-01-18	Live Model	Raghu Engineering College, Visakhapatnam	B. Vikeerna	Second Prize
2	25-01-18	Technical Quiz	AITAM, Tekkali	S. Manisha	Second Prize
3				T. Dhanalakshmi	
4				B. Dilleswari	
5	12-02-18	Poster Presentation	GMRIT, Rajam	T. Vani	Second Prize

Co-Curricular Activities In National Level During CAYm2: 2017-18					
Technical Events					
Sl.No	Date	Event	Venue	Name of the student	Awards
1	12-12-17	Paper Presentation	Sridevi Women's Engineering College	T. Dhanalakshmi	Second Prize

Extra-Curricular Activities:

Physical Fitness is not only one of the most important keys to a healthy body; it is the basis of dynamic and creative intellectual activity. Playing sports helps in stimulating the brain of the students, develops problem-solving skills, promotes teamwork and improves mental health

Academic Year	No of Prizes in Inter-Institutional Games	No of Participants in Inter-Institutional Games
CAY (2019-20)	2	52
CAYm1 (2018-19)	5	47
CAYm2 (2017-18)	6	32

Academic year: 2019-20					
Sports					
Sl.No	Date	Events	Venue	Name of the Student	Awards/ Prizes
1	11-01-20	Throw Ball	VIIT, Visakhapatnam	G.Bhashitha & Team	Winners
2		Kho-Kho	VIIT, Visakhapatnam	K.Revathi Kumari & Team	Winners

Academic year : 2018-19					
Sports					
Sl.No	Date	Events	Venue	Name of the student	Awards/Prizes
1.	06-01-18	Throw Ball	VIIT, Visakhapatnam	K.Varsha Tejaswi & Team	Winners
2.		Kho-Kho	VIIT, Visakhapatnam	P.Prasanna	Winner
3.		TenniKoit	VIIT, Visakhapatnam	K. Lashami Keerthi	Winner
4.		Chess	VIIT, Visakhapatnam	V.H.Sri Harshini	Winner
5.		Kho-Kho	VIIT, Visakhapatnam	G.Madhavi & Team	Runners

Academic year : 2017-18					
Sports					
Sl.No	Date	Events	Venue	Name of The Student	Awards/Prized
1.	17-02-18	Kho-Kho	JNTUK	P. Prasanna	1 st Position
2.		Throw Ball	JNTUK	G. Bhashitha	3 rd Position
3.		Throw Ball	JNTUK	K. Varsha	3 rd Position
4.		Throw Ball	JNTUK	Ch. Saritha	3 rd Position
5.		Kho-Kho	JNTUK	G. Swathi	1 st Position
6.		Throw Ball	JNTUK	G.Ramya	3 rd Position

Inter-institution events information Electrical and Electronics Engineering					
Workshops					
Sl. No	Date	Event	Venue	Name of the student	No of participants
1	15-02-20	Six Sense Robot	JNTUK, Vijianagaram	B Sandhya Rani	15
2				B Usha Sri	
3				C Bhagya	
4				G Akhila	
5				G Douluri	
6				J Krishna	
7				J Navya Swathi	
8				K Priyanka	
9				K Yamini Mani	
10				M Poojitha	
11				M Deepthisree	
12				N Divya	
13				Sravani	
14				N Navya	
15				N Subha Sri	
16	07-02-19	Ethical Hacking and Cyber Security	ANITS, Visakhapatnam	P. Laksmi	1
17	07-01-17	NEETHI 2K17	GIITS	A Pushpa	1

Criterion 5	Faculty Information and Contributions	200 M
5.1	Student Faculty Ratio	20M
5.2	Faculty Cadre Proportion	25M
5.3	Faculty Qualification	25M
5.4	Faculty Retention	25M
5.5	Innovations by the faculty in Teaching and Learning	20M
5.6	Faculty as Participants in Faculty development/Training activities/STTPs	15M
5.7	Research and development	30M
5.8	Faculty Performance Appraisal and Development System (FPADS)	30M
5.9	Visiting/Adjunct/Emeritus Faculty etc.	10M

5. Faculty Information and Contributions (200)

Name of Faculty Member	Qualification			Association with the Institution	Designation	Date on which designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated(Y/N) Date of Leaving (In case Currently Associated is ("No"))	Nature of Association (Regular/Contract)
	Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	PhD Guidance	Faculty Receiving Ph.D. degree during the Assessment Years		
Dr. P. Kishore Kumar	Ph.D.	IIT Roorkee	2016	4	Prof	05.08.2019	09.08.2016	EEE	PED	0	Nil	No	Y	Reg
Dr. Akanksha Mishra	Ph.D.	GITAM	2017	10	Prof	05.08.2019	15.06.2010	EEE	PE&D	4	Nil	No	Y	Reg
Dr. K. Kusal Kumar	Ph.D.	JJTU	2019	9	Assoc	20.04.2019	02.07.2011	EEE	PSCA	0	Nil	No	Y	Reg
Dr. K. Durga Syam Prasad	Ph.D.	JNTUK	2019	7	Assoc	20.08.2019	04.07.2013	EEE	EPS	0	Nil	Yes	Y	Reg
Dr. R.S. Ravi Shankar	Ph.D.	JNTUA	2020	9	Asst	13.01.2020	05.07.2011	EEE	PED	0	Nil	Yes	Y	Reg
Dr. S. Ramu	Ph.D.	NITK Suratkal	2020	1	Asst	05.02.2020	29.07.2019	EEE	PS	0	Nil	Yes	Y	Reg
Ms. B. M. Pushpa Latha	M.Tech	JNTUK	2011	9	Asst	NA	02.06.2011	EEE	P&ID	0	Nil	No	Y	Reg
Ms. K. Therissa	M.Tech	JNTUK	2011	9	Asst	NA	11.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. Chiranjeevi	M.Tech	JNTUK	2013	7	Asst	NA	12.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. A. Chandraiah	M.Tech (Ph.D.)	JNTUK	2012	8	Asst	NA	12.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. Vamsi	M.Tech (Ph.D.)	GITAM	2012	8	Asst	NA	12.07.2012	EEE	PS&A	0	Nil	No	Y	Reg
Mr. P.V. Sarath	M.Tech	GITAM	2012	8	Asst	NA	08.08.2012	EEE	PS&A	0	Nil	No	Y	Reg
Ms. V. V. Sai Santoshi	M.Tech	GITAM	2013	7	Asst	NA	29.07.2013	EEE	PS&A	1	Nil	No	Y	Reg
Mr. G. Ravi Kumar	M.Tech	NITK Suratkal	2013	6	Asst	NA	20.03.2014	EEE	PES	0	Nil	No	Y	Reg
Mr. M. Suresh	M.Tech	IIT –KGP	2014	6	Asst	NA	14.08.2014	EEE	PES	0	Nil	No	Y	Reg
Mr. V. Avinash	M.Tech (Ph.D.)	JNTUK	2013	7	Asst	NA	08.04.2015	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. V. Sri Ram Prasad	M.Tech (Ph.D.)	JNTUK	2013	7	Asst	NA	10.07.2015	EEE	P&ID	0	Nil	No	Y	Reg

Ms. K. Kalyani	M.Tech	JNTUK	2013	5	Asst	NA	06.11.2015	EEE	P&ID	0	Nil	No	No 22.06.2020	Reg
Mr. A. Venkatesh	M.Tech	JNTUK	2014	3	Asst	NA	01.06.2016	EEE	PE&ED	0	Nil	No	Y	Reg
Ms. Pratyusha Bangale	M.Tech	JNTUK	2013	3	Asst	NA	03.06.2016	EEE	HVE	0	Nil	No	No 20.06.2020	Reg
Ms. V. Kalyani	M.Tech	JNTUK	2016	4	Asst	NA	05.12.2016	EEE	P&ID	0	Nil	No	Y	Reg
Ms. P. Tabita	M.Tech	JNTUK	2016	3	Asst	NA	29.05.2017	EEE	P&ID	0	Nil	No	Y	Reg
Ms. S. Vani	M.Tech	JNTUK	2015	3	Asst	NA	08.06.2017	EEE	PE&ED	0	Nil	No	Y	Reg
Ms. T. Sushma	M.Tech	JNTUK	2017	3	Asst	NA	12.06.2017	EEE	PE&ED	1	Nil	No	Y	Reg
Mr. K. Avinash	M.Tech	A.U.	2016	3	Asst	NA	12.06.2017	EEE	PSA	0	0	No	Y	Reg
Mr. B. Naidu	ME	A.U.	2017	2	Asst	NA	19.12.2018	EEE	CS	0	Nil	No	Y	Reg
Ms. Payal Pramanik	M.Tech	JNTUK	2018	1	Asst	NA	06.06.2019	EEE	HVE	0	Nil	No	Y	Reg

Table B.5.a: Faculty Information CAY (2019-20)

Name of Faculty Member	Qualification			Association with the Institution	Designation	Date on which designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated(Y/N) Date of Leaving (In case Currently Associated is ("No"))	Nature of Association (Regular/Contract)
	Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	PhD Guidance	Faculty Receiving Ph.D. degree during the Assessment Years		
Prof. Ch. Ananda Babu	Ph.D.	IIT Bombay	2016	4	Prof	10.08.2018	16.11.2016	EEE	PE	0	Nil	No	No 15.05.2019	Reg
Dr. P. Kishore Kumar	Ph.D.	IIT Roorkee	2016	4	Assoc	30.09.2016	09.08.2016	EEE	PED	0	Nil	No	Y	Reg
Dr. Akanksha Mishra	Ph.D.	GITAM	2017	10	Assoc	01.12.2017	15.06.2010	EEE	PED	0	Nil	No	Y	Reg
Dr. K. Kusal Kumar	Ph.D.	JNTUK	2019	9	Asst	20.04.2019	02.07.2011	EEE	PSCA	2	Nil	Yes	Y	Reg
Mr. K. Durga Syam Prasad	M.Tech (Ph.D.)	JNTUA	2008	7	Asst	NA	04.07.2013	EEE	EPS	1	Nil	No	Y	Reg
Mr. R. S. Ravi Shankar	M.Tech (Ph.D.)	JNTUH	2004	9	Asst	NA	05.07.2011	EEE	EPE	0	Nil	No	Y	Reg
Ms. B. M. Pushpa Latha	M.Tech	JNTUK	2011	9	Asst	NA	02.06.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mrs. K. Therissa	M.Tech	JNTUK	2011	9	Asst	NA	11.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. Chiranjeevi	M.Tech	JNTUK	2013	7	Asst	NA	12.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. A. Chandraiah	M.Tech (Ph.D.)	JNTUK	2012	8	Asst	NA	12.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. Vamsi	M.Tech	GITAM	2012	8	Asst	NA	12.07.2012	EEE	PS&A	0	Nil	No	Y	Reg
Mr. P. V. Sarath	M.Tech	GITAM	2012	8	Asst	NA	08.08.2012	EEE	PS&A	0	Nil	No	Y	Reg
Ms. V. V. Sai Santoshi	M.Tech	GITAM	2013	7	Asst	NA	29.07.2013	EEE	PS&A	0	Nil	No	Y	Reg
Mr. G. Ravi Kumar	M.Tech	NITK Suratkal	2013	6	Asst	NA	20.03.2014	EEE	PES	0	Nil	No	Y	Reg
Mr. M. Suresh	M.Tech	IIT-KGP	2014	6	Asst	NA	14.08.2014	EEE	PES	0	Nil	No	Y	Reg
Mr. B. Rajesh	M.Tech	GITAM	2012	5	Asst	NA	30.03.2015	EEE	PS&A	0	Nil	No	No 26.08.2019	Reg
Mr. V. Avinash	M.Tech (Ph.D.)	JNTUK	2013	5	Asst	NA	08.04.2015	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. V. Sri Ram Prasad	M.Tech (Ph.D.)	JNTUK	2013	5	Asst	NA	10.07.2015	EEE	P&ID	0	Nil	No	Y	Reg

Ms. K. Kalyani	M.Tech	JNTUK	2013	5	Asst	NA	06.11.2015	EEE	P&ID	0	Nil	No	No 22.06.2020	Reg
Mr. A. Venkatesh	M.Tech	JNTUK	2014	3	Asst	NA	01.06.2016	EEE	PE&ED	0	Nil	No	Y	Reg
Ms. Pratyusha Bangale	M.Tech	JNTUK	2013	3	Asst	NA	03.06.2016	EEE	HVE	0	Nil	No	No 20.06.2020	Reg
Ms. V. Kalyani	M.Tech	JNTUK	2016	4	Asst	NA	05.12.2016	EEE	P&ID	0	Nil	No	Y	Reg
Ms. P. Tabita	M.Tech	JNTUK	2016	3	Asst	NA	29.05.2017	EEE	P&ID	0	Nil	No	Y	Reg
Ms. S. Vani	M.Tech	JNTUK	2015	3	Asst	NA	08.06.2017	EEE	PE&ED	0	Nil	No	Y	Reg
Ms. T. Sushma	M.Tech	JNTUK	2017	3	Asst	NA	12.06.2017	EEE	PE&ED	0	Nil	No	Y	Reg
Mr. K. Avinash	M.Tech	A.U.	2016	3	Asst	NA	12.06.2017	EEE	PSA	0	0	No	Y	Reg

Table B.5.b: Faculty Information CAY (2018-19)

Name of Faculty Member	Qualification			Association with the Institution	Designation	Date on which designated as Professor/Associate Professor	Date of Joining the Institution	Department	Specialization	Academic Research			Currently Associated(Y/N) Date of Leaving (In case Currently Associated is ("No"))	Nature of Association (Regular/Contract)
	Degree (highest degree)	University	Year of attaining higher qualification							Research Paper Publications	PhD Guidance	Faculty Receiving Ph.D. degree during the Assessment Years		
Dr. G. V. Nagesh Kumar	Ph.D.	JNTUH	2008	7	Prof	04.12.2015	04.12.2015	EEE	HVE	0	Nil	No	No 14.12.2018	Reg
Dr. P. Kishore Kumar	Ph.D.	IIT Roorkee	2016	3	Assoc	30.09.2016	09.08.2016	EEE	PED	0	Nil	No	Y	Reg
Dr. Ch. Ananda Babu	Ph.D.	IIT Bombay	2016	2	Assoc	16.11.2016	16.11.2016	EEE	PE	0	Nil	Yes	No 15.05.2019	Reg
Dr. Akanksha Mishra	Ph.D.	GITAM	2017	10	Asst	01.12.2017	15.06.2010	EEE	PE&D	3	Nil	Yes	Y	Reg
Mr. K. Durga Syam Prasad	M.Tech (Ph.D.)	JNTUA	2008	7	Asst	NA	04.07.2013	EEE	EPS	1	Nil	No	Y	Reg
Mr. R. S.Ravi Shankar	M.Tech (Ph.D.)	JNTUH	2004	9	Asst	NA	05.07.2011	EEE	EPE	0	Nil	No	Y	Reg
Mr. K. Kusal Kumar	M.Tech (Ph.D.)	JNTUK	2011	9	Asst	NA	02.07.2011	EEE	PSCA	0	Nil	No	Y	Reg
Ms. B. M. Pushpa Latha	M.Tech	JNTUK	2011	9	Asst	NA	02.06.2011	EEE	P&ID	1	Nil	No	Y	Reg
Ms. K. Therissa	M.Tech	JNTUK	2011	9	Asst	NA	11.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. Chiranjeevi	M.Tech	JNTUK	2013	7	Asst	NA	12.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. A. Chandraiah	M.Tech (Ph.D.)	JNTUK	2012	8	Asst	NA	12.07.2011	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. Vamsi	M.Tech	GITAM	2012	8	Asst	NA	12.07.2012	EEE	PS&A	0	Nil	No	Y	Reg
Mr. P. V. Sarath	M.Tech	GITAM	2012	8	Asst	NA	08.08.2012	EEE	PS&A	0	Nil	No	Y	Reg
Ms. V. V. Sai Santoshi	M.Tech	GITAM	2013	7	Asst	NA	29.07.2013	EEE	PS&A	0	Nil	No	Y	Reg
Ms. G. Spandana	M.Tech	JNTUA	2012	5	Asst	NA	07.10.2013	EEE	ES	0	Nil	No	No 05.05.2018	Reg
Mr. G. Ravi Kumar	M.Tech	NITK Suratkal	2013	6	Asst	NA	20.03.2014	EEE	PES	0	Nil	No	Y	Reg

Ms. D. Purnima	M.Tech (Ph.D.)	NIT Tirchy	2014	6	Asst	NA	02.09.2014	EEE	PS	0	Nil	No	No 05.05.2018	Reg
Mr. M. Suresh	M.Tech	IIT –KGP	2014	6	Asst	NA	14.08.2014	EEE	PES	0	Nil	No	Y	Reg
Mr. B. Jaya Prakash	M.Tech (Ph.D.)	NIT Calicut	2015	5	Asst	NA	08.01.2016	EEE	PS	0	Nil	No	No 04.07.2018	Reg
Mr. B. Rajesh	M.Tech	GITAM	2012	5	Asst	NA	30.03.2015	EEE	PS&A	0	Nil	No	No 26.08.2019	Reg
Mr. V. Avinash	M.Tech (Ph.D.)	JNTUK	2013	5	Asst	NA	08.04.2015	EEE	P&ID	0	Nil	No	Y	Reg
Mr. K. V. Sri Ram Prasad	M.Tech	JNTUK	2013	5	Asst	NA	10.07.2015	EEE	P&ID	1	Nil	No	Y	Reg
Ms. K. Kalyani	M.Tech	JNTUK	2013	5	Asst	NA	11.06.2015	EEE	P&ID	0	Nil	No	No 22.06.2020	Reg
Mr. A. Venkatesh	M.Tech	JNTUK	2014	3	Asst	NA	01.06.2016	EEE	PE&ED	0	Nil	No	Y	Reg
Ms. Pratyusha Bangale	M.Tech	JNTUK	2013	3	Asst	NA	03.06.2016	EEE	HVE	0	Nil	No	No 20.06.2020	Reg
Mr. Ch. Anil Kumar	M.Tech	JNTUK	2013	2	Asst	NA	08.08.2016	EEE	HVE	0	Nil	No	No 08.05.2018	Reg
Ms. V. Kalyani	M.Tech	JNTUK	2016	4	Asst	NA	05.12.2016	EEE	P&ID	1	Nil	No	Y	Reg
Ms. P. Tabita	M.Tech	JNTUK	2016	3	Asst	NA	29.05.2017	EEE	P&ID	0	Nil	No	Y	Reg
Ms. S. Vani	M.Tech	JNTUK	2015	3	Asst	NA	08.06.2017	EEE	PE&ED	0	Nil	No	Y	Reg
Ms. T. Sushma	M.Tech	JNTUK	2017	3	Asst	NA	12.06.2017	EEE	PE&ED	0	Nil	No	Y	Reg
Mr. K. Avinash	M.Tech	A.U.	2016	3	Asst	NA	12.06.2017	EEE	PSA	0	Nil	No	Y	Reg

Table B.5.c: Faculty Information CAY (2017-18)

5.1. Student-Faculty Ratio (SFR) (20)

(To be calculated at Department Level)

No. of UG Programs in the Department (n): 01

No. of PG Programs in the Department (m): 01

No. of Students in UG 2nd Year= u1

No. of Students in UG 3rd Year= u2

No. of Students in UG 4th Year= u3

No. of Students in PG 1st Year= p1

No. of Students in PG 2nd Year= p2

No. of Students = Sanctioned Intake + Actual admitted lateral entry students

(The above data to be provided considering all the UG and PG programs of the department)

S=Number of Students in the Department = UG1 + UG2 +... + UGn + PG1 + ...PGn

F = Total Number of Faculty Members in the Department (excluding first year faculty)

Student Teacher Ratio (STR) = S / F

Year	CAY (2019-20)	CAYm1 (2018-19)	CAYm2 (2017-18)
u1.1 (2 nd Year)	120+33=153	120+34=154	120+24=144
u2.1 (3 rd Year)	120+34=154	120+24=144	120+30=150
u3.1 (4 th Year)	120+24=144	120+30=150	120+13=133
UG1	u1.1+u2.1+u3.1=451	u1.1+ u2.1+u3.1 =448	u1.1+u2.1+u3.1=427
p1.1	18	18	18
P1.2	18	18	18
PG1	p1.1+p1.2=36	p1.1+p1.2=36	p1.1+p1.2=36
Total No. of Students in the Department (S)	S1=487	S2=484	S3=463
No. of Faculty in the Department (F)	F1(27)	F2(26)	F3(31)
Student Faculty Ratio (SFR)	SFR1=S1/F1=18.04	SFR2= S2/F2=18.62	SFR3= S3/F3=14.94
Average SFR	SFR=(SFR1+SFR2+SFR3)/3		17.20

Table B. 5.1: Student Faculty Ratio

Note: Marks to be given proportionally from a maximum of 20 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

< = 15 - 20 Marks

< = 17 - 18 Marks

< = 19 - 16 Marks

< = 21 - 14 Marks

< = 23 - 12 Marks

< = 25 - 10 Marks

> 25.0 - 0 Marks

- *Minimum 75% should be Regular faculty and the remaining shall be Contractual Faculty as per AICTE norms and standards.*
- *The contractual faculty (doing away with the terminology of visiting/adjunct faculty, whatsoever) who have taught for 2 consecutive semesters in the corresponding academic year on full time basis shall be considered for the purpose of calculation in the Student Faculty Ratio.*

5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:

	Total number of regular faculty in the department	Total number of contractual faculty in the department
CAY (2019-20)	27	NIL
CAYm1 (2018-19)	26	NIL
CAYm2 (2017-18)	31	NIL

Table B.5.1.1: Faculty Information

5.2. Faculty Cadre Proportion (25)

The reference Faculty cadre proportion is 1(F1):2(F2):6(F3)

F1: Number of Professors required = $1/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

F2: Number of Associate Professors required = $2/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

F3: Number of Assistant Professors required = $6/9 \times$ Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY (2019-20)	3	2	5	2	16	23
CAYm1 (2018-19)	3	1	5	2	16	23
CAYm2 (2017-18)	3	1	7	2	21	28
Average Numbers	RF1=3	AF1=1	RF2=6	AF2=2	RF3=18	AF3=25

Table B.5.2: Faculty Cadre Proportion

$$\text{Cadre Ratio Marks} = \left[\frac{AF1}{RF1} + \left[\frac{AF2}{RF2} * 0.6 \right] + \left[\frac{AF3}{RF3} * 0.4 \right] \right] * 12.5$$

$$\text{Cadre Ratio Marks} = \left[\left(\frac{1}{3} \right) + \left[\left(\frac{2}{6} \right) * 0.6 \right] + \left[\left(\frac{25}{18} \right) * 0.4 \right] \right] * 12.5 = 13.53$$

- If $AF1 = AF2 = 0$ then zero marks
- Maximum marks to be limited if it exceeds 25

Example: Intake = 60 (i.e. total no. of students = 180); Required number of Faculty: 9; $RF1 = 1$, $RF2 = 2$ and $RF3 = 6$

Case 1: $AF1/RF1 = 1$; $AF2/RF2 = 1$; $AF3/RF3 = 1$; Cadre proportion marks = $(1 + 0.6 + 0.4) * 12.5 = 25$

Case 2: $AF1/RF1 = 1$; $AF2/RF2 = 3/2$; $AF3/RF3 = 5/6$; Cadre proportion marks = $(1 + 0.9 + 0.3) * 12.5 = \text{limited to } 25$

Case 3: $AF1/RF1 = 0$; $AF2/RF2 = 1/2$; $AF3/RF3 = 8/6$; Cadre proportion marks = $(0 + 0.3 + 0.53) * 12.5 = 10.4$

5.3. Faculty Qualification (25)

$FQ = 2.5 * [(10X + 4Y)/F]$ where X is no. of regular faculty with Ph.D., Y is no. of regular faculty with M.Tech. F is no. of regular faculty required to comply 20:1 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)

Academic Year	X	Y	F	$FQ = 2.5 * [(10X + 4Y)/F]$
CAY(2019-20)	4	23	24	13.75
CAYm1 (2018-19)	3	23	24	12.70
CAYm2 (2017-18)	3	28	31	11.45
Average Assessment				12.63

Table B.5.3: Faculty Qualification

5.4. Faculty Retention (25)

No. of regular faculty members in CAYm1=27

CAY=27

<i>Item</i>	<i>Marks</i>
<i>>=90% of required Faculty members retained during the period of assessment keeping CAYm2 as a base year)</i>	25
<i>>=75% of required Faculty members retained during the period of assessment keeping CAYm2 as a base year)</i>	20
<i>>=60% of required Faculty members retained during the period of assessment keeping CAYm2 as a base year)</i>	15
<i>>=50% of required Faculty members retained during the period of assessment keeping CAYm2 as a base year)</i>	10
<i><50% of required Faculty members retained during the period of assessment keeping CAYm2 as a base year)</i>	0

Description	Total No. of Regular Faculty
CAY (2019-20)	27
CAYm1 (2018-19)	26
CAYm2 (2017-18)	31
No. of faculty required in CAY = 23 No. of faculty retained during CAY with base year CAYm2 = 24	
Percentage of required faculty retained with base year as CAYm2=(24/31) 77.4%	Assessment Marks=20

Table B.5.4 Faculty Retention**5.5 Innovations by the Faculty in Teaching and Learning (20)**

Innovations by the Faculty in teaching and learning shall be summarized as per the following description. Contributions to teaching and learning are activities that contribute to the improvement of student learning. These activities may include innovations not limited to, use of ICT, instruction delivery, instructional methods, assessment, evaluation and inclusive class rooms that lead to effective, efficient and engaging instruction. Any contributions to teaching and learning should satisfy the following criteria:

- *The work must be made available on Institute website*
- *The work must be available for peer review and critique*
- *The work must be reproducible and developed further by other scholars*

The department/institution may set up appropriate processes for making the contributions available to the public, getting them reviewed and for rewarding. These may typically include statement of clear goals, adequate preparation, use of appropriate methods, significance of results, effective presentation and reflective critique

In the present competitive world, the technology is changing very rapidly. The engineering graduates must be capable of acquainting with these changes to grab the opportunities globally. This can be achieved through effective content delivery. Students will come from different locations with different aspirations which in turn influence the learning style. Irrespective of learning style of the student, as an educator the content must be delivered effectively through innovative practices in Teaching & Learning to make them globally acceptable in line with our mission and vision.

A. Work is available in the institution website (4)

Department of EEE follows a systematic framework for implementation of innovative teaching learning strategies effectively in regular course work along with traditional classroom teaching. The detailed framework for implementation of teaching learning practices is as shown in figure 5.5.1.

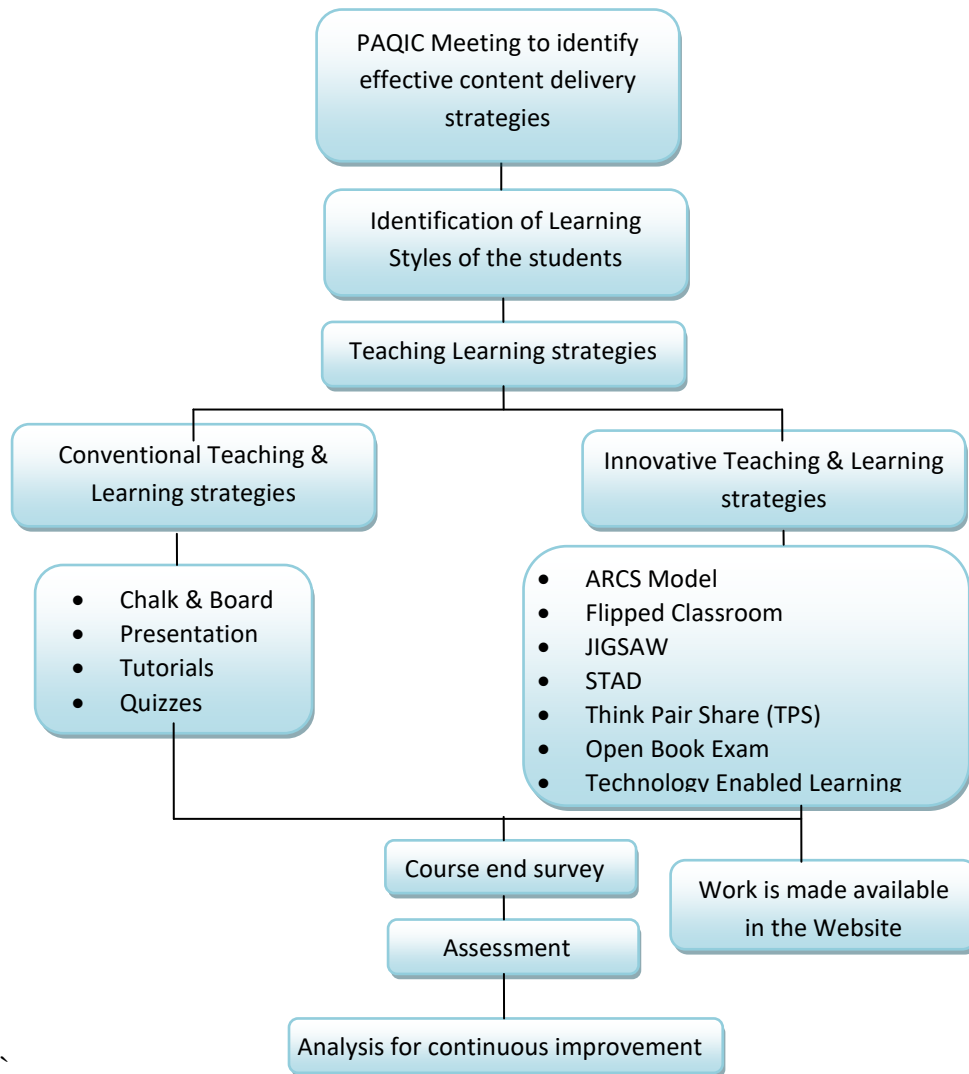


Figure 5.5.1: Framework for the implementation of Innovative Teaching Learning & Conventional Teaching Learning Strategies

For the effective implementation of Innovations in Teaching Learning strategies the following steps are taken:

1. Program Assessment and Quality improvement Committee (PAQIC) conducts meeting with other senior faculty members to identify the innovations in Teaching learning strategies to be implemented
2. The innovative practices employed in teaching learning using ARCS model of Instruction, Flipped classroom, Jigsaw, Student Teams Achievements Division (STAD), Think Pair Share (TPS), Open Book Exam (OBE) and Technology Enabled Learning are evaluated on students with different learning styles.
3. Firstly, a questionnaire is conducted with the students to assess their learning styles using

Felder and Silverman model. The following link is used to conduct the survey.

<http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ILSpage.html>

4. According to Felder there are four dimension of learning styles, with each dimension having two opposite categories.
 - Sensing / Intuitive - How information is perceived?
 - Visual / Verbal - How information is presented?
 - Active / Reflective - How information is processed?
 - Sequential / Global - How information is understand?
5. Students can be classified based on their learning styles as Active / Reflective, Sensing / Intuitive, Visual / Verbal and Sequence / Global

Type of Learner	Preferences
Sensing	prefers concrete thinking, practical, concerned with facts and procedures
Intuitive	prefers conceptual thinking, innovative, concerned with theories and meanings
Visual	prefers visual representations, pictures, diagrams, and flowcharts
Verbal	prefers written and spoken explanations
Active	prefers to try things out, working with other in groups
Reflective	prefers thinking things through, working alone or with familiar partner
Sequential	prefers linear thinking, orderly learns in small incremental steps
Global	prefers holistic thinking, system thinkers, learns in large leaps

Table B.5.5.1: Types of learners and their preferences

An example of learning style of a student shown in the figure 5.5.2

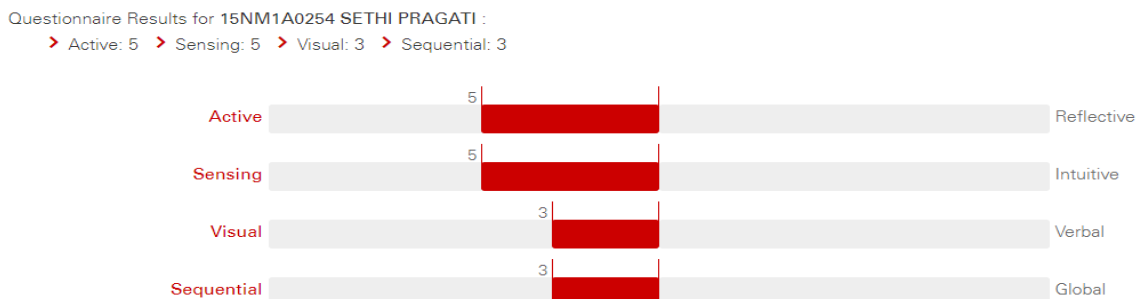


Figure 5.5.2: Sample learning style using Felder- Silverman model

6. Course end survey is collected from all the students at the end of each course on their understandings with reference to teaching style adopted.

7. Students' performance is assessed in MID examinations and University end examinations as per the university guidelines.
8. The obtained results are analyzed for the preparation of action plan for the next academic year.
9. The contribution of faculty, towards innovations in teaching learning, is made available in the institute website for peer review and critique.

B. Work is available for peer review and critique (4)

The innovations adopted for teaching and learning in our department are made available for peer review and critique by encouraging our faculty to do Engineering Educator Certification (IIEECP) course which is organized by Indo Universal Collaboration for Engineering Education (IUCEE) in association with International Society for Engineering Pedagogy (IGIP), Austria and Microsoft. The following are the sample of peer review and critique received from the reviewers for the Innovations made by our department faculty towards Teaching and Learning.

S. No	Name of the faculty	Strategies submitted for peer review and critique	Peer review and critique by reviewer	
			Marks (15M)	Comments
1	Mr. Vamsi Kattamuri	Creating dynamic classroom Use Pictures, Schematics, graphs and simple sketches Providing open ended problem	10.5	Next time when you attempt an assignment, you must follow the Rubric. It would be easier for you to write an assignment that way. Pre and post implementation reflection had to be very carefully deciphered from your submission. <i>Sneha Bisht , Aug 9, 2018 at 6:07pm</i>
		Effective Assessment-1	14	The Work is excellent. The writing is near perfect with little to no grammar or spelling errors. It has proper sentence structure, precise explanation and clarity of thought <i>Siddharthsinh Jadeja, Sep 23, 2018 at 11:21pm</i>
		Effective Assessment-2	15	The work shows an excellent understanding of how an assessment item should be designed based on lessons learnt from Assignment 1. Establishes a clear link between the assessment instrument and the rubric <i>Siddharthsinh Jadeja, Oct 8, 2018 at 1pm</i>
		Harnessing the power of technology- Creating course website	15	Hi, Vamsi Well done! You have addressed all part of the problem statement and also outlined them elaborately in the submission page. To me, your reflective report is the showstopper of the submission and added a good level of critical analysis of the experience <i>Rajdeep Deb, Oct 2, 2018 at 10:50pm</i>
		Harnessing the power of technology-Flipped classroom	13	Hi, Vamsi Undoubtedly you have chosen a very important topic from your syllabus for flipped classroom experience. Impressive submission when it comes to planning the flipped classroom experience and your reflective report involve some level of critical analysis. While sharing the video you supposed to give a set of instructions and a introductory audio or a video file. I was not able to access the file with me. In absence of these files, I left with the option of giving you an average mark for this part. You need to work on your discussion questions, these questions need to be both answerable and challenging and also justification is missing. <i>Rajdeep Deb, Oct 1, 2018 at 10:22pm</i>

2	Dr. K. Durga Syam Prasad	Collaborative Learning-1	11M	A good effort. There are some suggestions to improve the plan 1. The objectives of the activity are not clear. They must be made clear. 2. The task to be done during the collaborative session must be elaborated. 3. The evaluation process for group performance may be based on the team task <i>Anitha D , Sep 30, 2018 at 7:22am</i>
		Collaborative Learning-2	14M	A very good implementation <i>Anitha D , Oct 27, 2018 at 11:50am</i>
		Effective Assessment-1	13M	Justifiable explanations of the modifications made to the old exam. presented with the differences clearly marked. <i>sanjeev_kavale@kletech.ac.in , Nov 9, 2018 at 9:53am</i>
		Effective Assessment-2	14M	Clearly demonstrates the steps used in the rubric design. The steps are well-thought out <i>sanjeev_kavale@kletech.ac.in , Nov 11, 2018 at 12:44pm</i>
		Harnessing the power of technology- Creating course website	14M	The step by step procedure is clearly indicated and the process of using the virtual lab in conducting and changing the variables is observed in the responses <i>Khamruddin Syed , Oct 31, 2018 at 8:24am</i>
		Harnessing the power of technology- Flipped classroom	14M	The objective of the activity is clearly defined and the proper justification is provided. <i>Khamruddin Syed , Nov 4, 2018 at 10:04am</i>

Table B.5.5.2: peer review and critique received from the reviewers

Along with it, we encourage our faculty to publish papers in engineering education related peer reviewed journals.

C. Work must be reproducible and developed further by other scholars (2)

The innovation strategies adopted by faculty are made available in department library along with publishing in institute website. The faculty who implemented the strategy will conduct an orientation program to all the colleague faculty members and explains goals, significance and the way of selecting appropriate strategy. With this strategy, most of the faculty will try to reproduce the innovation strategies while delivering courses in the upcoming semesters. Our faculty also encouraged to submit papers on the innovation's strategies adopted.

The scholars or colleague faculty may reproduce the innovation teaching learning strategies by incorporating

- As the quality of methodology greatly influenced by the learning style of the student, the work may be carried out with another method of assessing learning styles of the students like Grasha-Reichmann model.
- Flipped classroom may be conducted with another method of collaborating activity like JIGSAW or STAD as in class activity
- JIGSAW strategy may be reproduced, and effectiveness may be observed by reducing the team size.

D. Statement of clear goals, use of appropriate methods, significance of results, effective presentation and reflective critique (10)

The innovative teaching learning strategies provide opportunities for students to work in teams, learn from peers, and learn from themselves. Also, the students have opportunity to engage in sophisticated and complex levels of cognitive activity—define, analyze, evaluate, reflect, assess, and solve real-world problems. The evaluation suggests that implementation of these methodologies in the engineering design courses improve the higher-level cognitive skills of the students as well as integrated theory, design, and practice.

I. Appropriate Methods

To improve the quality of teaching learning and to make students actively participate in the class environment, some appropriate methods are suggested by PAQIC committee.

The appropriate innovative methods in teaching learning followed are:

1. Attention, Relevance, Confidence, & Satisfaction (ARCS) Model
2. Flipped Classroom
3. Jigsaw (Collaborative Learning)
4. Student Teams Achievements Division (STAD)
5. Think Pair Share (TPS)
6. Open Book Exam (OBE)
7. Technology Enabled Learning (TEL)

1. ARCS Model

In any classroom, some students might learn more than students in the same or another classroom. The main reason for this is different levels of learning for students both within and across classrooms. In general, for effective content delivery, every educator must try to see that the content is reachable to at least 95% of the students in class.

Goals of the strategy:

The ARCS model is an instructional design approach that focuses on the motivational aspects of learning environment. The model was created by John Keller in the 80s. According to John Keller there are four steps in the instructional design process — Attention, Relevance, Confidence, & Satisfaction (ARCS).

- Attention refers to the interest displayed by learners in taking in the concepts/ ideas being taught
- Relevance describes how the knowledge will help the learner's today and, in the future, (getting into a college or finding a job or getting a promotion)
- Learning design enhances the students' confidence with a method for estimating their probability of success.
- Learners must obtain some type of satisfaction or a reward from the learning experience. This can be in the form of a sense of achievement.

Course: Power Electronics (PE)

Topic: AC-DC Converters (CO 2)

Activity: ARCS model

Class: III-I, EEE-B (2017 admitted batch)

Academic Year: 2019-20

Learning objective for the lecture: The student is able to: Understand the working of single-phase AC-DC Converters- with R load, RL load.

Component	Implementation Strategies
<p style="text-align: center;">Attention (What is interesting about this?)</p> <p>Topic: AC-DC Converters</p>	<p>To draw the learners Attention:</p> <ol style="list-style-type: none"> 1) The class is started class with brainstorming session by posing questions on AC supply, DC supply, R load, R-L load etc. 2) Since PE is a technology used in industries it is proposed to arrange 'Summer Internship' to industries. 3) Various examples of converter used in houses and institutes is discussed. 4) To understand the real concept of converters a video depicting the working of converters is shown https://www.youtube.com/watch?v=J8A6QUxfk8c. 5) Discussion is held to reinforce the concept of converters.
<p style="text-align: center;">Relevance (Why should I be wasting my time studying this?)</p> <p>Topic: AC-DC Converters</p>	<p>Strategies to accomplish the relevance:</p> <ol style="list-style-type: none"> 1) The applications with special reference to comparison of life with and without converters is briefed 2) Case studies: The effect and behavior of different electrical loads on the supply system is briefed. 3) Goal oriented students: For the students who aim at pursuing higher studies and do research in this area, the aim and scope of the topic is discussed. 4) Scope of designing own converters: The various possibilities

	<p>of designing new and more efficient converters were discussed.</p> <p>5) Role Model: The scope and range of jobs for students good in the field of power electronics is discussed. For example: one of the ex-students presently working in ISRO Chandigarh is in contact as she wants to clear basics on PE semiconductors and converters in order to be able to design upgraded models.</p>
<p style="text-align: center;">Confidence (This is not difficult-I can do it)</p> <p style="text-align: center;">Topic: AC-DC Converters</p>	<p>To build a sense of confidence in learners:</p> <p>1) Motivation: In the beginning of the semester the students are informed about the evaluation process. The importance of each examination including on-line exam and home assignments is very much motivated. The students will be motivated with quote like 'try and try until you succeed'.</p> <p>2) Self Growth: Each student is asked to prepare their future goals and display in her study room. They are also asked to display great scientists' photos like, Einstein, Faraday in study room. The goals are revised frequently. They are also advised to participate in campus recruitment training courses and technical workshops. Goals are verified by T&P faculty once in a month and were asked to rewrite/modify their own goals.</p> <p>3) Feedback: Mentors are appointed for every 20 students to monitor their performance in every month. Slow learners are identified based on their performance; special care is taken for such students to improve their performance.</p> <p>4) Small Group Activities: The learners are divided in groups of three to six. Each group is assigned a team number and each group member is assigned a unique id. When the trainer poses a question, group members get together, examine the possibilities, and construct an answer. The trainer then picks a</p>

	<p>number by drawing a card or rolling a die. The number selected designates the spokesperson for each table group. A second number designates the table group that will respond first. By involving in such group activities students are well motivated.</p>
<p style="text-align: center;">Satisfaction (This is great - I have learnt something new and useful)</p> <p>Topic: AC-DC Converters</p>	<p>Learner's Satisfaction:</p> <ol style="list-style-type: none"> 1) Outstanding performance students are appreciated through rewards in public, like their names are displayed in college notice board, special appreciation letter from principal, fee waiving from management. 2) Parents whose wards are selected on campus drives are felicitated along with their ward on Graduation Day. It gives motivation to juniors and self-satisfaction for selected students. 3) Equity: Transparency is maintained in all evaluation systems. Perfect rubrics are defined and displayed for students. Examination system is transparent.

Significance of results & reflective critique:

The objective of this assignment is to learn how to apply the ARCS model to the content we are teaching. Basically, the concept says, students learn best

- When the teacher can generate a sufficient interest in the topic being studied.
- When the content is relevant.
- They feel they can master it.
- When they have the feeling that their effort has been well rewarded, and they have learnt something new and useful

To begin with one might think, who has the time to do all this for each and every concept we are teaching but this is more a question of mind-set and incorporating these does not take more time or effort than the normal preparation would. Once this methodology is practiced the strategies/examples, lecture style automatically falls in line.

Outcomes:

It is noticed, at the end of this activity, the students are able to

- Students ask relevant questions on the topic for example effect of a motor load on the converter, the variety of various other loads that can be used.
- Show interest in knowing about various applications of the converters.
- Show confidence and interest in implementing the converter model in MATLAB Simulink.

2. Flipped Classroom

Flipped classroom methodology mainly focuses on the inquiry-based learning with the access of vast web information. The flipped strategy is a blended strategy with the goal to enhance student engagement and to attain predefined outcomes.

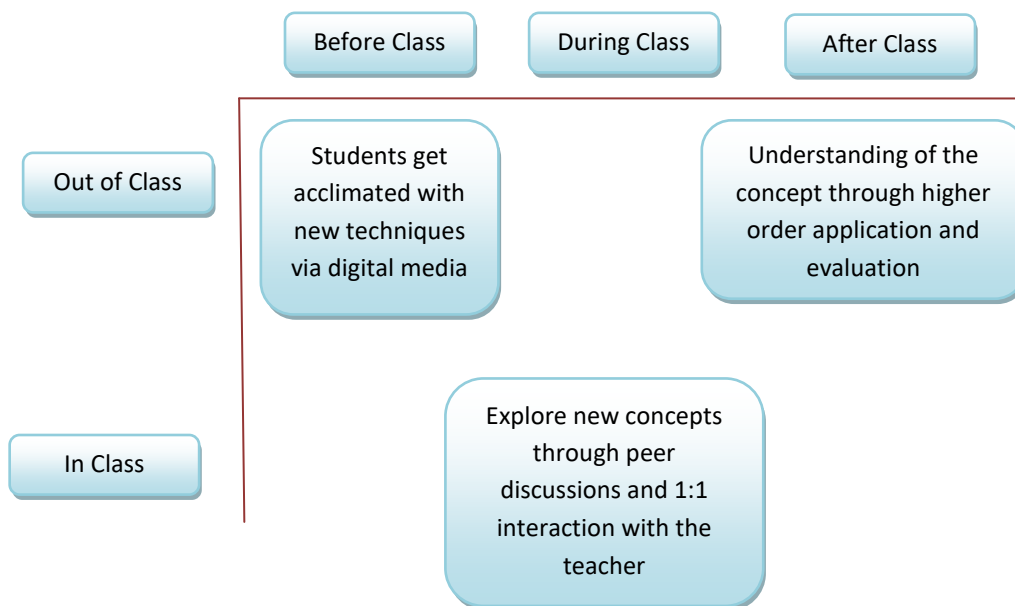


Figure 5.5.3: Implementation of Flipped Classroom Strategy

This strategy includes three activities namely before, during and after class activities. Students get exposure to new technologies over digital media and the instructions given by the teacher

over video lectures. During class, students interact with teacher and other students to explore new concepts. Based on the understandings, an assessment test may be conducted for the assessment.

Benefits of the Flipped classroom:

- More participation of students.
- Improved Faculty and Student interaction.
- Appropriate use of resources by the teacher for constructive learning methods.

Goals of the activity:

- Inspire students to learn the concepts thoroughly.
- To motivate students towards self-learning.
- To make use of visual learning.

Implementation: The implementation of a flipped classroom strategy is presented below

Course: Electrical Distribution Systems

Topic: Relationship between the load factor and loss factor (CO-1)

Activity: Flipped classroom

Class: IV-I, EEE-B (2015 admitted batch)

Academic Year: 2018-19

Introduction Video: Load factor and loss factor are the important parameters in the electrical distribution systems. Load factor is an independent variable of the equation corresponding to relationship between load and loss factor. A video is suggested for explaining the concept of load and loss factors and the relationship at different areas of usage.

https://www.youtube.com/watch?v=j7P_ufwUGEQ

Questions Posed: Explain various factors of distribution systems.
Relationship between loss and load factors.

Planning of activity:

- **Pre-Class Content:** Provided web source to watch video, textbooks for reference and some web links in prior to all the learners. All the instructions were clearly described in video uploaded in course website.
- **Pre-Class Activity:** Students were instructed to write the assignments based on their understandings.

- **In Class Activity:** Conducted Think Pair Share dynamic class activity in class to assess the outcomes.
- **Post Class activity:** As a post class activity, conducted a quiz, assessed and evaluated each student at each stage.

Assessment: The following table 5.5.3 shows the format of assessment for flipped classroom activity

S. No	Roll No	Name of the Student	Team No	Pre-Class Activity-Assignment (10M)	In Class Activity-Think Pair Share (10M)	Post Class Activity-Quiz (10M)	Total (30M)

Table B.5.5.3: Assessment Table for Flipped Class Activity

Significance of results & reflective critique

- All the students paid more attention while explaining this activity, accessing the web source and all are actively participated in In-class activity.
- The slow learners are also actively participated on par with bright students.
- Traditional classroom was perfectly converted into student centric classroom.
- With the predefined evaluation process, all students actively participated in each stage of the activity.

Outcomes:

It is noticed, at the end of this activity, the students are able to

- Explain the various factors affecting the performance of the substations.
- Discriminate the load and loss factors at relevant situations.
- Expressed a interest in visiting the nearest substation for a practical experience.

3. JIGSAW (Collaborative Learning):

Collaborative learning is a group activity that involves students working together to obtain solution to a problem. Collaborative learning is effective in teaching programming course. Hence Collaborative learning is introduced to learn a topic in Electrical Distribution Systems. The basic process involves formation two student groups HOME (JIGSAW) groups and EXPERT groups. The group size should be at most five. EXPERT group is formed with the leaders of JIGSAW group.

Implementation:

Course: Electrical Distribution Systems

Topic: Various types of protection devices (CO 4)

Activity: JIGSAW (Collaborative learning)

Class: IV-I, EEE-B (2015 admitted batch)

Academic Year: 2018-19

Concept for activity:

1. Various types of protection devices used in electrical distribution systems
2. Characteristics of the devices
3. Comparison of protective devices.

Goals of this activity:

At the end of this activity, students will be able to:

1. Explain the various protective devices used in electrical distribution systems
2. Describe the operation of the protective devices
3. Choose the correct protective device for a given requirement in the substations.

Concept for activity:

At the start of the activity the concepts of ‘Various protection devices in Electrical Distribution Systems’ are explained to the students:

- Construction.
- Working Principle.
- Operation at normal condition.
- Operation at fault Condition.
- Advantages and Disadvantages of the apparatus.

The Instruction execution is sub divided into 4 segments.

- Operation of Fuse –2 groups.
- Operation of Circuit Breaker–2 groups.
- Operation of Automatic Recloser –2 groups.
- Operation of Automatic Sectionalizer –2 groups.

Strategy to create Teams:

1. The success of collaborative activity is based on how best the individual skill sets are considered and mixed during team formation.
2. Before forming the balanced teams, a questionnaire is posed to the students to assess their learning styles.
 - Sensing-Intuitive - how information is perceived
 - Visual-Verbal - how information is presented
 - Active-Reflective - how information is processed
 - Sequential-Global - how the information is understood

The learning style of each student is classified with the help of the Felder and Silverman model. Students are categorized according to the Index of Learning Styles (ILS) questionnaire. This questionnaire categorizes a student's preferred learning style along a sliding scale of four dimensions

To conduct the survey the following link is used:

<http://www4.ncsu.edu/unity/lockers/users/f/felder/public/ILSpace.html>

Questionnaire Results for 15NM1A0254 SETHI PRAGATI :

> Active: 5 > Sensing: 5 > Visual: 3 > Sequential: 3

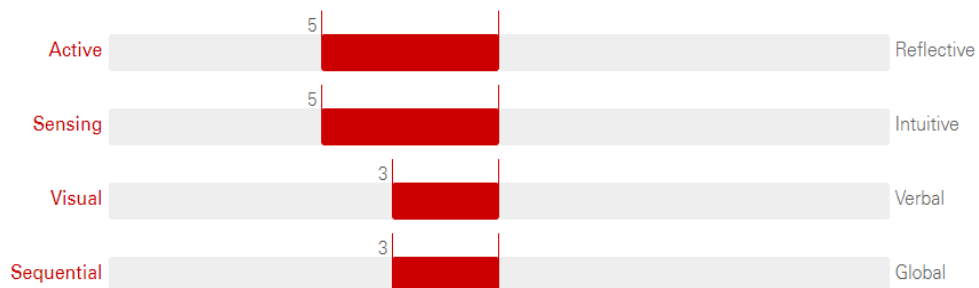


Figure 5.5.4 Sample learning style of a student based on Felder Silverman model

Learning Styles	Number of students	Percentage of students (%)
Active	9	22
Reflective	2	5
Sensing	3	7
Intuitive	2	5
Visual	12	29
Verbal	2	5
Sequential	7	17
Global	4	10

Table 5.5.4 Classification of Students in the Class Established on Learning Styles

Time planned:

Time required to execute the event is maximum 150 min (3 sessions) including survey of student learning styles, home and expert groups formation, peer discussion, student evaluation.

Formation of HOME groups (Heterogeneous):

The study was carried out with 41 students on electrical distribution systems course. The teams were formed with 5 members in each team. Hence, a total 8 teams are formed in the class. Care is taken to match the group size to the assigned subtasks. At the end of the collaborative learning, students were graded individually and group wise.

Students are divided into heterogeneous HOME groups and subsequently regrouped into 8 homogeneous groups known as EXPERT groups. The 8 HOME groups are identified with electrical terminologies like Power, Energy, Voltage, Current, Generator. In each team, the group members are identified as A1, A2, A3, A4, A5, B1, B2, B3, B4, B5, etc. It is preferred to appoint the strong global learners of each group as group leaders like A1, B1, C1, D1. In case of unavailability of global learners, strong active learners are appointed as group leaders like E1, F1, G1, H1. The Table-5.5.5 shows the learning styles, score and their member ID of individual student.

Group No.	JIGSAW Home Group	Student Roll No	Member ID	Student learning ability	Topic Assigned to group
1	Power (A)	15NM1A0238	A1-Leader	Strong Global Learner	Operation of Fuse
		15NM1A0241	A2	Strong Sequential Learner	
		15NM1A0240	A3	Strong Visual Learner	
		15NM1A0256	A4	Strong Active Learner	
		15NM1A0243	A5	Strong Visual Learner	
2	Energy (B)	15NM1A0250	B1-Leader	Strong Global Learner	Operation of Circuit Breaker
		15NM1A0251	B2	Strong Sequential Learner	
		15NM1A0247	B3	Strong Visual Learner	
		16NM5A0224	B4	Strong Active Learner	
		15NM1A0249	B5	Strong Visual Learner	
3	Voltage (C)	15NM1A0263	C1-Leader	Strong Global Learner	Operation of Automatic Recloser
		15NM1A0260	C2	Strong Sequential Learner	
		15NM1A0252	C3	Strong Visual Learner	
		16NM5A0227	C4	Strong Active Learner	
		16NM5A0228	C5	Strong Intuitive Learner	
4	Current (D)	16NM5A0222	D1-Leader	Strong Global Learner	Operation of Automatic Sectionalizer
		16NM5A0217	D2	Strong Sequential Learner	
		15NM1A0254	D3	Strong Visual Learner	
		16NM5A0229	D4	Strong Active Learner	
		15NM1A0255	D5	Strong Intuitive Learner	
5	Generator (E)	15NM1A0236	E1-Leader	Strong Active Learner	Operation of Fuse
		16NM5A0218	E2	Strong Sequential Learner	
		15NM1A0257	E3	Strong Visual Learner	
		16NM5A0230	E4	Strong Active Learner	
		15NM1A0239	E5	Strong Reflective Learner	
6	Motor (F)	15NM1A0237	F1-Leader	Strong Active Learner	Operation of Circuit Breaker
		16NM5A0218	F2	Strong Sequential Learner	
		15NM1A0258	F3	Strong Visual Learner	
		15NM1A0264	F4	Strong Sensing Learner	
		16NM5A0216	F5	Strong Visual learner	
7	Pole (G)	15NM1A0246	G1-Leader	Strong Active Learner	Operation of Automatic Recloser
		16NM5A0220	G2	Strong Sequential Learner	
		15NM1A0261	G3	Strong Visual Learner	
		15NM1A0248	G4	Strong Sensing Learner	
		15NM1A0244	G5	Strong Verbal Learner	

8	Alternator (H)	15NM1A0242	H1-Leader	Strong Active Learner	Operation of Automatic Sectionalizer
		15NM1A0262	H2	Strong Verbal Learner	
		16NM5A0219	H3	Strong Visual Learner	
		16NM5A0221	H4	Strong Visual Learner	
		15NM1A0259	H5	Strong Reflective Learner	
		16NM5A0226	H6	Strong Sensing Learner	

Table 5.5.5 Formation of JIGSAW Home Groups (Heterogeneous Groups)

Formation of EXPERT Groups (Homogeneous)

Students are separated from their Home Group and reformed into new groups with the other students who are responsible for preparing the same topic. This group is called Expert group. These group members are responsible to make other students understand the topic. These groups by default become homogeneous in their abilities. The group members make plans about how they can teach the subject content to their friends and prepare a report.

Afterwards, they turn back to their respective Home groups and share their acquired knowledge with colleagues with the help of the reports they have prepared. Expert groups are formed by picking one member from each Home group. The size of the Expert group is 4 and hence 10 groups are formed. Expert groups EG1, EG2, EG3, EG4, EG5, EG6, EG7, EG8, EG9 and EG10 are shown in Table -5.5.6

SI. No	Expert Group Name	Expert Group Members	
1	EG1	A1, B1, C1, D1	HOME Group Leaders
2	EG2	A2, B2, C2, D2	HOME groups members
3	EG3	A3, B3, C3, D3	HOME groups members
4	EG4	A4, B4, C4, D4	HOME groups members
5	EG5	A5, B5, C5, D5	HOME groups members
6	EG6	E1, F1, G1, H1	HOME Group Leaders
7	EG7	E2, F2, G2, H2	HOME group members
8	EG8	E3, F3, G3, H3	HOME group members
9	EG9	E4, F4, G4, H4	HOME group members
10	EG10	E5, F5, G5, H5, H6	HOME group members

Table B.5.5.6: List of Expert Groups (Homogeneous) and their Team Members

Process of Evaluation:

Both Formative assessment and Summative assessment activities are used to judge final products for completion, competency and/or demonstrated improvement. To evaluate the student two components are required namely individual and group assessment. Individual quizzes and group quizzes are conducted for all the 10 batches separately. Evaluation by the instructor provides students with feedback on the understanding of content, concepts, and applications. The assessment grades are shown in Table- B.5.5.7.

Student Assessment:

Team No	JIGSAW Team	Home Group Member ID	Formative Assessment		Summative Assessment		Final Score (50M)	Median Score:45
			Individual Observation (10M)	Group Observation (10M)	Individual Quiz (15M)	Group Quiz (15M)		Performed more than Median Score (Yes/No)
1	Power (A)	A1- Leader	10	10	14	13	47	Yes
		A2	8		14		44	No
		A3	9		13		45	Yes
		A4	8		15		46	Yes
		A5	10		12		45	Yes
2	Energy (B)	B1-Leader	10	8	15	15	48	Yes
		B2	9		12		44	No
		B3	8		13		44	No
		B4	7		14		44	No
		B5	6		13		42	No
3	Voltage (C)	C1-Leader	9	9	15	14	47	Yes
		C2	7		12		42	No
		C3	9		14		46	Yes
		C4	10		13		46	Yes
		C5	8		15		46	Yes
4	Current (D)	D1	10	10	15	13	48	Yes
		D2	9		14		46	Yes
		D3	8		15		46	Yes
		D4	10		14		47	Yes
		D5	10		15		48	Yes
5	Generator (E)	E1-Leader	10	9	15	12	46	Yes
		E2	8		14		43	No

		E3	9		13		43	No
		E4	9		12		42	No
		E5	8		14		43	No
6	Motor (F)	F1-Leader	9	9	15	15	48	Yes
		F2	8		14		46	Yes
		F3	7		13		44	No
		F4	9		15		48	Yes
		F5	10		12		46	Yes
7	Pole (G)	G1-Leader	10	8	14	14	46	Yes
		G2	9		13		44	No
		G3	7		12		41	No
		G4	8		13		43	No
		G5	9		15		46	Yes
8	Alternator (H)	H1-Leader	10	8	14	13	45	Yes
		H2	8		15		44	No
		H3	9		13		43	No
		H4	7		14		42	No
		H5	6		12		39	No
		H6	6		11		38	No

Table B.5.5.7: Assessment Sheet for JIGSAW Activity

Significance of results & reflective critique:

At the end of activity, Students have given their opinion about this activity. Some batches have involved and enjoyed the activity to a good extent. They reported that the activity was excellent, and they had a satisfied leaning experience. Three poll questions were posed to the students in order to determine their views on collaborative learning environment and Jigsaw technique.

Question 1:

“What can you say about the aspects of JIGSAW practices which have positive effects on you?”

Student responses: Out of 41 students great many reported that

- ‘Jigsaw technique was very 'Instructive’,
- ‘Created interest on the subject’,
- ‘Confidence building’,
- ‘affected the interaction and cooperation in the classroom’,
- ‘it was enjoyable’

Instructive: 25

Created interest on the subject: 35

Confidence building: 38

Enjoyable: 39

Good interaction and Cooperation in class: 30

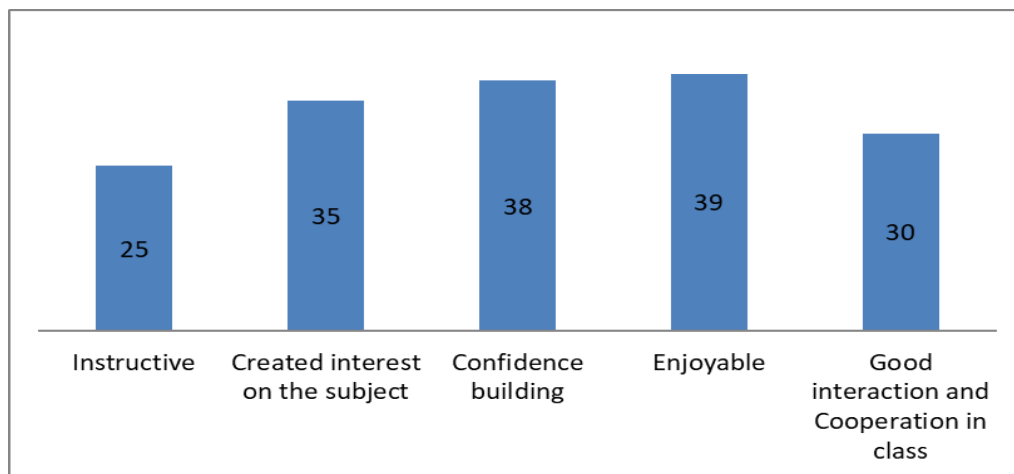


Figure 5.5.5: Student Response: Total strength = 41

Question 2

What can you say about the sides of the JIGSAW technique with negative effects in your opinion?

Student responses: Few students reported problems with the JIGSAW technique which are:

- “time-consuming”
- “Their friends with low achievement made them tired” and
- “The noise that occurred during the group work was disturbing”.

Besides, 2 - 3 students expressed that it would be more effective if the topic was taught by the teacher instead of using this method. After considering their feedback, it was noticed that they are slow learners in the class.

Question 3

What are the changes you have observed after application of this technique?

Student responses: Most students had good response to the above query which are

- ‘Increased our learning capacity’
- ‘It increased our self-confidence’
- ‘Provided peer interaction and cooperation’
- ‘The class was interesting’
- ‘Enjoyed the self-learning experience’.

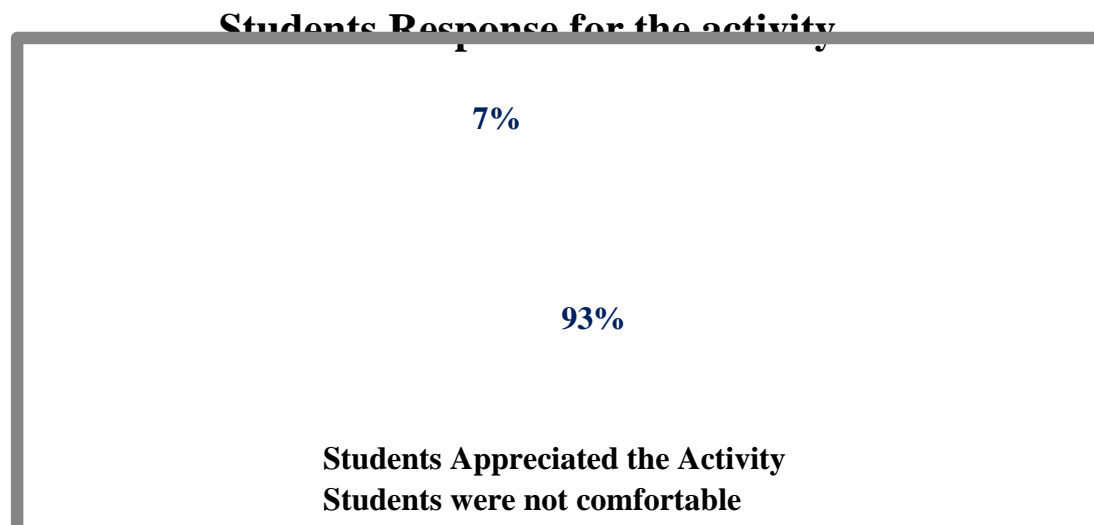


Figure 5.5.6: Students Overall Response for the Activity

Outcomes of the Activity:

It is noticed, at the end of this activity, the students are able to

- Differentiate the operations of various protective devices
- Apply the right devices in a given fault condition
- Communicate with peers and facilitator
- Develop social interaction skills.

4. Student Teams Achievement Division (STAD)

In Student Teams-Achievement Divisions (STAD), students are assigned to four-member learning teams that are mixed in performance level, gender, and ethnicity. The teacher presents a lesson, and then students work within their teams to make sure that all team members have mastered the lesson.

Goals of the strategy:

- Students work together in achieving its objectives by upholding the norms of the group.
- Actively assist and motivate students to succeed shared passion.
- Active role as a peer tutor to further enhance the success of the group.
- Interaction among students with increasing their ability to argue.

Implementation:

Course: Electrical Distribution Systems

Topic: Derivation for voltage drop and power loss in distribution lines (CO 3)

Activity: STAD

Class: IV-I, EEE-B (2015 admitted batch)

Academic Year: 2018-19

The method for implementation of the STAD activity is presented below

- Interaction session to present the content
- Make teams based on one criterion
- Teams work together to solve the given task
- Educator conducts individual quiz and team quiz
- Determine team average and each peer improvement scores

Time schedule:

- Interaction session by educator : 50 min (1 session)

- Making Teams, Sources of information : 50 min (1 session)
- Activity (3 sessions)
 - Collaborative learning- : 50 min (1 session)
(Voltage drop and Power loss calculation)
 - Individual Quiz : 50 min (1 session)
 - Group Quiz : 50 min (1 session)
 - Total sessions : 05

Initially, Instructor provides brief idea about the STAD activity to achieve better results. One session of 50 min was allocated for this interaction session. The outcomes of the activity will be communicated to all the students clearly. Along with the activity, the basics involved in the tasks assigned were also discussed as per the following schedule.

- Importance of Voltage drop : 10 min
- Importance of Power Loss : 10 min
- Voltage drop and power loss effect on the Lines : 10 min
- Awareness about the STAD activity : 10 min
- The objectives of the activity : 10 min

Assessment: The following Table B.5.5.8 shows the format of assessment for flipped classroom activity

S. No	Team ID	Member ID	Roll No	Individual (W1: 1)		Collective (W2:3)		Score	Median Sore (25.5)	Important reason for team result
				Formative-Observation (A: 3 M)	Summative-Individual Quiz (B: 3 M)	Formative – Observati on (C: 3M)	Summati ve – Group Quiz (D: 5M)	W1A+ W1B+ W2C+ W2D (30 M)	Is less than Median Score	

Table B.5.5.8: Assessment Sheet for STAD Activity

Significance of results & reflective critique:

- Students actively participated in the activity
- Communication skills are improved

- Some students' confidence level for sharing the information in the class is improved.

Outcomes:

It is noticed, at the end of this activity, the students are able to

- Solve the problems on voltage drop and power loss correctly.
- Implement correct formulas at required situation in the distribution lines.
- Develop individual and team work to solve given task.
- Apply own ideas and thoughts during team discussion & during deadlock.

5. Think Pair Share Activity (TPS)

Think-Pair-Share (TPS) is a collaborative learning strategy where students work together to solve problems or answer a question about assigned reading. This technique requires students to think individually about the topic or answer a question, and share ideas with colleague students. Discussing responses with peers serves to maximize participation, direct attention, and engage students in reading comprehension. The three phases in TPS are structured as

Think - The instructor poses a question, to which students individually write their answers.

Pair - Students work on a well-defined task with their neighbor(s).

Share - Students engage in a class-wide discussion, sharing their answers and reasoning and debating alternate solutions.

Goals of the Think Pair Share:

- To activate student's prior knowledge.
- To Enhances oral communication skills.
- To make students active learners.

Implementation:

Course: Electrical Distribution Systems

Topic: Comparison of shunt and series capacitors for Power Factor Improvement (CO-5)

Activity: Think Pair Share

Class: IV-I, EEE-B (2015 admitted batch)

Academic Year: 2018-19

Objectives of the Think Pair Share:

- To activate student's prior knowledge
- To enhance the students' knowledge regarding shunt and series capacitors

- To Implement the relevant capacitor for power factor improvement
- To enhance oral communication skills.

Think phase: The instructor poses a question, such as “Write about Shunt and Series capacitors”. The students work individually on the task, for about ten minutes.

Pair phase: The instructor gives a task related to the Think phase, such as check your neighbour’s solution, or work with your neighbour to write the detailed report on the given topic. The students work with one of their neighbours to complete the task, in five to ten minutes. The instructor walks along the aisles, encouraging discussion and answering queries.

Share phase: The instructor facilitates a class-wise discussion on the topic in the share phase. Students’ responses in the Think and Pair phases formed an important part of the discussion in this phase. The students take a survey about their class participation and confidence at the beginning and at the end of the activity. The consolidated survey report is as shown below.

Assessment: The following Table B. 5.5.9 shows the format of assessment for Think Pair Share activity

Student Assessment:

S. No	Description	Pre activity survey						Post activity survey					
		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1	I enjoy sharing my thoughts and observations during EDS class	4	10	13	10	4	0	1	4	7	10	11	8
2	I feel confident in my abilities in EDS	2	4	17	12	4	2	2	6	8	10	8	7
3	I feel confident to contribute to concept discussion in class	4	6	8	8	11	4	1	4	5	5	14	12
4	I often participate in class discussion in EDS class	1	5	8	12	12	3	0	4	6	10	13	8
5	I am comfortable	1	3	12	10	11	4	0	3	8	13	11	6

contributing to class discussion in EDS class													
---	--	--	--	--	--	--	--	--	--	--	--	--	--

Table B.5.5.9: Survey Report for Think Pair Share Activity

Based on the survey report obtained for pre activity and post activity, the comparison of each parameter is shown in figures 5.5.7 - 5.5.11

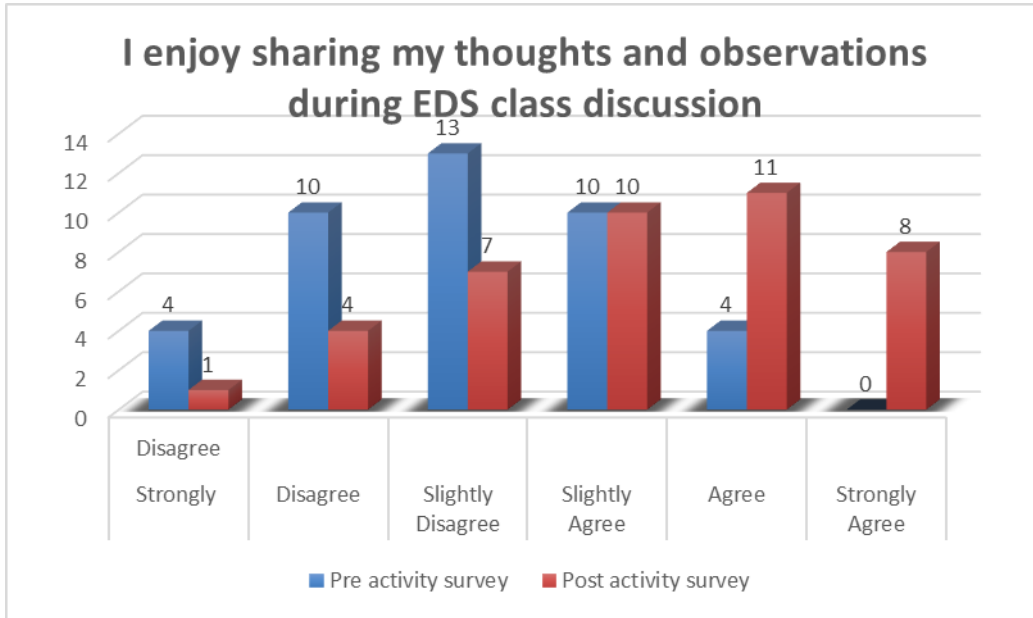


Figure 5.5.7: Survey Parameter 1- Think Pair Share Activity

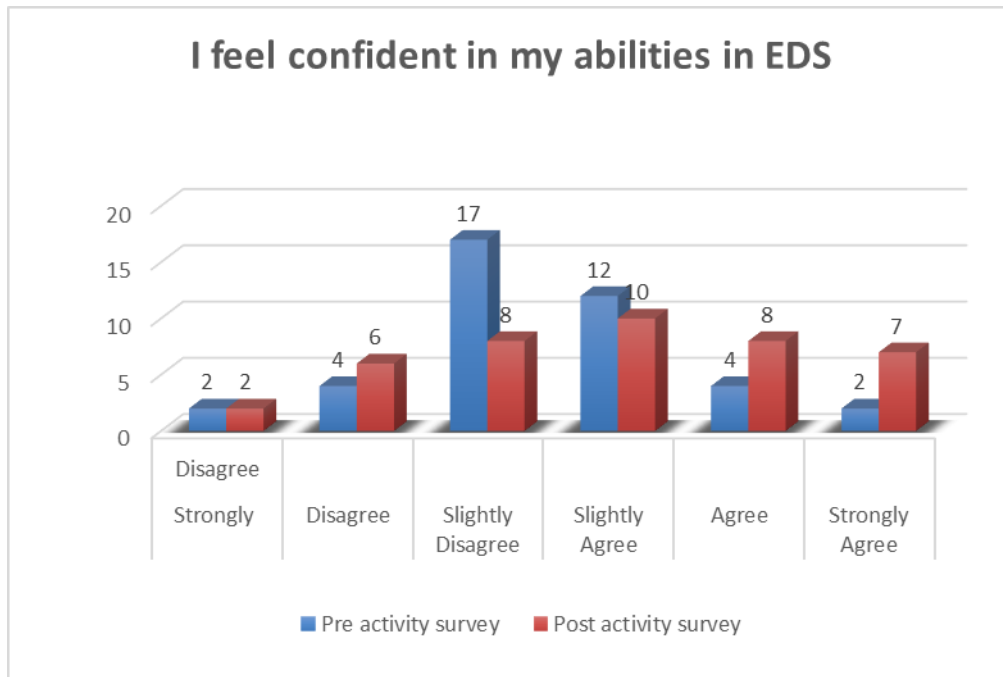


Figure 5.5.8: Survey Parameter 2- Think Pair Share Activity

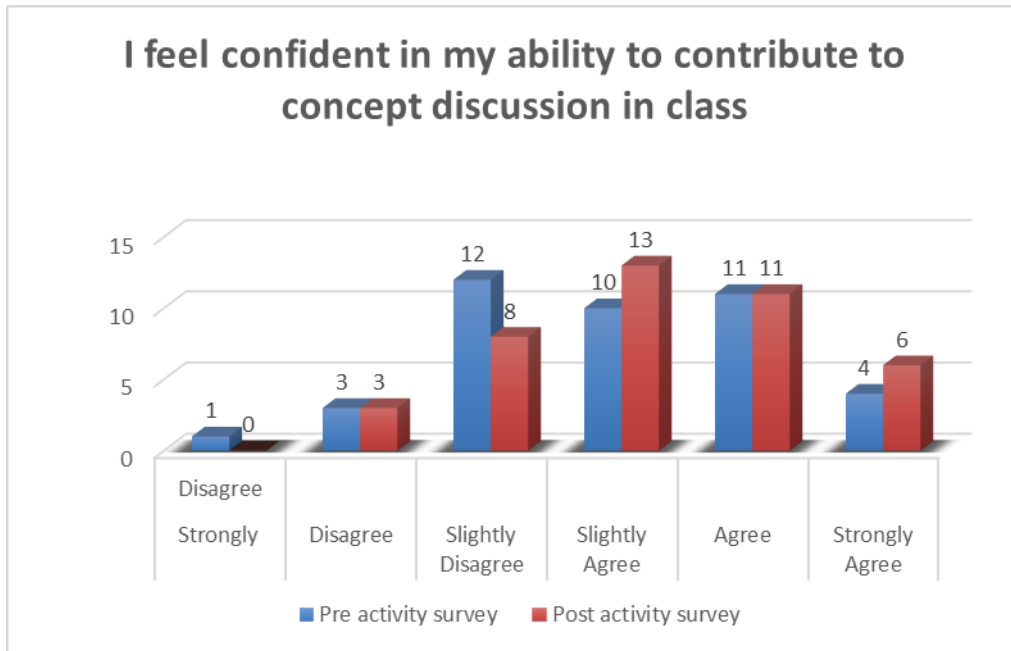


Figure 5.5.9: Survey Parameter 3- Think Pair Share Activity

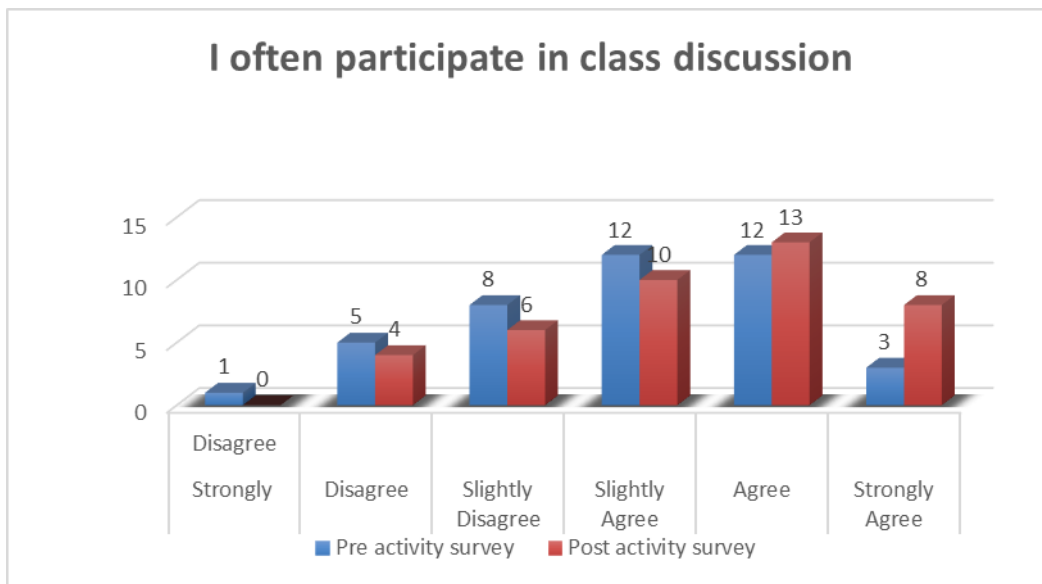


Figure 5.5.10: Survey Parameter 4- Think Pair Share Activity

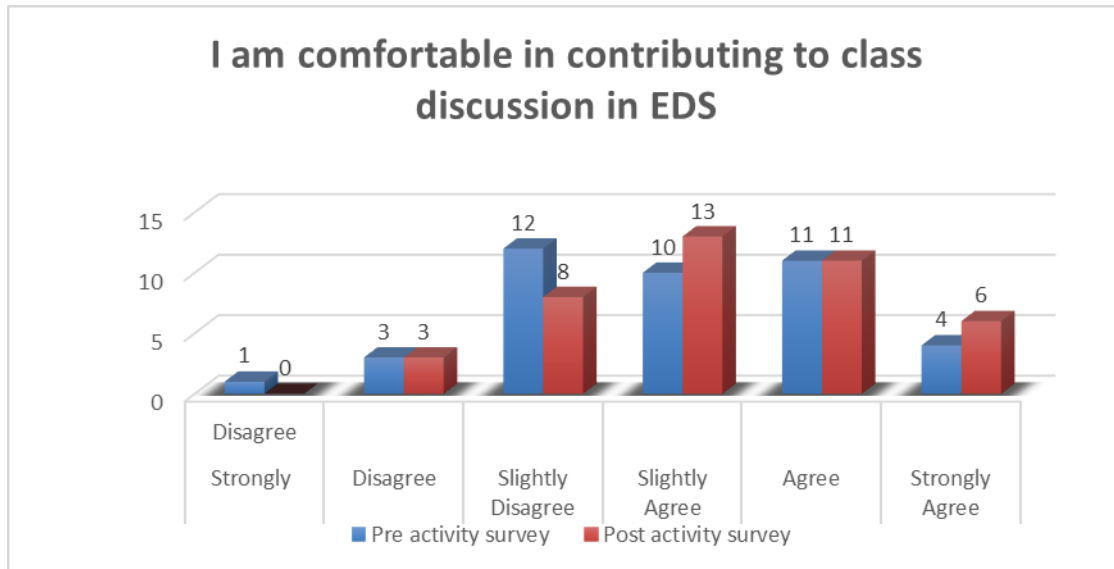


Figure 5.5.11: Survey Parameter 5- Think Pair Share Activity

Significance of Results & Reflective Critique:

- The number of students who enjoyed the class is increased.
- Most of the students agreed that they are confident in contributing for the classroom discussion.
- Students learning ability increased.
- Students shown interest to participate in classroom discussion often.
- Students felt comfortable during classroom activities.

Outcomes:

It is noticed, at the end of this activity, the students are able to

- Apply the aspects of capacitors to power improvement.
- Communicate actively and share knowledge with peers.
- Demonstrate the findings effectively with other peers and criticize the other conclusions.

6. Open Book Examination (OBE)

An "open book examination" is that in which students can refer to class notes and summaries, textbooks, or other approved material while answering questions. Open book examination creates an enriched environment, offering the opportunity to better understanding. The IV B.Tech (2016 admitted batch) students were assessed for Closed Book Sitting and Open Book Sitting for the course **HVDC**. The test population consists of 62 students for IV Year, semester II.

Implementation:**Course:** High Voltage D.C Transmission**Topic:** Design of Filters**Activity:** Open Book Examination**Class:** IV-II, EEE-A (2016 admitted batch)**Academic Year:** 2019-20**Assessment Method:**

The assessment method used for the proposed study consists of on-line descriptive questions, comprising 5 (5*10 marks=50 marks) questions. Test questions are set in concurrence with Blooms Taxonomy levels. The test was administered under similar conditions for Closed Book Examination (CBE) and Open Book Examination (OBE).

The students first completed the assessment in closed book sitting, and then approximately one week later, completed the same assignment in the open book sitting. A time limit of 60 minutes was set for students, with in which they were expected to complete the test. After the first test the students were informed that they would be asked the same set of questions, with full access to the textbook.

Test results of both the examinations were collected and statistical analysis is performed. The analyzed data is given below Table B.5.5.10

Evaluation Parameters	Closed Book	Open Book
Minimum mark	15	22
Maximum Mark	43	47
Mean value	29	34.5
Standard Deviation	5.68	5.82
No. of students completed test	62	62

Table B.5.5.10: Open Book and Closed Book Analyzed Data**Closed Book analysis:**

The minimum and maximum scores for the closed book sitting were 30% and 86% respectively, with a mean of 58%

Open Book Sitting:

The minimum and maximum scores for the open book sitting were 44% and 94% respectively, with a mean of 69%. There is an increase of 11% mean value.

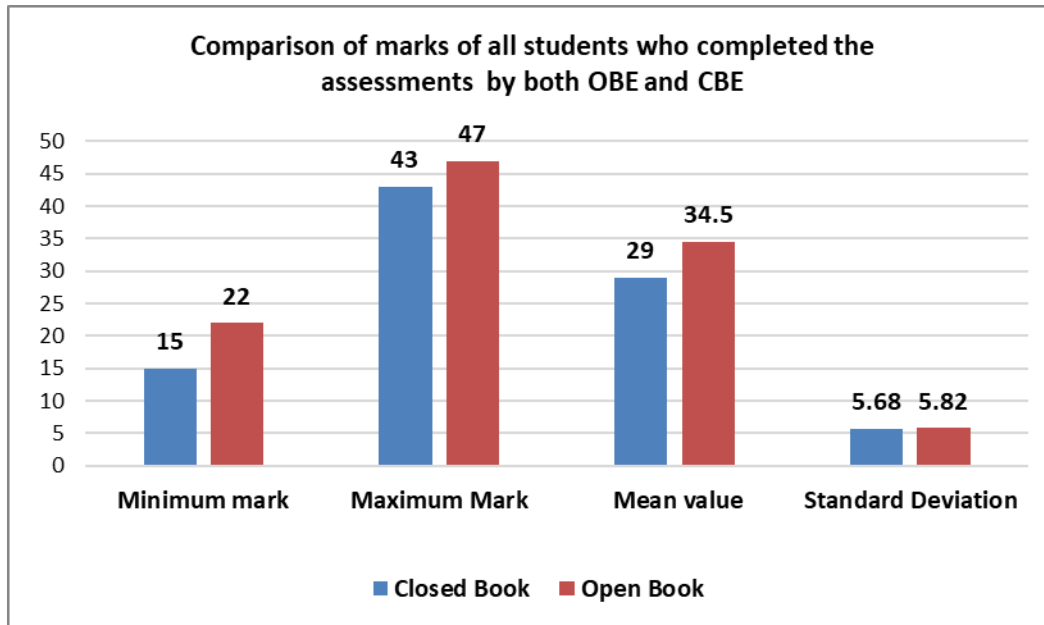


Figure 5.5.12: Comparison of Marks of Students by OBE and CBE

Time limit:

The time taken by students to complete the open book assessment, over and above the time limit of 60 minutes was recorded. However, we allowed some students to continue examination beyond time limit also. 54 students completed the test within the time limit, while 8 students required additional time to complete the assessment.

Evaluation Parameters	Completed in < 60 min		Completed in > 60 min	
	Marks		Marks	Extra time in min
Minimum Mark	26		22	5
Maximum mark	47		42	12
Mean Value	36.5		32	9
Standard deviation	5.62		4.2	3
No of students completed test		54	8	

Table B.5.5.11: Influence of Time on Students Marks in the Open Book Sitting

Students completed in < 60 min:

The minimum and maximum scores for the open book sitting were 52% and 94% respectively, with a mean of 73%

Students exceeded 60 min:

The minimum and maximum scores for the open book sitting were 44% and 84% respectively, with a mean of 64%

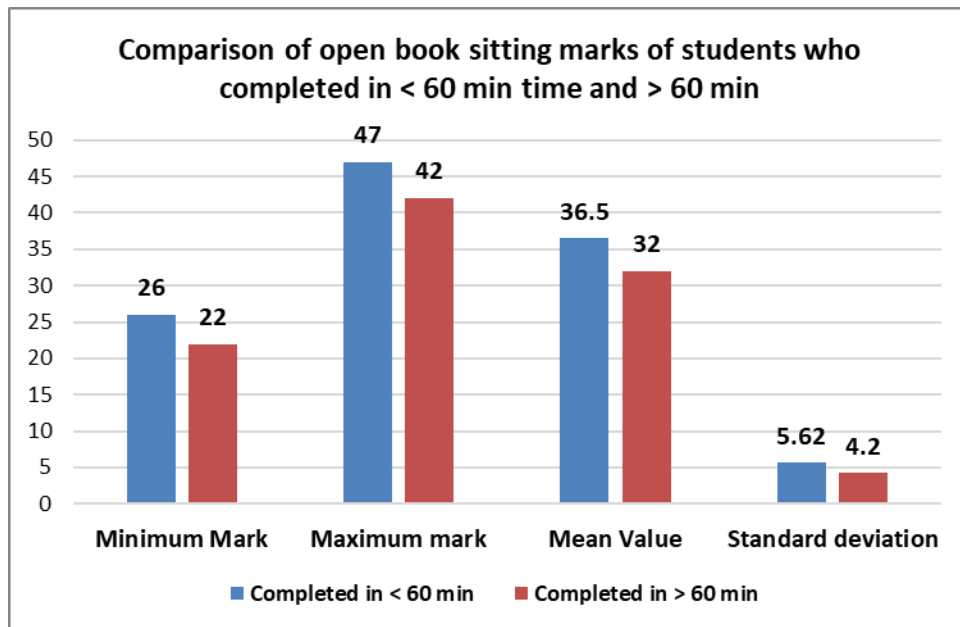


Figure 5.5.13: Comparison of Open Book Sitting Marks of Students for < 60 min and > 60 min.

Significance of results & reflective critique:

- There is a significant improvement in minimum mark and mean value Open book Examination. The increase of 11 % in mean for open book test shows that the average mark of most of the students is increased, which it indicates that there is an improvement in students' performance in OBE sitting when considered average marks.
- However, the data reveals that there is not much improvement in the marks of weaker students in OBE sitting.
- The maximum mark in OBE and CBE sittings is a 4-mark difference (47 and 43 marks respectively)

- It is interesting to note that students spending more than 60 minutes did not show any significant improvement in their marks.

Outcomes:

It is noticed, at the end of this activity, the students are able to

- Develop a filter of required capacity.
- Improved readiness in solving complex problems by open book examination.
- Ready to accept challenges for further complex problems.

7. Technology Enabled Learning (TEL)

21st century revolution in the ICT obliges the teachers and students to keep themselves abreast of the-state-of-the-art of technological development. The deployment of e-learning in teaching-learning process is imperative since the technology is embedded in almost all walks of our life. ICT encapsulates media such as audio, video, pictures, animation, graphics, internet and other software packages.

The use of technology to teach students has gained attention in the recent past. The process of dissemination of information and elicit response from students is a huge task. We adopted the following three technologies used to teach students.

Google Apps:

Sharing lecture notes and PPT through Google drive

- Conducting Online assessments through google forms
- Outcome: It is a collaborative platform for students in which students and instructors share their material online.

Smart Phones:

- Provides easy way to serve the students during the class. It is a good method for instant polling, which can quickly assess student understandings and helps instructors to change teaching modalities.

ICT Technology Classroom:

- ICTs are making dynamic changes in society. They are influencing all aspects of our life. Because ICTs provide both students and teachers with more opportunities in adapting learning and teaching to individual needs, society is forcing institutes aptly respond to this technical innovation.

- Offer the opportunity for more student-centered learning, provide greater opportunity for teacher-to-teacher and student-to-student communication and collaboration.
- Give greater exposure to vocational and workforce skills for students; provide opportunities for multiple technologies delivered by teachers.

Use of Learning Management Tools

The department of EEE uses LMS tools such as Moodles, Virtual Labs etc., to make the students submit their assignments, learn online and implement the experiments to gain knowledge about the concepts learnt in the class. Recently, Google Classroom, MS Teams, Zoom have been utilized by the faculty to teach the courses.

A massive open online course (MOOC) courses aims at providing high quality study materials to student/faculty community worldwide. The MOOC courses offered by Course-era, edX, NPTEL are of high standards. The students are clustered in a group based on their MOOC course interest and the provider. Students are encouraged to complete a MOOC certification to acquire in depth knowledge. The response of students to MOOC course was minimal.

- **MOODLES:** We organize all the material and syllabi of the course, assignments, readings and online quizzes etc.

Outcome: Material is easily accessible to all the students and it reaches to all the students including absentees.

Dissemination of Content through Course Websites:

The faculty members are self-motivated to create course websites to make available of the course content like syllabus, course delivery plan, lecture notes of all units and previous question papers. This facility helps the students to learn more in less time. As an educator we need to be very particular in inducting content to the learners in short span of time.

The screenshot shows a Blackboard user profile for Vamsi Kattamuri. The profile includes a circular profile picture, the name 'VAMSI KATTAMURI', and the user ID 'vamsikattamuri2706'. The profile is divided into two main sections: 'Basic Information' and 'System Settings'. The 'Basic Information' section contains fields for 'Full Name' (VAMSI KATTAMURI), 'Email Address' (vamsirajiv@gmail.com), and 'Password' (with a 'Change password' link). The 'System Settings' section includes 'Language' (System Default (English (United States))), 'Privacy Settings' (Only administrators and other instructors can view my profile information), and 'Global Notification Settings' (Stream notifications). A sidebar on the left lists various Blackboard navigation options like Institution Page, Activity Stream, Courses, Organizations, Calendar, Messages, Grades, and Tools.

Figure 5.5.14 Course Website <https://blackboard.coursesites.com/ultra/profile>

The screenshot displays a course website for 'ELECTRICAL DISTRIBUTION SYSTEMS'. The page features a header with the course name and a 'Customize Page' option. Below the header, there are several content modules. On the left, there are sections for 'My Announcements' (showing no announcements in the last 7 days), 'My Tasks' (showing no tasks due), and 'What's New'. On the right, there is a 'To Do' section with a calendar icon and a date selector set to '06/18/2018'. The 'To Do' section is divided into 'What's Past Due', 'What's Due', 'Today (0)', and 'Tomorrow (0)'. The 'What's Due' section shows a date selector and a 'Go' button. The 'Today' section shows 'Nothing Due Today'. The 'Tomorrow' section shows '(0)'. There are also 'Actions' buttons and a 'More announcements...' link in the 'My Announcements' section, and a 'more tasks...' link in the 'My Tasks' section.

Figure 5.5.15 A Sample of Course Content in the Course Website

The department of EEE also hosts a website <https://sites.google.com/view/vieweee/> in which the data related to all courses of all semesters is maintained. It has syllabus, lecture plans, unit materials, and assignment questions, mid question papers after the exam and university previous question papers. All the students from department of EEE can access it.

Instruction Delivery through Course Websites

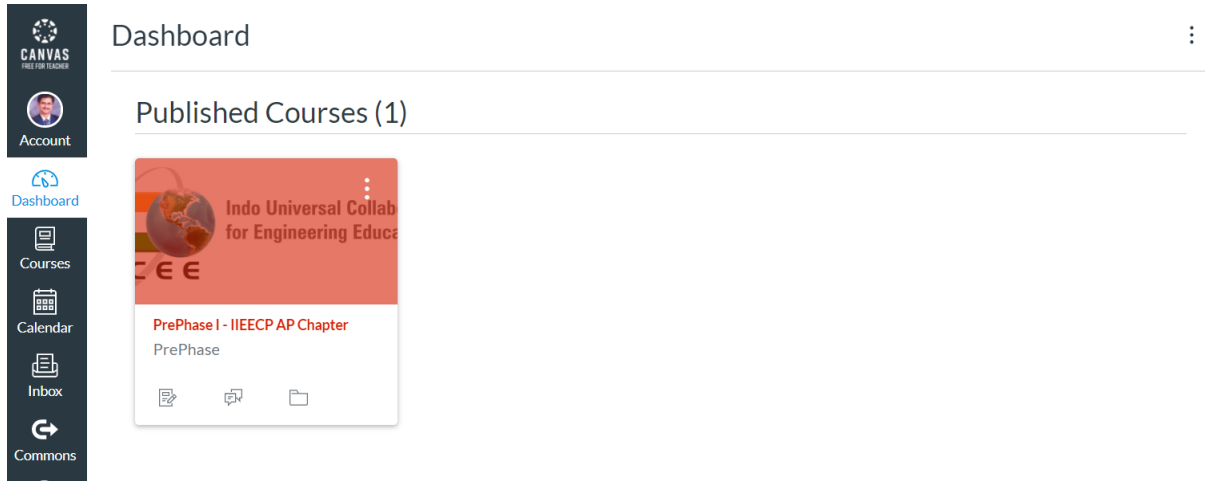


Figure 5.5.16 Content Delivery using Canvas LMS Tool

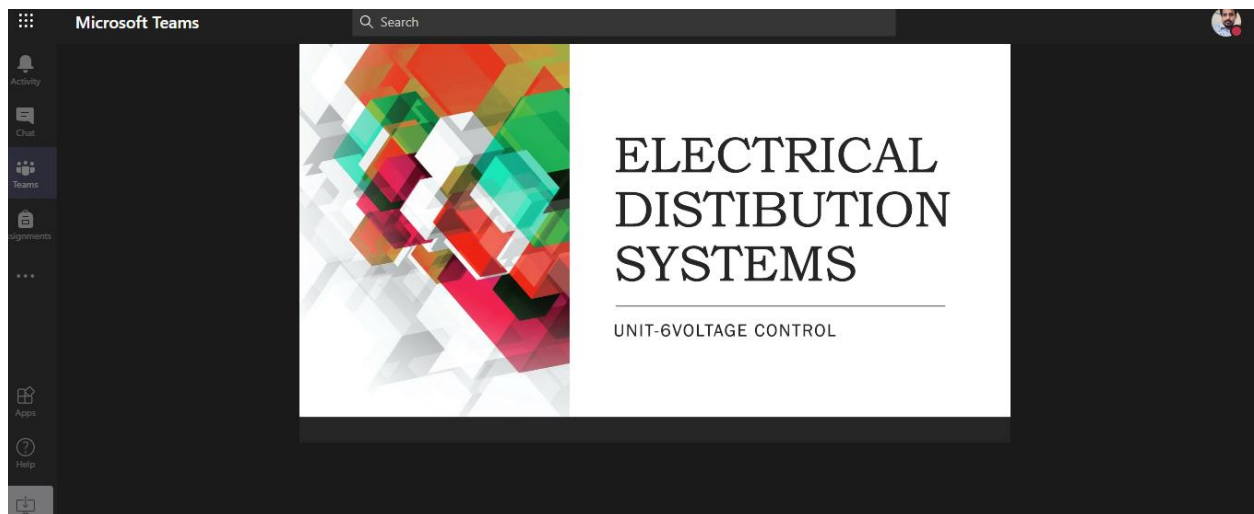


Figure 5.5.17 Content delivery using Microsoft teams

Technology enabled learning was evaluated by asking assignments and quizzes from MOOC materials. Furthermore, extra credits were given to students who completed MOOC courses with good grades. Microsoft teams' service offered by Microsoft is effective in achieving technology enabled learning. Microsoft teams combines the services offered by One Drive for storage, MS word, sheets and slides for writing, Outlook mail for electronic mail and calendar for maintaining schedules. An exclusive folder is created for each class in the corresponding user's One Drive where the student can submit their work for teacher's grading. Sharing of files, conducting assignments quizzes, grading/commenting assignments with respect to prompt sub-mission and

content becomes easy with Microsoft Teams. Mobile version of MS Teams helps in quick access. Teachers can monitor student's progress and can assign grades and provide comments for the assignments.

Massive Open Online Courses (MOOCs)


JNTUK implements Massive Open Online Courses (MOOCs) with emerging technology to survive the motto of excellence. "If you can't reach to the mentor's level, we'll send the mentor to your level" is the main motto of MOOCs. The students were given choice that either they can take online course, or they can go for a traditional face to face mode in the classroom. Any student can attend the MOOCs classes without disturbing the normal face to face classroom schedules.

Methodology:

- Students Need to login into MOODLES software using their mail IDs during time slot given by JNTUK.
- Students listen to video classes and discuss with the subject experts.

Sl. No.	Academic Year	Name of the Faculty	Year/ Sem	Course	No. of Students Participated	Relevance to POs/PSOs
1	2017-18	Mr. A. Chandriah	II-II	Electrical Machines-II	105	PO1-PO4, PSO1, PSO2
2	2018-19	Ms. T. Sushma	IV-I	Energy Audit & Conservation Management	87	PO1-PO4, PSO1, PSO2

Table 5.5.12 MOOCs Activities



Jawaharlal Nehru Technological University Kakinada
Kakinada, A.P. India-533003

Massive Open Online Courses (MOOCs) Time Table
AY: 2018-19- Second Semester

	10.50 AM to 12.30 AM		2.00 PM to 3.40 PM
Monday		B	Energy audit conservation and management
Tuesday	Statistics using R Programming	R	Signals and Systems
Wednesday		E	Metal Cutting and Machine Tools
Thursday	Energy audit conservation and management	A	Signals and Systems
Friday	Statistics using R Programming	K	Metal Cutting and Machine Tools

- Energy audit conservation and management - (B.Tech. IV Year I Sem- EEE) – Dr. P. Suresh babu
- Statistics using R Programming -(B.Tech. II Year I Sem- CSE/IT) – TCS Consultants
- Metal Cutting and Machine Tools -(B.Tech. III Year I Sem- Mech) – Prof. G. L. Samuel, IIT Madras
- Signals & Systems - (B.Tech. II Year I Sem- ECE) - Dr. K.V. Srinivas , IIT BHU

U.S.A
 Registrar-JNTUK

Figure 5.5.18 MOOCs Class on Energy Audit Conservation and Management during Academic Year 2018-19

As Per G.O.Ms.No:17 Dated: 09.09.2014 of Information Technology, Electronics & Communications (Promotions) Department, Government of AP, the Universities are advised to give credits to the students successfully completing notified online courses (MOOCs). Accordingly, the University is implementing the following Massive Open Online Courses(MOOCs) for the academic year 2017-18 – II Semester

Sl. No	Year & Sem	Name of the subject	Name of the Expert	BRANCH
1.	II Yr II Sem.	Java Programming	TCS Consultants, Hyderabad	Computer Science & Engineering/ Information Technology
2.	II Yr II Sem.	Electrical Machines-II	Pradeep Yamula, IIT Hyderabad	Electrical & Electronics Engineering
3.	II Yr II Sem.	Analog Communications	K V Srinivas , IIT, Varnasi	Electronics & Communication Engineering
4.	II Yr II Sem.	Design of Machine Members-I	Viswanath Ch., IIT Hyderabad	Mechanical Engineering
5.	III Yr II Sem	Microwave Engineering	J. Sri Hari Rao, NITW(Rtd.)	Electronics & Communication Engineering

The Colleges willing and having facilities for the implementation of MOOCs shall communicate their willingness to coordinator.moocs.jntuk@gmail.com on or before 19-11-2017.

Video link will be sent only to the colleges, who have given their willingness to take MOOCs for this semester.

Demo and Testing will be done on 18-11-2017(from 9 am to 5 pm) & 19-11-2017(from 9 am to 1 pm)

Copy to all HODs & MOOCs coordinator
to coordinate

Regards
 Dr. A.S.N Chakravarthy
 Professor of CSE
 COORDINATOR
 MASSIVE OPEN ONLINE COURSES(MOOCs)
 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
 KAKINADA, A.P, India-533003
 9701450555/9618719229
www.jntukelearn.in
 "Coming together is a beginning; Keeping together is progress; Working together is success"

moocs file

Figure 5.5.19 MOOCs Class on Electrical Machines-II Academic Year 2017-18

Outcomes of Technology Enabled Learning (TEL):

- Learning from experts.
- Updating the knowledge of Internet.
- Solving problems by ICT methods.
- Improving lifelong learning skills.
- Experts deliver better understanding of the subject in their domain.

Significance of results & reflective critique:

- Offer the opportunity for more students-centered teaching.
- Provide greater opportunity for teacher-to-teacher and student-to-student communication and collaboration.
- Give greater exposure to vocational and workforce skills for students.
- Provide opportunities for multiple technologies delivered by teachers.
- Create greater enthusiasm for learning amongst students.
- Provide teachers with new sources of information and knowledge.
- Prepare learners for the real world.

II. Instructional methods assessment and their Evaluation

The proposed pilot study, technology enabled learning, Flipped classroom for students with different learning styles. The impact of employing the innovative methods is assessed using student's feedback (course end survey).

The Innovative Teaching Learning strategies implemented for the course "Electrical Distribution Systems" is presented here to study their impact. This course consists of six Course Outcomes (COs) as shown in Table B.5.5.13

Course Name: Electrical Distribution Systems Academic Year: 2018-19 Year/Sem: IV/I	
CO1	Explain the various factors of distribution system.
CO2	Explain the substation and feeders of distribution system
CO3	Calculate the voltage drop and power loss
CO4	Explain the protection and its coordination
CO5	Examine the effect of compensation on power factor improvement
CO6	Correlate the effect of voltage, current distribution systems performance.

Table B.5.5.13 Course Outcomes for Electrical Distribution Systems

For the attainment of each course outcome, one teaching learning strategy is implemented along with the regular aids as shown in below Table 5.5.14

Course outcome	Innovative Teaching strategy
CO1	Flipped Classroom
CO2	Conventional Classroom
CO3	JIGSAW (Collaborative)
CO4	STAD (Collaborative)
CO5	Think Pair Share (TPS)
CO6	Technology Enabled Learning (TEL)

Table B. 5.5.14: Innovative Practices Applied to COs

All the students exercise Felder-Silverman questionnaire to know their learning style. The following table shows distribution of students for each learning style. The course considered for the analysis is taught for IV EEE-I Sem, B- Section of strength 41 students

Learning Styles	Number of students	Percentage of students (%)
Active	9	22
Reflective	2	5
Sensing	3	7
Intuitive	2	5
Visual	12	29
Verbal	2	5
Sequential	7	17
Global	4	10

Table B.5.5.15: Student Distribution as per Learning Styles

Course end survey (student feedback) is collected based on the parameters listed in the Table 5.5.16 in a 3-point scale (Excellent-3M; Good-2M; Average-1M). The identity of the students was not revealed to the teacher, so that students are independent to express their opinions on the teaching learning process

Feedback Questions	Average Mark
Satisfaction of syllabus coverage (3)	2.5
Technical Knowledge of the Teacher (3)	2.5
Audibility and Interaction with students (3)	2.7
Achievement of COs defined (3)	2.7
Understanding of the course (On average) (3)	2.4
Effectiveness of lecture delivery-Flipped classroom/JIGSAW/STAD/ TPS (3)	2.6
Efficiency of assessment methods (3)	2.5
Overall Average Mark	2.5
Percentage	85%

Table B.5.5.16: Consolidated Report of Course End Survey

From the feedback scores obtained course end survey in Table B.5.5.16, it is evident that students expressed high degree of satisfaction for the parameter “Effectiveness of lecture delivery -Flipped classroom/JIGSAW/STAD/TPS” with a score of 2.6. This parameter is directly correlated to the innovations employed in teaching learning paradigm.

The process of Course attainment consists of direct attainment (80%) and indirect attainment (20%). Direct attainment is evaluated from mid examination marks (30 Marks). The mid examination comprises of descriptive exam (15 Marks), objective exam (10 Marks) and assignment (5 marks). First mid examination covers three COs: CO1, CO2 & CO3 and Second mid examination covers remaining three COs: CO4, CO5 & CO6. Each CO is evaluated for 10 Marks. The analysis of teaching learning methodologies is presented in Table B. 5.5.17.

Course Outcome	Innovative Practice	Learning Style	Number of students	Students with attainment above 50%	Percentage of students with attainment above 50%	Average
CO1	Flipped Classroom	Visual	12	11	91.67	80.87
		Active	9	7	77.78	
		Sequential	7	4	57.14	
		Global	4	4	100.00	
		Others	9	7	77.78	
CO2	Conventional Classroom	Visual	12	10	83.33	72.54
		Active	9	6	66.67	
		Sequential	7	4	57.14	
		Global	4	4	100.00	
		Others	9	5	55.56	
CO3	STAD	Visual	12	11	91.67	75.30
		Active	9	6	66.67	
		Sequential	7	3	42.86	
		Global	4	4	100.00	
		Others	9	7	77.78	
CO4	Jig Saw	Visual	12	11	91.67	77.06
		Active	9	5	55.56	
		Sequential	7	5	71.43	
		Global	4	4	100.00	
		Others	9	6	66.67	
CO5	Think Pair Share	Visual	12	11	91.67	82.14
		Active	9	6	66.67	
		Sequential	7	6	85.71	
		Global	4	4	100.00	
		Others	9	6	66.67	
CO6	Technology Enabled Learning	Visual	12	11	91.67	82.14
		Active	9	6	66.67	
		Sequential	7	6	85.71	
		Global	4	4	100.00	
		Others	9	6	66.67	

Table B.5.5.17: Analysis of Course Attainments for Different Learning Strategies

From the Table B.5.5.17, it is inferred that all students of learning styles Active/Reflective, Sensing/ Intuitive, Visual/Verbal, Sequential/Global have shown better performance in all the innovative teaching strategies. However, Active and global learners performed well even in

Conventional teaching. From above table, it is also clear that students performed high degree of performance in Flipped Classroom, Think Pair Share, Technology enabled learning. Hence, the attainments of CO1, CO5 and CO6 are better than remaining COs.

From this analysis, It is concluded that innovative teaching learning strategies obviously improve the performance of students of all learning styles. The innovations by the faculty in Teaching Learning strategies are made available in institute website for transparency, peer review and critique. This practice will help to other scholars to reproduce and develop further.

5.6. Faculty as participants in Faculty development/training activities/ STTPs (15)

- *A Faculty scores maximum five points for participation*
- *Participation in 2 to 5 days Faculty development program: 3 Points*
- *Participation >5 days Faculty development program: 5 points*

Vignan's management encourages faculty to attend FDPs/training activities/STTP's organized by premier institutes by sponsoring registration fee, TA and DA. Each faculty will prepare one-page report on the attended FDP and share its outcome with all other faculty members. This practice improves design, analytical, critical thinking and research skills among the peers.

Sl. No.	Name of the Faculty	Max. 5 per Faculty		
		CAYm1 (2018-19)	CAYm2 (2017-18)	CAYm3 (2016-17)
1	Prof. G.V. Nagesh Kumar	3	3	3
2	Dr. K. Durga Syam Prasad	3	3	5
3	Dr. A. Mishra	3	0	5
4	Dr. P. Kishore Kumar	5	0	3
5	Dr. R. Ravi Shankar	3	0	3
6	Dr. Ch. Ananda Babu	0	3	5
7	Dr. K. Kusal Kumar	3	5	3
8	Ms.B. M. Pushpa Latha	5	3	3
9	Mrs. K. Therissa	0	3	3
10	Mr. K. Chiranjeevi	3	3	3
11	Mr. A. Chandraiah	0	3	3
12	Ms. G. Spandana	0	3	3
13	Mr. K. Vamsi	5	3	3
14	Mr. P. V. Sarath	3	3	3
15	Ms. V. V. Sai Santoshi	3	3	3

16	Mr. G. Ravi Kumar	3	3	3
17	Ms. D. Purnima	0	3	3
18	Mr. M. Suresh	0	3	3
19	Mr. B. Rajesh	0	3	3
20	Mr. V. Avinash	3	0	3
21	Ms. K. Kalyani	3	0	3
22	Mr. K. V. Sri Ram Prasad	3	0	3
23	Mr. B. Jaya Prakash	0	3	3
24	Ms. V. Kalyani	3	0	3
25	Mr. K. Avinash	0	3	0
26	Ms. T. Sushma	3	3	0
27	Ms. S. Vani	3	3	0
28	Mr. A. Venkatesh	0	3	0
29	Ms. P. Tabita	3	3	0
30	Ms. Pratyusha Bangale	0	3	0
31	Mr. Ch. Anil Kumar	0	3	0
Sum		66	81	87
RF = Number of Faculty required to comply with 20:1		24	31	31
Assessment = $3 \times (\text{Sum} / 0.5\text{RF})$ (Marks limited to 15)		16.5	14.32	15.09
Average assessment over three years (Marks limited to 15)		15.30		
Marks Obtained		15		

Table 5.6.1 FDPs and STTPs Attended by the Faculty

5.7. Research and Development (30)

The Institute aims at becoming a center of research and development. In this context, it provides various research facilities to its faculty and creates a healthy research environment in the Institute.

5.7.1. Academic Research (10)

Academic research includes research paper publications, Ph.D. guidance, and faculty receiving Ph.D. during the assessment period.

- *Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc.*
(6)
- *Ph.D. guided /Ph.D. awarded during the assessment period while working in the institute* (4)
All relevant details shall be mentioned.

A. Number of quality publications in refereed/SCI Journals, citations, Books/Book Chapters etc. (6)

The Institute believes that a conducive teaching learning environment is possible only when the faculty is upgraded with the developments in the core field. Hence, they are motivated to do research in their area of interest. The faculty is given honorarium for each SCI/Scopus journal or book chapter publication which may amount upto Rs 10000. An honorarium is also provided for authoring books which may amount to Rs 20,000. The institute also provides free access to journals and magazines. It promotes the use of library facilities and e-library for up gradation of faculty knowledge. Academic leaves are provided to the faculty to attend conferences and for their research activities.

Sl. No.	Academic Year	No of SCI / SCOPUS Indexed	UGC Indexed	Other Indexed	Total
1	CAY (2019-20)	4	2	-	6
2	CAYm1 (2018-19)	1	3	-	4
3	CAYm2 (2017-18)	5	-	1	6
	Total	10	5	1	16

Table 5.7.1.1 List of Research Publications

Sl. No.	Authors Name	Title of the Paper	Journal Name	Volume / Issue No	Indexing	ISSN No
1	Dr. Akanksha Mishra	Optimal Reallocation of Generators using Line Utilization Factor and L-Index with UPFC DOI: 10.35940/ijitee.B1036.1292S319	International Journal of Innovative Technology and Exploring Engineering (IJITEE)	Vol 9, Issue 2	Scopus	ISSN 2278-3075
2	Dr. Akanksha Mishra	Industry Relevant Curriculum Design in Engineering in India: A Case Study DOI: 10.16920/jeet/2019/v33i2/139120	Journal of Engineering Education Transformations	Vol 33, Issue 2	Scopus	eISSN 2394-1707
3	Dr. Akanksha Mishra	Optimized utilization of interline power flow controller in an integrated power system DOI: 10.1108/WJE-06-2019-0176	World Journal of Engineering	Vol 17, Issue 2	Scopus	ISSN 1708-5284
4	Dr. Akanksha Mishra	Recent advancements in the Power Electronics Technology Used in Electric Vehicles	TEST Engineering and Management	Vol 83	Scopus	ISSN 0193-4120
5	Ms. T. Sushma	Recognition of Power Quality disturbances utilizing wavelet Transform	Mukth Shabd Journal	Vol 9, Issue 5	UGC	ISSN 2347-3150
6	Ms. V. V. Sai Santoshi	Dynamic Modeling and Simulation of Electric Vehicles	IJREAN	Vol 6, Issue 2	UGC	ISSN 2454-9150

Table B.5.7.1.2: List of Research Publications 2019-20

Sl. No.	Authors Name	Title of the Paper	Journal Name	Volume/ Issue No	Indexing	ISSN No
1	Dr. K. Durga Syam Prasad	UPFC compensated transmission line fault location based on travelling wave theory and wavelet modulus maxima.	International Journal of Engineering and Technology.	Vol 7, Issue 7	Scopus	ISSN: 2227- 524X
2	Dr. K. Kusal Kumar	A Study on improvised quality of power in distribution system using shunt active power filter.	Journal of Applied Science and Computation.	Vol 5, Issue 12	UGC	ISSN: 1076- 5131
3	Dr. K. Kusal Kumar	Significance of shunt active power filters using MATLAB/Simulink in improving quality of power	International Journal of Research	Vol 7, Issue 10	UGC	ISSN: 2236- 6124
4	Ms. Payal Pramanik	Simulation and analysis of MPPT algorithm for P.V array using Sepic converter	IJEAST	Vol 3, Issue 3	UGC	ISSN: 2455- 2143

Table B.5.7.1.3: List of Research Publications 2018-19

Sl. No.	Authors Name	Title of the Paper	Journal Name	Volume/ Issue No	Indexing	ISSN No.
1	Dr. K. Durga Syam Prasad/ Ms. V. Kalyani	Voltage multiplier module for renewable energy system with high step-up and high efficiency converter	ESTIJ	--	Scopus	ISSN: 250-3498
2	Dr. Akanksha Mishra	Severity Based Contingency Management Approach: An Indian Scenario	Journal of engineering science and technology	Vol 12, Issue7	Scopus	ISSN: 1833-1544
3	Dr. Akanksha Mishra	A Line Utilization Contingency Distribution Index Based Secured Operation of Power Systems	Australian Journal of electrical and electronics engineering	--	Scopus	ISSN: 1448-837X
4	Dr. Akanksha Mishra	Congestion Management of Deregulated Power Systems By Optimal Setting Of Interline Power Flow Controller Using Gravitational Search Algorithm	Journal of electrical systems and information technology	Vol 4, Issue1	Scopus	ISSN: 2314-7172
5	Ms. B.M. Pushpa Latha	Design of Power System Stabilizer Using TLBO Technique	International journal of pure and applied mathematics.	Vol 114, Issue 8	Scopus	ISSN: 1314-8080
6	Mr. K.V Sri Ram Prasad	Speed control strategy of brushless dc motor using PID and IMC Controller	VSRD International Journal of Electrical, Electronics & Communication Engineering	Vol. 7, Issue 6	Google Scholar	ISSN: 2319-2232

Table B.5.7.1.4: List of Research Publications 2017-18

5.7.1 CITATIONS

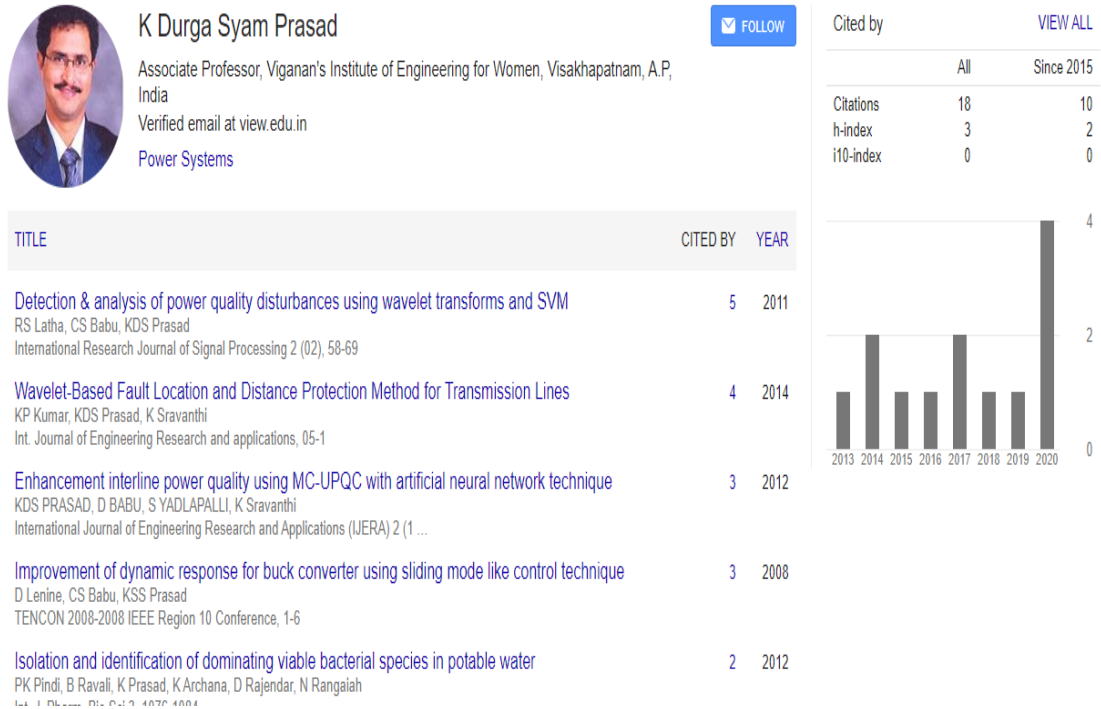


Figure 5.7.1.1(a) Citations: Dr. K. Durga Syam Prasad

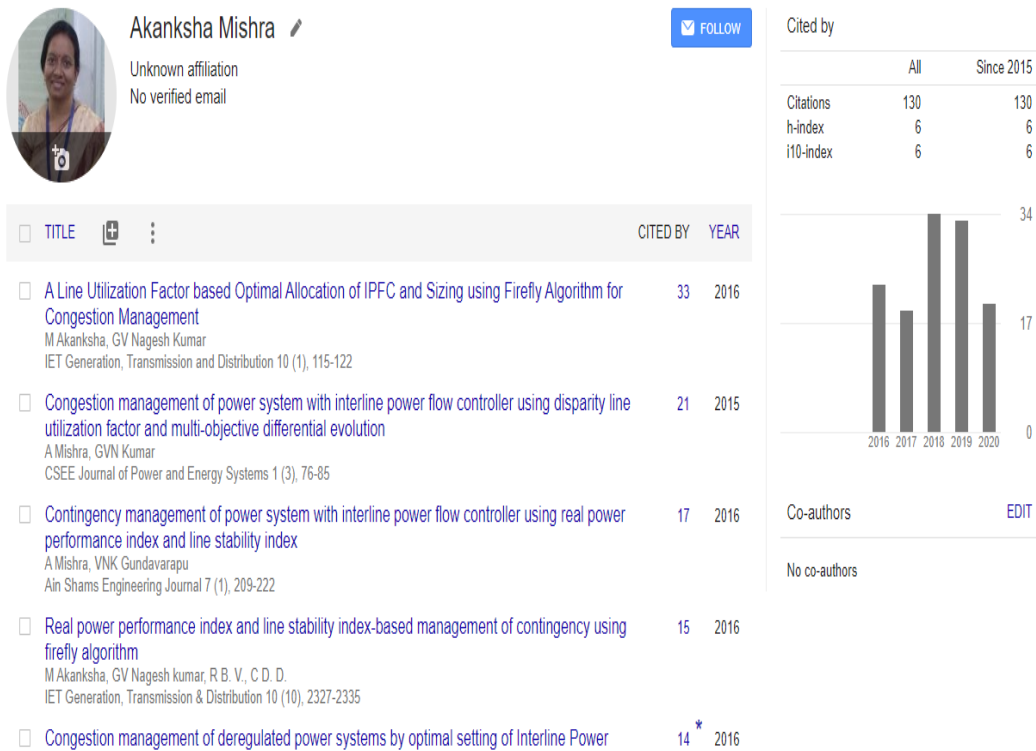


Figure 5.7.1.1(b) Citations: Dr. Akanksha Mishra

B. Ph.D. guided /Ph.D. awarded during the assessment period while working in the institute (4)

Faculty Awarded/Pursuing PhD

Name of the Faculty	Year of Passing	Thesis Title	University
Dr. K. Durga Syam Prasad	August 2019	Identification, Classification and Mitigation of Power System Faults and Disturbances Using Wavelet Transforms	JNTUK
Dr. R. Ravi Shankar	Jan 2020	Certain Aspects of Dynamic Performance of PV Inverter Connected To Grid	JNTUA
Dr. S. Ramu	Jan 2020	Optimized design of controller system for offshore wind farms and development of a hybrid controller for single VSC HVDC and multi-terminal VSC HVDC system	NITK Suratkal

Table B.5.7.1.5: Details of Faculty Receiving Ph.D. Degree for Assessment Year 2019-20

Name of the Faculty	Year of Passing	Thesis Title	University
Dr. K. Kusal Kumar	April 2019	Shunt Active Power Filter Optimization Techniques	JJTU

Table B.5.7.1.6: Details of Faculty receiving Ph.D. Degree: Assessment Year 2018-19

Name of the Faculty	Year of Passing	Thesis Title	University
Dr. Akanksha Mishra	October 2017	A Novel Procedure for The Placement and Sizing of Interline Power Flow Controller In Deregulated Power System for Congestion and Contingency Management	GITAM

Table B.5.7.1.7: Details of Faculty receiving Ph.D. degree: Assessment Year 2017-18

Sl. No	Name of the faculty	Designation	Qualification	PhD Registration
1	Mr. A. Chandraiah	Asst. Prof	M.Tech	March 2017
2	Mr. V. Avinash	Asst. Prof	M.Tech	February 2018
3	Mr. K. V. Sri Ram Prasad	Asst. Prof	M.Tech	August 2018
4	Mr. K. Vamsi	Asst. Prof	M.Tech	August 2019

Table B.5.7.1.8: Details of Faculty pursuing Ph.D.

5.7.2 Sponsored Research (5) – NIL

- *Funded Research*

(Provide a list with Project Title, Funding Agency, Amount and Duration)

Funding amount (Cumulative during CAYm1, CAYm2 and CAYm3):

Amount > 20 Lakh – 5 Marks

Amount \geq 16 Lakh and \leq 20 Lakh – 4 Marks

Amount \geq 12 Lakh and $<$ 16 Lakh – 3 Marks

Amount \geq 8 Lakh and $<$ 12 Lakh – 2 Marks

Amount \geq 4 Lakh and $<$ 8 Lakh – 1 Mark

Amount $<$ 4 Lakh – 0 Mark

5.7.3. Development activities (10)

Provide details:

- *Product Development*
- *Research laboratories*
- *Instructional materials*
- *Working models/charts/monograms etc.*

The Institute provides a conducive environment for Research and Development activities.

(A) Product Development

The Institute encourages the program faculty members and students to do significant projects and involve in product development activities for industry related applications, environmental sustainability and society. The products developed by the students have been listed in Table 5.7.3.1.

Sl. No.	Name of Faculty	Regd. No.	Title of the Product	Relevance to POs/PSOs
1.	Mr. P. V. Sarath	16NM1A0215	Design and Development of Multi utility portable CNC machine.	PO9, PO11, PO12, PSO1
		16NM1A0269		
		16NM1A0221		
		17NM5A0217		
		16NM1A0232		
2.	Dr. K. Durga Syam Prasad	15NM1A0214	Smart Helmet for two wheelers	PO6, PO9, PO11, PO12, PSO1
		15NM1A0233		
		15NM1A0210		
		16NM1A0214		
3.	Dr. K. Durga Syam Prasad	16NM5A0205	Alcohol Detection and Automatic Engine Lock System Using ARDUINO	PO6, PO9, PO11, PO12, PSO1
		15NM1A0234		
		15NM1A0216		
		15NM1A0225		
4.	Dr. Akanksha Mishra	16NM5A0226	Density Based Traffic Control System with Emergency Vehicle Tracker	PO6, PO7, PO9, PO11, PO12, PSO1
		16NM5A0254		
		16NM5A0220		
		16NM5A0251		
5.	Dr. K. Durga Syam Prasad	15NM1A0248	IOT Based E Notice Board	PO9, PO11, PO12, PSO1
		15NM1A0246		
		15NM1A0258		
		15NM1A0249		
6.	Dr. Akanksha Mishra	17NM5A0218	IOT Based Solar Electric Vehicle	PO6, PO7, PO9, PO11, PO12, PSO1
		16NM1A0270		
		16NM5A0208		
		17NM5A0202		

Table B.5.7.3.1: Product development

1. Design and Development of Multi utility portable CNC machine:

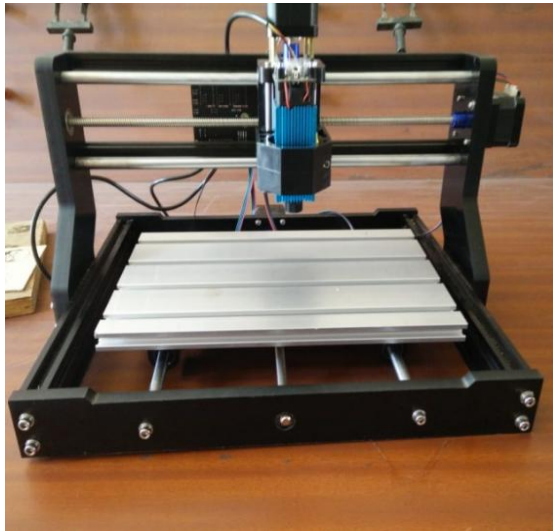
This machine is used to design objects. It makes objects of different dimensions. This machine was designed by the final year students under the guidance of Mr. P.V. Sarath. The parts of the machine are used from the IoT Research Lab.

2. Smart Helmet for 2 Wheelers: This helmet was designed by the 2015 admitted batch students and was guided by Dr. K. Durga Syam Prasad. The design of the Helmet is all about a

safety of person, a person who is drunk will not be able to start his bike. The Sensors in the helmet tests the breath of the persons and depending of the command the bike starts. This helmet interior circuitry is designed in the IoT Research Lab.

3. 3-Phase Fault Detector: - This real time equipment was designed by the Students of 2015 admitted batch which were guided by Dr. K. Durga Syam Prasad. The circuit design deals with all the different types of fault detection and sending a command to the mobile with a text message consisting type of fault and fault clearance time and all other details. This design was conducted in power electronics and drives research lab.

Some of the products developed by the students have been shown in Figure 5.7.3.1.



Portable CNC Machine



Students Working on the CNC Machine



Smart helmet

Figure 5.7.3.1: Products Developed by Students

B) Research Laboratories

The department has two research laboratories IoT research laboratory and Power Electronics and Drives Laboratory

(i) IoT Research Lab:

- It is a collaborative space where students, faculty can interact to solve technical issues related to deploying smart technologies and embedded systems.
- This smart lab supports projects and research supervised by faculty in smart technology, mobile application, Internet of things (IoT), home automation, wearable computing etc.
- The description of items used in IOT lab and the projects accomplished in the lab are mentioned in Table B.5.7.3.2 and Table B.5.7.3.3 respectively.

Sl. No.	Description of item	Quantity
1	Tinker Cad Virtual simulator software (Open source)	1
2	Proteus Virtual simulator software (Open Source)	1
3	Keil C Software (Open Source)	1
4	Eclipse Iol (Open Source)	1
5	LPC 2148 (ARM 7) Development Board	1
6	ARM CORTEX N3	3
7	Innovate ARM 926 developer kit	3
8	IOT Development Board Self Starter learning Arduino Kit	9
9	MSP 430 EXP G2 Launch Pad	30
10	MSP EXP430F5529 Experimenter Board	2
11	RF Booster Pack CC110L	5
12	STEPS Experimenter Pack for MSP430	10
13	MSP-EXP430F5529LP	10
14	BOOST-DAC8568	2
15	No. of Desktop computers	15

Table B.5.7.3.2: IoT Research Lab Equipment

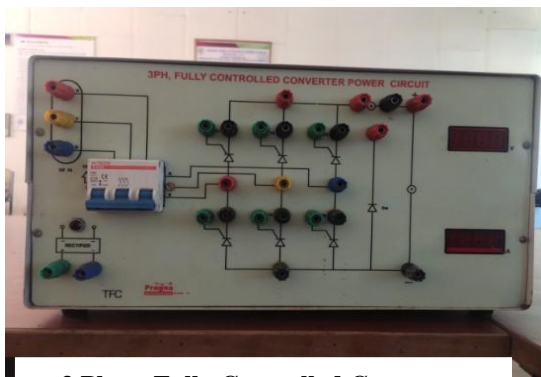
Sl. No.	Name of Faculty	Regd. No.	Title of the Project	Relevance to POs/PSOs
1	Dr. K. Durga Syam Prasad	15NM1A0248	IOT Based E Notice Board	PO9, PO11, PO12, PSO1
		15NM1A0246		
		15NM1A0258		
		15NM1A0249		
2	Dr. Akanksha Mishra	17NM5A0218	IOT Based Solar Electric Vehicle	PO6, PO7, PO9, PO11, PO12, PSO1, PSO2
		16NM1A0270		
		16NM5A0208		
		17NM5A0202		
		16NM5A0272		
3	Mr. P.V. Sarath	15NM1A0256	IoT based water monitoring system	PO6, PO7, PO9, PO11, PO12, PSO1
		16NM5A0222		
		15NM1A0242		
		15NM1A0237		
4	Mr. V. Avinash	16NM5A0212	Automatic LPG Cylinder Booking and Leakage Detection Using Arduino UNO	PO6, PO7, PO9, PO11, PO12, PSO1
		15NM1A0212		
		15NM1A0211		
		15NM1A0217		
		16NM5A0209		

Table B.5.7.3.3: Projects Accomplished by IoT Research Lab

(ii) Power Electronics and Drives Research Lab:

- This lab facilitates the students and faculty of the department of EEE to carry on research in power electronics and drives. It is well equipped with apparatus like motors, transformers, various types of loads and computers to run simulations.
- The apparatus that are equipped in the research lab are listed in Table B.5.7.3.4. The projects successfully accomplished in the lab are mentioned in Table B.5.7.3.3.

Sl. No.	Description of item	Quantity
1	3- Phase Converter Firing Unit	3
2	3- Phase Fully Controlled Converter Power Circuit 415V/5A	2
3	DC Shunt Motor- 0.5Hp/180V	1
4	Four Quadrant Chopper Drive-24V	1
5	DC Shunt Motor 18watts/24V/2A	1
6	3-Phase AC Voltage Controller Power Circuit 415 V/5A	1
7	3-Phase Induction Motor 1.0hp/440	1
8	IGBT Based 1- Phase PWM Inverter With V/F Control	1
9	3-Phase IGBT Based PWM Inverter With V/F Control	1
10	3-Phase Slip Ring Induction Motor 5hp/430V	1
11	3-Phase PWM Pulse Generation Using Pic Microcontroller	1
12	3-Phase SCR Based Inverter Drive	1
13	3-Phase Induction Motor 0.5hp/230V	2
14	DSP Based V/F Control	1
15	3-Phase Isolation Transformer 440/5A	2
16	3-Phase Isolation Transformer 200/3A	1
17	Resistive Load-600/5A	1
18	Rheostats100ohms/2A	2
19	Loading Inductor- 0-150mH/2A	4
20	Regulated Power Supply	2
21	Speed Control Of 3-Phase Induction Motor by Rheostat Control	1
22	No. of Desktop computers	5

Table B.5.7.3.4 Equipment in Power Electronics and Drives Research Lab**3 Phase Fully Controlled Converter
power Circuit 415V, 5A****Micro Controller Based
Triggering Circuit****Figure 5.7.3.2 Products Developed by Students**

Sl. No.	Name of Faculty	Regd. No.	Title of the Project	Relevance to POs/PSOs
1.	Mr. P. V. Sarath	16NM1A0215	Three Phase Fault detector	PO9, PO11, PO12, PSO1, PSO2
		16NM1A0269		
		16NM1A0221		
		17NM5A0217		
		16NM1A0232		
2.	Dr. K. Durga Syam Prasad	15NM1A0214	Automatic Grid Control	PO6, PO9, PO11, PO12, PSO1, PSO2
		15NM1A0233		
		15NM1A0210		
		16NM1A0214		
3.	Dr. K. Durga Syam Prasad	16NM5A0205	TCR/TSR Based Reactive Power Control	PO9, PO11, PO12, PSO1, PSO2
		15NM1A0234		
		15NM1A0216		
		15NM1A0225		
4.	Dr. Akanksha Mishra	16NM5A0226	Alarm System for Voltage Fluctuation	PO6, PO9, PO11, PO12, PSO1, PSO2
		16NM5A0254		
		16NM5A0220		
		16NM5A0251		

Table B.5.7.3.5: Projects Accomplished by Power Electronics and Drives Research Lab

C) Instructional Materials

Instructional materials are defined as resources that organize and support instruction, such as textbooks, course file, materials, lab manuals, tasks, and supplementary resources. It refers to the human and non-human materials and facilities that can be used to ease, encourage, improve and promote teaching and learning activities.

Course Files

Course files for all courses are prepared by the faculty comprising of the following fields to enrich the students with technical knowledge.

- Department Mission, Vision
- Program outcomes
- Course syllabus
- Course outcomes
- CO-PO Mapping
- University Academic Calendar
- Department Academic Calendar
- CDP
- Course Timetable
- Lecture Notes
- Question Bank (unit wise)
- Multiple Choice Questions
- Tutorial Topics/Problems
- Topics beyond Syllabus
- PPT's/videos/other materials
- Internal question papers & scheme
- Assignment Questions
- University old question Papers
- Gap Analysis
- Remedial Classes to weak students

- Result Analysis & Course attainments

GATE Materials

To help students who aspire to get good ranking in GATE exams, in-house tutorial is arranged post regular class hours wherein the students are also provided with take home material. These materials are based on the pattern in which GATE exams are conducted and the material is prepared by the faculty members of the department.

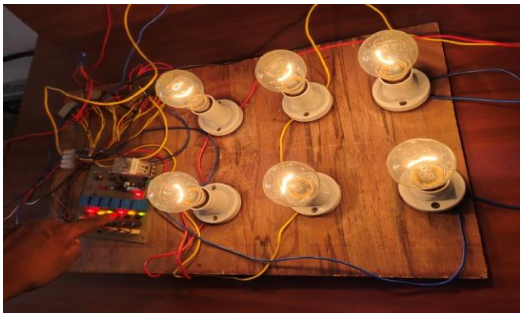
Lab Manuals

Lab Manuals are prepared for every regulation and the respective handouts will be given at the beginning of each semester.

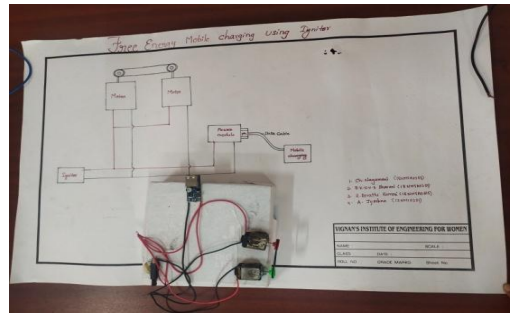
D) Working models created using Power Electronics and Drives Lab

Working Models

A sample of some of the working models developed by students is shown in Figure 5.7.3.3.



3 Phase Fault Detector



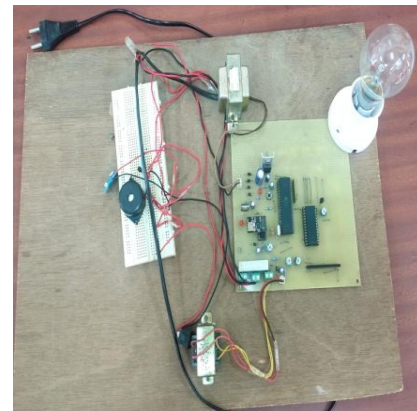
Free Energy Mobile Charger Using Ignitor



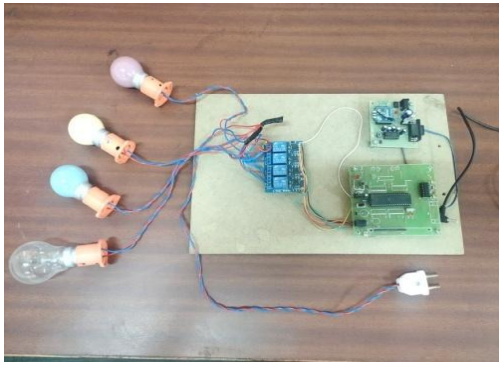
Automatic Grid Control



TCR/TSR Based Reactive Power Control



Alarm System for Voltage Fluctuation



3-Phase-Sequence Identifier



Prototype of NTPC Power Plant

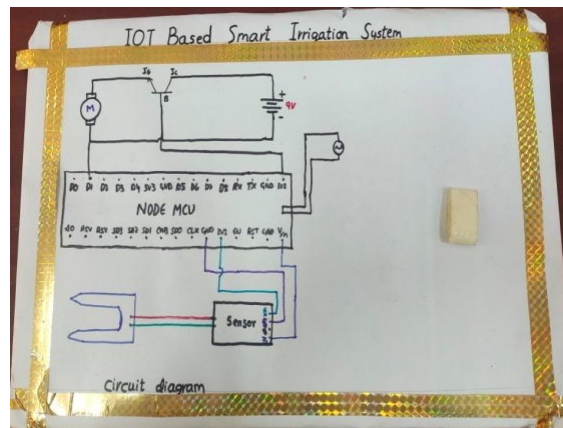
Figure 5.7.3.3: Products Developed by Students

Charts

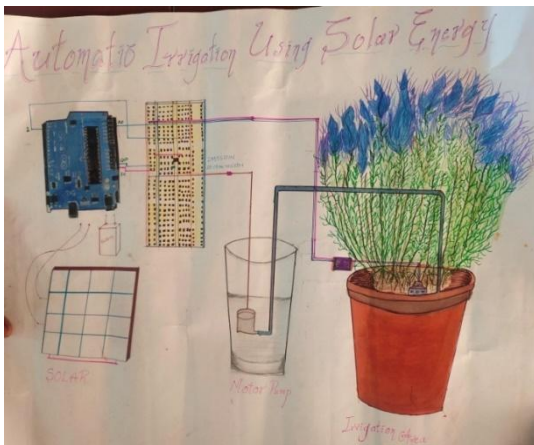
Some of the charts designed by students are displayed in Figure 5.7.3.4:



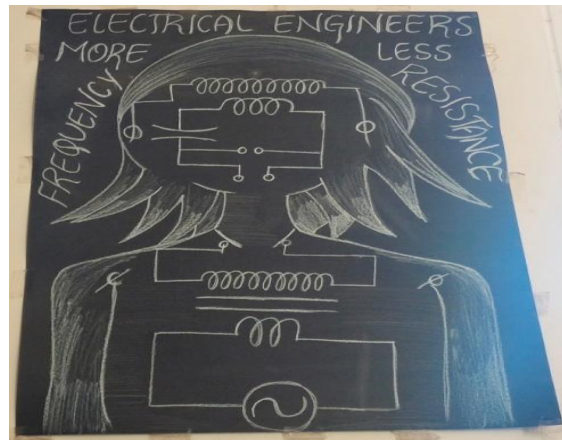
History of Electricity



IoT Based Smart Irrigation System



Automatic Solar Based Irrigation



Face of Electricity

Figure 5.7.3.4: Charts Developed by Students

5.7.4 Consultancy (From Industry) (5 Marks)

(Provide a list with Project Title, Funding Agency, Amount and Duration)

Funding amount (Cumulative during CAYm1, CAYm2 and CAYm3):

Amount > 10 Lakh – 5 Marks

Amount >= 8 Lakh and <= 10 Lakh – 4 Marks

Amount >= 6 Lakh and < 8 Lakh – 3 Marks

Amount >= 4 Lakh and < 6 Lakh – 2 Marks

Amount >= 2 Lakh and < 4 Lakh – 1 Mark

Amount < 2 Lakh – 0 Mark

Sl. No.	Project Title	Funding Agency	Amount	Duration
1	IoT based Power Quality Monitoring and Correction for Industrial Panel Boards	Ind Power, Plot No. 61, Block - E, Auto Nagar, Visakhapatnam, Andhra Pradesh 530012	Rs. 10,50,000	2 years 2018-20

Table B.5.7.4.1: Consultancy from Industry

5.8. Faculty Performance Appraisal and Development System (FPADS) (30)

Faculty members of Higher Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, Faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curricula. They are also expected to provide services to the industry and community for understanding and contributing to the solution of real-life problems in industry. Another role relates to the shouldering of administrative responsibilities and cooperation with other Faculty, Heads-of-Departments, and the Head of Institute. An effective performance appraisal system for Faculty is vital for optimizing the contribution of individual Faculty to institutional performance.

The assessment is based on:

- *A well-defined system for faculty appraisal for all the assessment years (10)*
- *Its implementation and effectiveness (20)*

A) A well-defined system for faculty appraisal for all the assessment years (10)

The faculty members shall submit the open and transparent performance report in the prescribed format, containing the teacher's academic, research, supplementary activities and achievements

during the academic year. The Head of the Department shall offer his remarks and observation on the form. The Academic Planning and Audit Committee (APAC) shall review the report on Performance Appraisal staff to the Management through the Principal. The assessment shall be used for the following purposes.

1. Award of annual increments.
2. Award of special increments/allowance.
3. Award of career advancement and promotion.
4. Monitoring and recording of the regular growth of each faculty member.

Parameters to assess Performance Appraisal

The performance of staff is assessed through **3 criteria** for the purpose of annual increment with a total score of 10 as shown in Table 5.8.1.

Criteria No.	Element of Criteria	Max. Score	% of Weightage
I	Academic Results & Feedback	4 Marks	40
II	Research & Development	3 Marks	30
III	Supplementary Activities	3 Marks	30
Total		10 Marks	100

Table B.5.8.1: Criteria for Performance Appraisal

Criteria -1 is mainly focused on the **academic performance** of staff which covers the teaching related activities, domain knowledge, semester results and students' feedback in an academic year.

Criteria -2 is mainly considered the faculty output in **Research and Development** activities in an academic year. Based on cadre of faculty, the expected output of R&D shall be categorized. R & D activities includes Research papers published in scholarly journals, book publications, research projects, consultancy projects, organizing and attending conferences/seminars, workshops and FDPs.

Criteria-3 considers **curricular and extracurricular activities**, counseling/mentoring of students, roles and contributions in institutional governance and administration, awards and achievements and professional development activities.

The procedure for annual increments is depicted in Figure 5.8.1.

Grant/Award of Annual Increments:

Increments shall be sanctioned by the Management as recommended by the Principal. The grant of number of increments is based on the score secured by the faculty out of the total score of 10 as shown in Table B.5.8.2.

Secured Score	Grade	No. of Increments
≥ 7.5	A+	3 (Three)
$< 7.5 \text{ \& } \geq 6.5$	A	2 (Two)
$< 6.5 \text{ \& } \geq 5$	B	1 (One)
< 5	C	No Increment

Table B.5.8.2 Criteria for Increments

B) Its implementation and effectiveness (20)

The increments will be given in the month of August. Principal issues a circular to submit self-appraisal form in the prescribed form given Figure 5.8.2. The eligible faculty is supposed to submit self-appraisal form after furnishing all the details with support documents through HOD. The faculty who served the institute for 2 semesters in academic year are eligible for increment. A committee is constituted to scrutiny and prepares eligible list. It is observed that 90% of the faculty received increments through our self-appraisal policy.

- a) If a teaching staff falls in 'B' grade in 2 continuous years, the Management/Principal have right to terminate or service one-month notice to staff for termination due to lack of improvement in performance.
- b) If a teaching staff falls in 'C' grade, the Management/Principal have right to terminate the faculty immediately or service one-month notice to staff for termination. In special cases, the Principal shall allow an opportunity to improve the performance with in one academic year.

Letter of Annual Increment:

All employees will be informed in writing about their annual increments after the Performance Appraisal

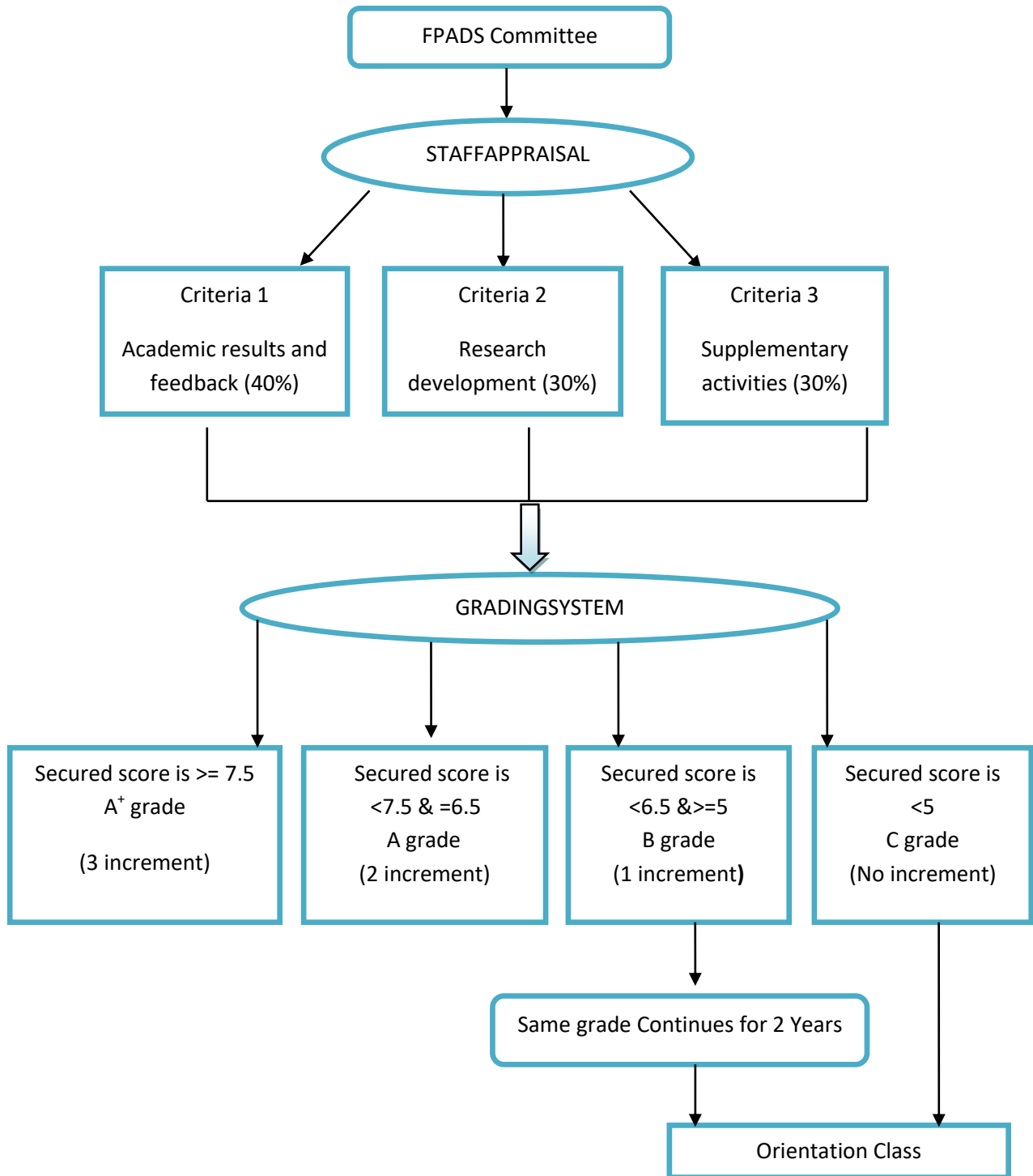


Figure 5.8.1 Faculty Performance Appraisal and Development System



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Approved by AICTE, New Delhi & Affiliated to JNTU Kakinada)

Kapu Jaggarajupeta, VSEZ (Post), Visakhapatnam - 530 049

Ph: 9133300357, 8886066339 :: Fax: 0891-2010487 :: E-Mail: viewvizag2008@gmail.com

FACULTY PERFORMANCE EVALUATION FORM (FOR THE PERIOD AUG- 2018 TO JULY- 2019)

Part A: General Information

1. Name (In Block Letter) :
2. Employee ID :
3. Designation & Department :
4. Date of Joining :
5. Month of Increment Due :

Part B : Academic Performance Indicators

Category I

Instructional/Academic Element

(a) Teaching Engagement - Semester-I

Course (UG/PG)	Year & Branch	Sec	Class Strength	Subject	No of Classes Taken	No of Units Covered	% of Syllabus Covered	Pass %	Feed back

Teaching Engagement - Semester-II

Course (UG/PG)	Year & Branch	Sec	Class Strength	Subject	No of Classes Taken	No of Units Covered	% of Syllabus Covered	Pass %	Feed back

(b) Laboratory:

Semester	Year & Branch	Sec	Strength	Name of Laboratory	No of Sessions Taken	No of Exp. Prescribed as per syllabus	No of Exp. Completed

(c) No. of Project Supervised:

Category II

Research, Publication & Professional Development Activities (Proofs to be attached)

(a) Publications/Books/Patents/Copy Rights (From 08/2018 to 07/2019)

No. of Publications in SCI Journals- Paid : Unpaid:

No. of Publications in Scopus Journals- Paid : Unpaid:

No. of publications in Conference Proceedings- Int. National: National:

No. of Books Authored/Contributed: No. of Patents/Copy Rights:

(b) No. of Conferences/Workshops/FDPs attended: (From 08/2018 to 07/2019)

International Conferences	National Conferences	International Workshops	National Workshops	FDPs

Figure 5.8.2.a: Format of Faculty Appraisal Form

(c) No. of Conferences/Workshops/FDPs Organized: (From 08/2018 to 07/2019)

International Conferences	National Conferences	International Workshops	National Workshops	FDPs

d) Research Funding Projects:

Year	Title of the Project	Type of Project	Funded Agency	Project Value

Category III

Supplementary Activities (Attached Additional Sheet, if required)

a) Awards and acknowledging certificates (kindly attach supporting documents):

(NET/SLET/M.Phil/Ph.D/IUCET/NPTEL/Other _____)

b) Counseling of Students:

(i) Total no. of Regular students Allotted : (ii) Total no. of students cleared all the subjects:

(iii) No. of Backlog Students Allotted : (iv) No. of Students cleared Backlogs:

c) Roles and contributions in Institutional Governance and administration (Tick whichever is applicable)

Head of the Department/Department T&P Coordinator/ NSS Coordinator/Women Grievance Cell Coordinator/ Assistant Head of the Department/ Website Coordinator/ Institutional Criteria Coordinator of NBA & NAAC / College Level Admissions/Time-Table Coordinator/IQAC Coordinator/ Alumni Association Coordinator/ CoE/Exam Cell Staff/Any other Institutional Level Coordinator role assigned by Principal (Please specify.....)

(d) Regularity assessment of Faculty/Leave Details (From 08/2018 to 07/2019)

CL	ML	CCL	EL	Other Leaves (Academic/Mat. Leave/Paternity Leave)	Loss of Pay due to excess Leaves	Loss of Pay due to biometric deviations

e) Other activities Inside/Outside the campus towards development of self & students:

f) Contribution to Department:

f) Contribution to Institution:

h) Any other Information

Signature of Faculty

Remarks of HoD

Signature of Head of the Department

Remarks/Recommendations of Principal

Signature of Principal

Figure 5.8.2.b: Format of Faculty Appraisal Form

Assessment Year	Total No. of faculty (including 1 st Year)	A ⁺ grade	A grade	B grade	C grade
CAYm2 (2017-18)	30	16	11	3	0
CAYm1 (2018-19)	27	15	10	2	0
CAY(2019-20)	28	15	11	2	0

Table B.5.8.3 Faculty Appraisal Grades for CAY, CAYm1, CAYm2

The faculty who secured 3 increments will consider under A⁺ grade. Similarly, the faculty who secured 2, 1 and No increments will come under A, B, C grades respectively. Based on the TEACHING STAFF APPRAISAL POLICY the list of the data of increments secured by EEE faculty during last 3 years is shown in Table 5.8.3.

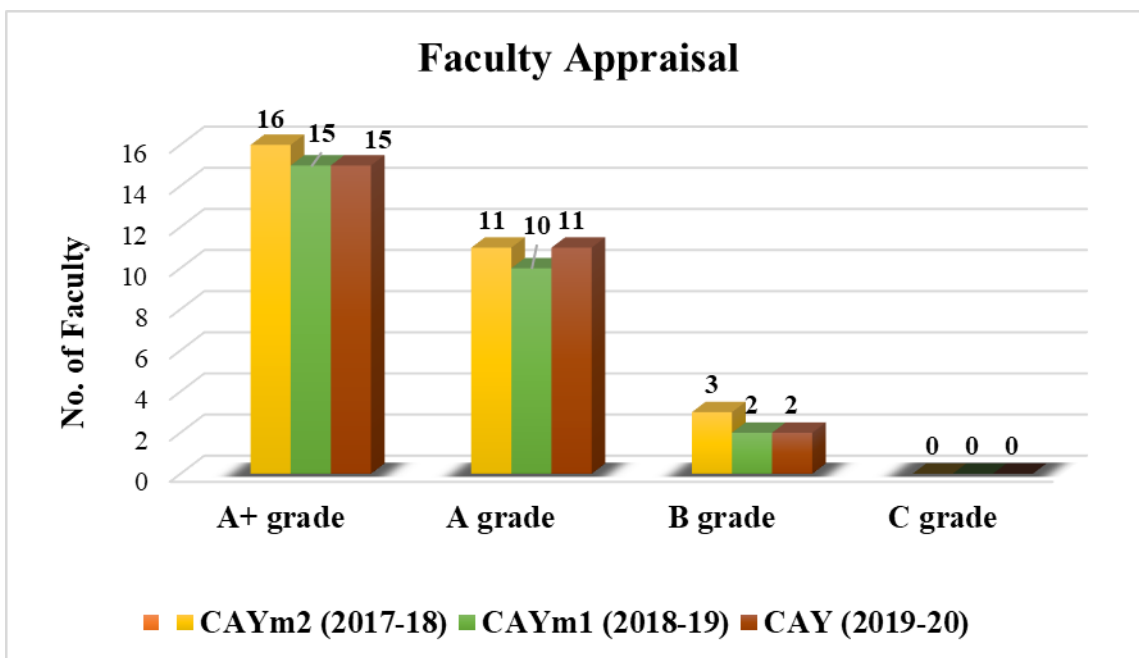


Figure 5.8.3: Faculty Performance Analysis

The number of A⁺ and A grades are gradually increased from CAYm2 (2017-18) to CAY (2019-20). Due to the presence of experienced faculty in EEE department the number faculty with C grade is zero in CAYm2 (2017-18) to CAY (2019-20). There by the performance of Faculty is

increased year by year as seen in Figure 5.8.3. A sample copy of the faculty appraisal form and letter of increments are shown in Figure 5.8.4, 5.8.5 and 5.8.6 respectively. Details of Faculty receiving annual increments in CAYm2 (2017-18) to CAY (2019-20) are mentioned in Table 5.8.4 to Table 5.8.6 respectively.

List of Faculty Received Annual Increments (2017-18):

Sl. No	Name of Faculty Member	Designation	Grade	No. of Increments	Increment (Rs.)
1	Dr. G. V. Nagesh Kumar	Professor	A+	3	7,248
2	Dr. P. Kishore Kumar	Assoc. Prof	A+	3	6,798
3	Dr. Ch. Ananda Babu	Assoc. Prof	A+	3	6,798
4	Dr. Akanksha Mishra	Assoc. Prof	A+	3	6,798
5	Mr. K. Durga Syam Prasad	Asst. Prof	A+	3	2,625
6	Mr. R.S.Ravi Shankar	Asst. Prof	A	2	1,750
7	Mr. K. Kusal Kumar	Asst. Prof	A	2	1,750
8	Ms. B. M. Pushpa Latha	Asst. Prof	A+	3	2,625
9	Ms. K. Therissa	Asst. Prof	A+	3	2,625
10	Mr. K. Chiranjeevi	Asst. Prof	A	2	1,750
11	Mr. A. Chandraiah	Asst. Prof	A	2	1,750
12	Mr. K. Vamsi	Asst. Prof	A+	3	2,625
13	Mr. P. V. Sarath	Asst. Prof	A+	3	2,625
14	Ms. V. V. Sai Santoshi	Asst. Prof	A+	3	2,625
15	Mr. G. Ravi Kumar	Asst. Prof	A+	3	2,625
16	Mr. M. Suresh	Asst. Prof	A+	3	2,625
17	Mr. B. Rajesh	Asst. Prof	A	2	1,750
18	Mr. V. Avinash	Asst. Prof	A+	3	2,625
19	Mr. K. V. Sri Ram Prasad	Asst. Prof	A+	3	2,625
20	Ms. K. Kalyani	Asst. Prof	A	2	1,750
21	Mr. A. Venkatesh	Asst. Prof	A+	3	2,625
22	Ms. Pratyusha Bangale	Asst. Prof	A	2	1,750
23	Ms. V. Kalyani	Asst. Prof	A	2	1,750
24	Ms. P. Tabita	Asst. Prof	A	2	1,750
25	Ms. S. Vani	Asst. Prof	B	1	875
26	Ms. T. Sushma	Asst. Prof	A+	3	2,625

27	Mr. K. Avinash	Asst. Prof	B	1	875
28	Mr.P.S.V.Kishore	Asst. Prof	A	2	1,750
29	Ms. Y. Sravani	Asst. Prof	A	2	1,750
30	Ms. B. Sireesha	Asst. Prof	B	1	875

Table B.5.8.4: Annual Increments CAYm2 (2017-18)

List of Faculty Received Annual Increments (2018-19):


Sl. No	Name of Faculty Member	Designation	Grade	No. of Increments	Increment (Rs.)
1	Dr. P. Kishore Kumar	Assoc. Prof	A+	3	6,798
2	Dr. Akanksha Mishra	Assoc. Prof	A+	3	6,798
3	Dr. K. Kusal Kumar	Assoc. Prof	A+	3	6,798
4	Mr. K. Durga Syam Prasad	Asst. Prof.	A+	3	2,625
5	Mr. R.S.Ravi Shankar	Asst. Prof.	A	2	1,750
6	Ms. B. M. Pushpa Latha	Asst. Prof.	A+	3	2,625
7	Ms. K. Therissa	Asst. Prof.	A+	3	2,625
8	Mr. K. Chiranjeevi	Asst. Prof.	A	2	1,750
9	Mr. A. Chandraiah	Asst. Prof.	A	2	1,750
10	Mr. K. Vamsi	Asst. Prof.	A	2	1,750
11	Mr. P. V. Sarath	Asst. Prof.	A	2	1,750
12	Ms. V. V. Sai Santoshi	Asst. Prof.	A	2	1,750
13	Mr. G. Ravi Kumar	Asst. Prof.	A+	3	2,625
14	Mr. M. Suresh	Asst. Prof.	A+	3	2,625
15	Mr. B. Rajesh	Asst. Prof.	A	2	1,750
16	Mr. V. Avinash	Asst. Prof.	A	2	1,750
17	Mr. K. V. Sri Ram Prasad	Asst. Prof.	A+	3	2,625
18	Ms. K. Kalyani	Asst. Prof.	A+	3	2,625
19	Mr. A. Venkatesh	Asst. Prof.	A+	3	2,625
20	Ms. Pratyusha Bangale	Asst. Prof.	A+	3	2,625
21	Ms. V. Kalyani	Asst. Prof.	A	2	1,750
22	Ms. P. Tabita	Asst. Prof.	A+	3	2,625
23	Ms. S. Vani	Asst. Prof.	B	1	875
24	Ms. T. Sushma	Asst. Prof.	A+	3	2,625
25	Mr. K. Avinash	Asst. Prof.	A	2	1,750

26	Ms. Y. Sravani	Asst. Prof.	A+	3	2,625
27	Ms. B. Sireesha	Asst. Prof.	B	1	875

Table B.5.8.5: Annual Increments CAYm1(2018-19)**List of Faculty Received Annual Increments (2019-20):**

Sl. No	Name of Faculty Member	Designation	Grade	No. of Increments	Increment (Rs.)
1	Dr. P. Kishore Kumar	Professor	A+	3	7,248
2	Dr. Akanksha Mishra	Professor	A+	3	7,248
3	Dr. K. Kusal Kumar	Assoc. Prof.	B	1	2,266
4	Dr. K. Durga Syam Prasad	Assoc. Prof.	A+	3	6,798
5	Dr. R.S.Ravi Shankar	Assoc. Prof.	A+	3	6,798
6	Dr. S. Ramu	Assoc. Prof.	A+	3	6,798
7	Ms.B. M. Pushpa Latha	Asst. Prof.	A	2	1,750
8	Ms. K. Therissa	Asst. Prof.	A+	3	2,625
9	Mr. K. Chiranjeevi	Asst. Prof.	A+	3	2,625
10	Mr. A. Chandraiah	Asst. Prof.	A+	3	2,625
11	Mr. K. Vamsi	Asst. Prof.	A+	3	2,625
12	Mr. P.V. Sarath	Asst. Prof.	A	2	1,750
13	Ms. V. V. Sai Santoshi	Asst. Prof.	A	2	1,750
14	Mr. G. Ravi Kumar	Asst. Prof.	A	2	1,750
15	Mr. M. Suresh	Asst. Prof.	A	2	1,750
16	Mr. V. Avinash	Asst. Prof.	A+	3	2,625
17	Mr. K. V. Sri Ram Prasad	Asst. Prof.	A+	3	2,625
18	Mr. A. Venkatesh	Asst. Prof.	A+	3	2,625
19	Ms. V. Kalyani	Asst. Prof.	A	2	1,750
20	Ms. P. Tabita	Asst. Prof.	A	2	1,750
21	Ms. S. Vani	Asst. Prof.	A	2	1,750
22	Ms. T. Sushma	Asst. Prof.	A+	3	2,625
23	Mr. K. Avinash	Asst. Prof.	A+	3	2,625
24	Mr. B. Naidu	Asst. Prof.	A+	3	2,625
25	Ms. Payal Pramanik	Asst. Prof.	B	1	875
26	Ms. Y. Sravani	Asst. Prof.	A	2	1,750
27	Ms. B. Sireesha	Asst. Prof.	A	2	1,750
28	Mr.K.Srinivasa Rao	Asst. Prof.	A	2	1,750

Table B.5.8.6: Annual Increments CAY (2019-20)



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Approved by AICTE, New Delhi & Affiliated to JNTU Kakinada)
 Kapu Jaggarajupeta, VSEZ (Post), Visakhapatnam - 530 049
 Ph: 9133300357, 8886066339 :: Fax: 0891-2010487 :: E-Mail: viewvizag2008@gmail.com

FACULTY PERFORMANCE EVALUATION FORM
(FOR THE PERIOD AUG- 2018 TO JULY- 2019)

Part A: General Information

1. Name (In Block Letter) : Dr. Ananksha Mishra
 2. Employee ID : 10620
 3. Designation & Department : Asstt. Prof., EEE
 4. Date of Joining : 15/6/10
 5. Month of Increment Due :

Part B : Academic Performance Indicators

Category I
Instructional/Academic Element

(a) Teaching Engagement - Semester-I

Course (UG/PG)	Year & Branch	Sec	Class Strength	Subject	No of Classes Taken	No of Units Covered	% of Syllabus Covered	Pass %	Feed back
UG	IV - EEE		62	HVAC-DC	95	6	98%	95%	8.3

Teaching Engagement - Semester-II

Course (UG/PG)	Year & Branch	Sec	Class Strength	Subject	No of Classes Taken	No of Units Covered	% of Syllabus Covered	Pass %	Feed back
UG	IV EEE	A	45	PSA	91	6	98%	96%	8.1
UG	IV EEE	B	41	PSA	93	6	98%	98%	8.3

(b) Laboratory:

Semester	Year & Branch	Sec	Strength	Name of Laboratory	No of Sessions Taken	No of Exp. Prescribed as per syllabus	No of Exp. Completed
I	IV - EEE	A&B	45+41	CSE	12+12	10	10
II	IV - EEE	A	45	PE	12	10	10

(c) No. of Project Supervised: 1

Category II
Research, Publication & Professional Development Activities (Proofs to be attached)

(a) Publications/Books/Patents/Copy Rights (From 08/2018 to 07/2019)

No. of Publications in SCI Journals- 3 Paid : Unpaid: 3
 No. of Publications in Scopus Journals- 3 Paid : Unpaid: 3
 No. of publications in Conference Proceedings- Int. National: National:
 No. of Books Authored/Contributed: No. of Patents/Copy Rights:

(b) No. of Conferences/Workshops/FDPs attended: (From 08/2018 to 07/2019)

International Conferences	National Conferences	International Workshops	National Workshops	FDPs

Figure 5.8.4.a: Faculty Appraisal Form

(c) No. of Conferences/Workshops/FDPs Organized: (From 08/2018 to 07/2019)

International Conferences	National Conferences	International Workshops	National Workshops
	-	←	1 (SALE W.S.)

d) Research Funding Projects:

Year	Title of the Project	Type of Project	Funded Agency	Project Value
←	←	←	←	←

Category III
Supplementary Activities (Attached Additional Sheet, if required)

a) Awards and acknowledging certificates (kindly attach supporting documents):
(NET/SLET/M.Phil/Ph.D/IUCEE/NPTEL/Other PND)

b) Counseling of Students:
(i) Total no. of Regular students Allotted : 20 (ii) Total no. of students cleared all the subjects: 19
(ii) No. of Backlog Students Allotted : 3 (iv) No. of Students cleared Backlogs: 4

c) Roles and contributions in Institutional Governance and administration (Tick whichever is applicable)
Head of the Department/Department T&P Coordinator/ NSS Coordinator/Women Grievance Cell Coordinator/
Assistant Head of the Department/ Website Coordinator/ Institutional Criteria Coordinator of NBA & NAAC
College Level Admissions/Time-Table Coordinator/IQAC Coordinator/ Alumni Association Coordinator/
CoE/Exam Cell Staff/Any other Institutional Level Coordinator role assigned by Principal (Please specify.....)

(d) Regularity assessment of Faculty/Leave Details (From 08/2018 to 07/2019)

CL	ML	CCL	EL	Other Leaves (Academic/Mat. Leave/Paternity Leave)	Loss of Pay due to excess Leaves	Loss of Pay due to biometric deviations
2 1/2	8	-	-	←		

e) Other activities Inside/Outside the campus towards development of self & students:

f) Contribution to Department: class coordinator, Asst. HOD.

f) Contribution to Institution: IQAC Coordinator.

h) Any other Information

Dr. Anand Mishra is eligible for A1 grade
Remarks of HoD ← actively participate in dept activities


Signature of Faculty

Signature of Head of the Department

Remarks/Recommendations of Principal
Recommended three increments

Signature of Principal

Figure 5.8.4.b: Faculty Appraisal Form



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN
 (Approved by AICTE & Affiliated to JNT University, Kakinada) Estd. 2008
 ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Institution
 Kapujaggarajupeta, VSEZ (Post), Visakhapatnam-530 049, Andhra Pradesh, India
 Phone : 9133300357, 8886066339 :: Fax : 0891-2010485
 Email : viewvizag@yahoo.com, viewprincipal@gmail.com website : www.vignanview.org

VIEW/PO/SA/EEE/2019-20/23/04 Date: 28/08/2019

Increment Letter

To

Dr.Akanksha Mishra,
 Emp.No.10620
 Department of EEE

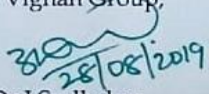
Dear Dr.Akanksha Mishra

I take this opportunity to congratulate to you and express our appreciation for your valuable contribution in achieving Institution objectives. Consequent to the review of your performance during the period of 01/08/2018 to 31/07/2019, the Management is pleased to inform you that your salary has been revised w.e.f 1st August 2019. You will be paid a Gross Salary of Rs.80,081/- per month in AICTE 6th Pay scale of Rs.37,400-67,000. The breakup of your salary is given below:


Basic Pay	39,644
D.A	25,490
H.R.A	5,947
Academic Grade Pay	9,000
Special Allowance	0
Gross Salary Per Month	80,081

I am confident that you will continue the good work in the same spirit of commitment and sincerity and grow with our Institution. Wish you all the very best for a rewarding career with the Institution.

On behalf of the Chairman of Vignan Group,




28/08/2019
 Dr.J.Sudhakar
 Principal-VIEW



PRINCIPAL
 Vignans Institute of
 Engineering for Women
 K.J.Peta, VSEZ (P.O.),
 Visakhapatnam-49.

Figure 5.8.5: Faculty Increment Letter (2018-19)



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN
 (Approved by AICTE & Affiliated to JNT University, Kakinada) Estd. 2008
 ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Institution
 Kapujaggarajupeta, VSEZ (Post), Visakhapatnam-530 049, Andhra Pradesh, India
 Phone : 9133300357, 8886066339 :: Fax : 0891-2010485
 Email : viewvizag@yahoo.com, viewprincipal@gmail.com website : www.vignanview.org

VIEW/PO/SA/EEE/2018-19/23/2 Date: 22/08/2018

Increment Letter

To

Ms.B.M.Pushpa Latha,
 Emp.No.10002
 Department of EEE


Dear B.M.Pushpa Latha,

I take this opportunity to congratulate to you and express our appreciation for your valuable contribution in achieving Institution objectives. Consequent to the review of your performance during the period of 01/08/2017 to 31/07/2018, the Management is pleased to inform you that your salary has been revised w.e.f 1st August 2018. You will be paid a Gross Salary of Rs. 35,298/- per month in AICTE 6th Pay scale of Rs.15,600-39,100. The breakup of your salary is given below:

Basic Pay	18,876
D.A (72% of Basic Pay)	7,591
H.R.A (15% of Basic Pay)	2,831
Academic Grade Pay	6,000
Special Allowance	0
Gross Salary Per Month	35,298

I am confident that you will continue the good work in the same spirit of commitment and sincerity and grow with our Institution. Wish you all the very best for a rewarding career with the Institution.

On behalf of the Chairman of Vignan Group,



30/08/2018
 Dr.J.Sudhakar
 Principal-VIEW
PRINCIPAL
 Vignan's Institute of
 Engineering for Women
 K.J.Peta, VSEZ (P.O.),
 Visakhapatnam-49.

Figure 5.8.6: Faculty Increment Letter (2017-18)

5.9 Visiting/Adjunct/Emeritus Faculty etc. (10)

Adjunct faculty also includes Industry experts. Provide details of participation and contributions in teaching and learning and /or research by visiting/adjunct/Emeritus faculty etc. for all the assessment years:

- *Provision of inviting/having visiting/adjunct/emmeritus faculty (1)*
- *Minimum 50 hours per year interaction with adjunct faculty from industry/retired professors etc.*

(Minimum 50 hours interaction in a year will result in 3 marks for that year; 3 marks x 3 years = 9 marks)

To enhance the skills of the students our college invites visiting faculty from multi-disciplinary domains to create awareness about the recent trends of the market and thereby improving the skills of students in different domains. The details of the visiting faculty for CAY, CAYm1 and CAYm2 are given in Table B.5.9.1 – Table B. 5.9.3.

Sl. No.	Name of the Visiting Faculty	Name of the Subject	No. of hours	Semester
1.	Mr. C. Rama Krishna, AGM-Electrical, HNPCL	Switch Gear & Protection	2*15= 30 hours	I
2	Mr. Girish Chandra Tiwari, AGM-CO&CCP RINL	Industrial Equipments	2*17 = 34 hours	II
Total Hours of Interaction			64 hours	

Table 5.9.1: Visiting Faculty- Academic Year 2019-20

Sl. No.	Name of the Visiting Faculty	Name of the Subject	No. of hours	Semester
1	Mr. C. Rama Krishna, AGM-Electrical, HNPCL	Switch gear & Protection	16*2 = 32 hours	I
2	Mr. Girish Chandra Tiwari, AGM-CO&CCP, RINL	Industrial Equipments	2*15 = 30 hours	II
Total Hours of Interaction			62 hours	

Table B.5.9.2: Visiting Faculty for Academic Year 2018-19

Sl. No.	Name of the Visiting Faculty	Name of the Subject	No. of Hours	Semester
1	Mr. C. Rama Krishna, AGM-Electrical, HNPCL	Switch Gear and Protection	2*13 = 26 hours	I
2	Mr. Girish Chandra Tiwari, AGM-CO&CCP, RINL	Industrial Equipments	2*15 = 30 hours	II
Total Hours of Interaction			56 hours	

Table B.5.9.3: Visiting Faculty for Academic Year 2017-18

Criterion 6	Facilities and Technical Support	80M
6.1	Adequate and well equipped laboratories, and technical man power	30M
6.2	Additional Facilities created for improving the quality of learning experience in Laboratories	25M
6.3	Laboratories: Maintenance and overall ambiance	10M
6.4	Project laboratory	5M
6.5	Safety measures in laboratories	10M

6.1. Adequate and well equipped laboratories and technical manpower (30)

Vignan's Institute of Engineering for Women never compromises on providing the laboratory facilities. All the laboratories are maintained with the required equipment as per JNTU regulations and also to reach the vision and mission of the Department. The laboratories are adequately furnished to provide conducive learning environment. The laboratories are well equipped with computing resources and equipment to cater to the needs of the program. The equipment of the laboratories are properly maintained, upgraded and utilized. There is adequate number of qualified technical manpower to provide appropriate guidance to the students for using the equipments in laboratories.

Sl. No	Name of the Laboratory	No. of students per Setup (Batch Size)	Name of the important equipment	Weekly utilization status (all the courses for the lab is utilized)	Technical Manpower Support		
					Name of the Technical Staff	Designation	Qualification
1	a) Electrical Circuit Laboratory	3	1.Regulated Power Supply 2.Voltmeters 3.Ammeters 4. Rheostats 5.Wattmeters 6. Function Generator 7.Transformer 8. Breadboard 9. Decade Resistance, Inductance and Capacitance Boxes 10. AutoTransformer 11. CRO 12. Multi-meter	SEM I Total: 12 Hours per week	Mrs.S.Maveen	Lab Assistant	Diploma (EEE)

	b) Electrical Measurements Laboratory	3	<ol style="list-style-type: none"> 1. Energy Meter. 2. Kelvin double bridge. 3. Schering & Anderson Bridge 4. Transformer 5. Turns Ratio Kit. 6. Dielectric Oil Testing Kit. 7. Strain Gauge Kit. 8. Phase shifting Transformer. 9. DC Crompton Potentiometer 	SEM I Total: 12 Hours per week	Ms.Arsi. Leelavathi	Lab Assistant	B.Tech (EEE)
2	a) Networks & Electrical Technology Laboratory	3	<ol style="list-style-type: none"> 1. Decade Resistance, Inductance and Capacitance Boxes 2. Function generator 3. CRO 4. Digital multi-meter, 5. Voltmeters, 6. Ammeters 7. Rheostats 8. DC Shunt motor and Generator set 9. DC Shunt motor with brake drum 10. Single phase transformer 	SEM I Total : 18 Hours per week	Mr.Ch..L.V.Dur ga Prasad	Lab Assistant	B.Tech (EEE)
	b) Electrical Machines – I Laboratory	3	<ol style="list-style-type: none"> 1. DC Shunt Motor and generator set 2. DC compound Motor 3. DC shunt motor with 	SEM II Total : 12 Hours per week	Mr.R.Naga Satyanarayana	Lab Assistant	Diploma (EEE)



			brake drum 4.DC series motor and generator set 5.DC compound generator 6.DC Shunt Motor 7. SPST Switch 8.Tachometer 9. DPDT Switch				
3	Electrical Machines-II Laboratory	3	1. Single phase two winding transformer. 2.Single phase two winding transformers 3.Three phase alternator 4.Three phase induction motor with brake drum 5.Single phase induction motor with brake drum 6.Tapping Transformers 7. Three phase induction motor. 8.Three phase synchronous motor 9.Three phase salient pole synchronous machine 10.SPST Switc 11.Tachometer 12. DPDT Switch	SEM I Total : 12 Hours per week	Mr. R. Prasad	Lab Assistant	Diploma (EEE)

4	a)Control Systems Laboratory	3	1.PID Controller kit 2.Magnetic amplifier kit. 3.AC Servo motor 4.P,PD,PI,PID controller kit 5.DC Servo motor 6.PLC 7.Linear System 8.CRO 9. Multi-meters	SEM I Total : 12 Hours per week	Mrs.B.Bhavani	Lab Assistant	M.Tech
	b)Power Electronics Laboratory	3	1. Single phase half controlled converter unit 2.Single phase fully. controlled converter unit 3. R & RC Firing circuit unit 4.UJT Firing circuit unit 5. Forced commutation study units (SCR,MOSFET,BJT) 6.Single phase ac voltage controller kit 7.Single phase cyclo-converter kit 8.Single phase bridge inverter kit 9.inverter firing unit 10.Single phase dual converter kit 11.Three phase half 12.controlled bridge converter kit	SEM II Total : 12 Hours per week	Mr.V.Krishna	Lab Assistant	B.Tech (EEE)

5	Electrical Simulation Laboratory	3	<ol style="list-style-type: none"> 1.PSPICE Software 2.Matlab Software 3. Personal computers 4. Server 5. Compilers 6. Laser & Dot matrix Printer 	SEM I Total : 36 Hours per week	Ms.Madhuri Mahanty	Lab Assistant	M.Tech
6	Power Systems Laboratory	3	<ol style="list-style-type: none"> 1. Tong Tester 2 Three Phase alternator 3.Three Phase transformer 4.Dielectric strength of transformer oil kit 5. ABCD parameters of transmission network kit 	SEM I Total : 12 Hours per week	Mr.B.Srinivas	Lab Assistant	I.T.I (EEE)

Table B.6.1 Laboratory and technical man power details

The following table shows each laboratory Objectives & Outcomes with photos

Physical lab	Lab Objective(s)	Lab Outcomes(s)	Lab Photo
Electrical Machines-I Lab	<ul style="list-style-type: none"> To plot the magnetizing characteristics of DC shunt generator and understand the Mechanism of self-excitation. To control the speed of the DC motors. Determine and predetermine the performance of DC machines. To predetermine the efficiency. 	<ul style="list-style-type: none"> Students are able to determine and predetermine the performance of DC machines and Transformers. Students are able to control the speed of DC motor. Students are able to achieve three phase to two phase transformation. 	
Electrical Machines -II Lab	<ul style="list-style-type: none"> To control the speed of three phase induction motors. To determine and predetermine the performance three phase and single phase induction Motors. To improve the power factor of single phase induction motor. To predetermine the regulation of three-phase alternator by various methods. 	<ul style="list-style-type: none"> Students are able to evaluate the performance of single phase and three phase induction motors. Students are able to control the speed of three phase induction motor. Students are able to predetermine the regulation of three-phase alternator by various methods. 	

<p>Electrical Measurements-Lab</p>	<ul style="list-style-type: none"> • To understand the correct function of electrical parameters and calibration of voltage, current, single phase and three phase power and characteristics of resistance, inductance and capacitance of circuits through appropriate methods. • To understand testing of transformer oil. 	<ul style="list-style-type: none"> • Students are able to measure the electrical parameters voltage, current, power, energy. • Students are able to test transformer oil for its effectiveness. • Students are able to measure the parameters of inductive coil.
<p>Power Electronics-Lab</p>	<ul style="list-style-type: none"> • To study the characteristics of various power electronic devices and analyze firing Circuits and commutation circuits of SCR. • To analyze the performance of single-phase and three-phase full-wave bridge converters with both resistive and inductive loads. • To understand the operation of AC voltage regulator with resistive and inductive loads. • To understand the working of Buck converter, Boost converter and inverters. 	<ul style="list-style-type: none"> • Students are able to study the characteristics of various power electronic devices and analyze gate drive circuits of IGBT. • Students are able to analyze the performance of single-phase and three-phase full-wave bridge converters with both resistive and inductive loads. • Students are able to understand the operation of single phase AC voltage regulator with resistive and inductive loads.



<p>Electrical Simulation-Lab</p>	<ul style="list-style-type: none"> • To simulate integrator circuit, differentiator circuit, Boost converter, Buck converter, full convertor and PWM inverter • To simulate transmission line by incorporating line, load and transformer models. • To perform transient analysis of RLC circuit and single machine connected to infinite bus(SMIB) 	<ul style="list-style-type: none"> • Students are able to simulate integrator circuit, differentiator circuit, Boost converter, Buck converter, full convertor and PWM inverter. • Students are able to simulate transmission line by incorporating line, load and transformer models. • Students are able to perform transient analysis of RLC circuit and single machine connected to Infinite bus (SMIB). 	
<p>Power Systems Lab</p>	<ul style="list-style-type: none"> • To impart the practical knowledge of functioning of various power system components • To determination of various parameters and simulation of load flows, transient stability, LFC and Economic dispatch. 	<ul style="list-style-type: none"> • The students are able to determine the parameters of various power system components which are frequently occur in power system studies and able to execute energy management systems functions at load dispatch center. 	

6.2. Additional facilities created for improving the quality of learning experience in Laboratories (25)

In order to meet the latest industry requirements, we used to conduct experiments beyond the syllabus in consultation with industry experts and other stake holders. In this connection we are providing additional facilities in laboratories.

Sl. No	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which the students are expected to have enhanced learning	Relevance to POs/PSOs
1	IoT lab	Lab contains Arduino, LPC 2148 (ARM 7) Raspberry, MSP 430 EXP G2 boards sensors like IR sensor, PIR sensor, ultrasonic sensor, servo motors etc.	To make the Students aware of the software Industry requirements and help them to get jobs in same.	18 Hours per week <ul style="list-style-type: none"> • IOT Based Smart Irrigation System • IOT Based Solar Electric vehicle • Solar Driven Arduino Based Irrigation System On Sensing Soil Moisture Content 	Smart hardware design, IoT Projects	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1
2	Power electronics and drives Lab	3- Phase Converter Firing Unit 3- Phase Fully Controlled Converter power Circuit 415V/5A DSP Based V/F Control 3-Phase Isolation Transformer	To make the students aware of the trending technologies and help them to get jobs in core sector	18 Hours per week <ul style="list-style-type: none"> • Thyristor Based Speed Control Of DC Motor • Multi converter Unified Power Quality Conditioning 	Power Electronics	PO6, PO9, PO11, PO12/ PSO2

		440/5A 3-Phase Isolation Transformer 200/3A		System • Design And Control Of Grid Connected PV And Wind Hybrid System Using 3 Level Static VAR compensator (SVC)		
3	WAR Robotics Lab	3D Printer, CNC laser and 36 sensors	To produce practical education on IoT, Sensors, Robotics and Quality projects	18 Hours per week • Student project paper publications • Faculty research Development	IoT, Sensors and Robotics	PO1 - PO12
4	APSSDC Skill Centre of Excellence Lab	Training based on industrial skills and development	To make the students aware of the manufacturing and testing industry requirements and help them to get jobs in the same sector.	12 Hours per week • Certification program for Python • Certification program for Machine Learning • Certification program for Raptor	Courseara certification program, Mobile Application Development, AI,ML	PO1, PO3, PO4, PO5, PO9, PO11, PO12/ PSO1,PSO2
5	Availability of computing facilities	Internet facility is provided to the students	To enhance the learning and to provide ample resources for	36 Hours per semester • Students are able to download E-content for project reference	Motivation towards research and being enthusiastic to	PO4,PO5

			exploring ideas	papers. <ul style="list-style-type: none"> • Faculties are able to download E-content for research area 	new innovations	
6	E- Learning	Student are given a digital demonstration through animations, virtual labs and video lectures	To enhance the quality of learning process improve the understanding capability of the student	12 Hours per week <ul style="list-style-type: none"> • Student paper publications • Faculty research Development 	Soft skills Listening skills and quick and better grasping of concept	PO1,PO5/PSO2

Table B.6.2 a. Details of additional facilities

B. Facilities utilization and effectiveness (10Marks)

In accordance with the Vision & Mission of the Department and Institute, the Department of Electrical and Electronics Engineering has established department association of electrical and electronics engineering (DAEEE). In DAEEE, students are willingly separated into diversified emerging domains like IoT, Power electronics and drives, WAR robotics, Head of the department will assign a faculty coordinator for each of this domain.

Lab is provided to these students for doing their project and lives models.

List of projects completed by students in DAEEE:

1. IOT Based Smart Irrigation System

This IoT based project is developed by the students on occasion of department technical fest 'Farad Eupraxia-2k15'. The Smart irrigation System has wide scope to automate the complete irrigation system. Here we are building a IoT based Irrigation System using ESP8266 NodeMCU Module and DHT11 Sensor. It will not only automatically irrigate the water based on the moisture level in the soil but also send the Data to ThingSpeak Server to keep track of the land condition. The System will consist a water pump which will be used to sprinkle water on the land depending upon the land environmental condition such as Moisture, Temperature and Humidity.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	15NM1A0256	S.Sushmita
2	16NM5A0222	P.Mounika
3	15NM1A0242	P.V.Sai Chinni
4	15NM1A0237	M.Gowthami



Figure B 6.2.1 IOT Based Smart Irrigation System

2. IOT Based Solar Electric vehicle

This Solar based project is developed by the students on occasion of department technical fest 'Azionare-2k17'. This project is about charging E-vehicle module using the Solar panel, availability of maximum power is viewed by IOT device and the maximum power generated by the solar is being tracked using the MPPT controller. The simulation model is designed using Proteus software. The whole setup is connected to the Arduino UNO R3, the battery level, generated and distributes an amount of the battery is viewed using an LCD. GSM modem is used to get an alert message for any reduction of power occurred in the system. A web page is used to check the availability status of charge, the amount of power transferred to the charging module and the available location for the charging station can be displayed. The main idea of this project is to reduce greenhouse gas emission and fossil fuel.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	17NM5A0218	P. Sravani
2	16NM1A0270	P. Roshni
3	16NM5A0208	B. Sandhya
4	17NM5A0202	B. Laxmi Lahari



Figure B 6.2.2. IOT Based Solar Electric vehicle

3. Three Phase Fault Detector

Students have developed an automatic tripping mechanism for the three phase supply system for the department technical fest 'IGNITE 2k18. Majority of faults can be successfully cleared

by the proper use of tripping and auto reclosing. This de-energizes the line long enough for the fault source to pass and the fault arc to de-energize, then automatically recloses the line to restore service. Thus, auto reclosing can significantly reduce the outage time due to faults and provide a higher level of service continuity to the customer. Furthermore, successful high-speed reclosing auto reclosing, on transmission circuits can be a major factor when attempting to maintain system stability. For those faults that are permanent, auto reclosing will reclose the circuit into a fault that has not been cleared.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	16NM1A0215	Botta Vara lakshmi
2	16NM1A0269	Ponnada Srikavya
3	16NM1A0221	Dudi Suvarna
4	17NM5A0217	Palikala Pushpa Latha
5	16NM1A0232	Gubbala Madhuri

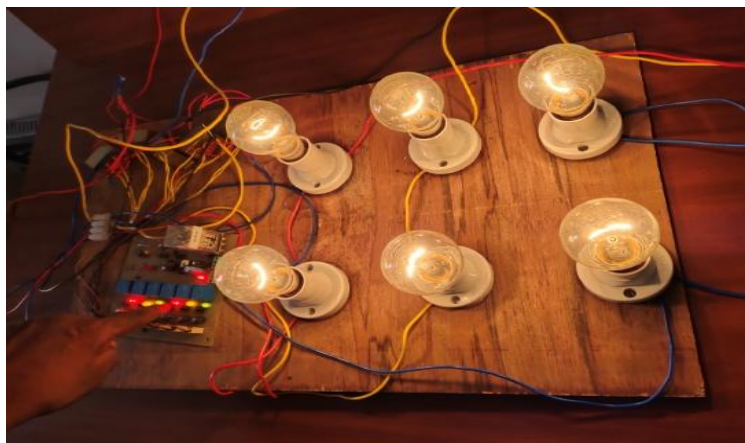


Figure B 6.2.3. Three Phase Fault Detector

4. TCR /TSR Based Reactive Power Control

Students have developed TCR/TSR Based project model presented on department technical fest 'Elecsprrie 2k19'. This project deals with the simulation of fixed capacitor thyristor switched reactor Thyristor controlled reactor (FC-TSR-TCR) system. The FC-TSR-TCR system is simulated using MATAB and the simulation results are presented. The power and control circuits are simulated. The current drawn by the FC-TSR-TCR varies with the variation in the firing angle. Stepped variation of current can be obtained using thyristor switched reactor. The simulation results are compared with the theretical results.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	16NM5A0205	E. Surya Anusha
2	15NM1A0234	M. Bharathi
3	15NM1A0216	G V.Manisha
4	15NM1A0225	K.Jhancy
5	16NM5A0205	E. Surya Anusha



Figure B.6.2.4.TCR /TSR Based Reactive Power Control

5. Automatic Grid Control

This microcontroller based project model is developed by the students on the occasion of DAEEE fest. There are many advantages of automation, first and most common human errors are eliminated, speed of operation becomes very fast and most advantageous is that the cost gets reduced. In automatic power grid and different units are controlled on the basis of time. Serial com in PC via USB port to control different relays will be used. The interfacing is based on UART standard. The UART port is found in microcontrollers but unfortunately it is not there in personal computers. Hence we have used a USB to UART converter to convert the USB data into UART and this way the interfacing is done between computer and microcontroller. To control the devices, we a relay driver (here ULN2803) is used. For the sake of simplicity, we will control only four relays. It can be extended according to the requirements. Controlling variable is time. In the duration of 24 hours, we will allot different time slots to each unit. On proper time, the relays will be activated automatically and corresponding unit will get activated.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	15NM1A0214	E.Usha
2	15NM1A0233	M.Parvathi
3	15NM1A0210	G.Mounika
4	16NM1A0214	K.Deepika



Figure B 6.2.5. Automatic Grid Control

6. Alarm System for Voltage Fluctuation

This live model project is developed by the students on the occasion of department fest 'IGNITE 2k18'. This straight forward circuit will protect electrical appliances from over voltage as well as under voltage. The circuit also produces an alarm when the power supply comes back. An ideal circuit for home to protect your valuable equipments from voltage fluctuations. The same circuit with some modifications can be used to make a automatic voltage stabilizer. When the mains voltage is in the normal level, the voltage at the negative terminal of zener diode D4 will be less than 5.6 Volts. At this condition transistor T1 will not conduct. The same time voltage at the negative terminal of zener diode D5 will be greater than 5.6 and so the transistor T2 will be conducting. The relay will be activated and the green LED will be glowing. When the mains voltage is higher than the set limit the transistor T1 becomes conducting since the voltage at the negative terminal of D4 is greater than 5.6 V. At the same time transistor T2 will be non conducting which results in the deactivation of relay to cut the mains supply from load. When the mains voltage is less than the set limit transistors T1 & T2 becomes non conducting making the relay to de-activate and cut the load from mains.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	16NM5A0226	R. Jishitha
2	16NM5A0254	S. Pragathi
3	16NM5A0220	P. Indumathi
4	16NM5A0251	R. Swathi

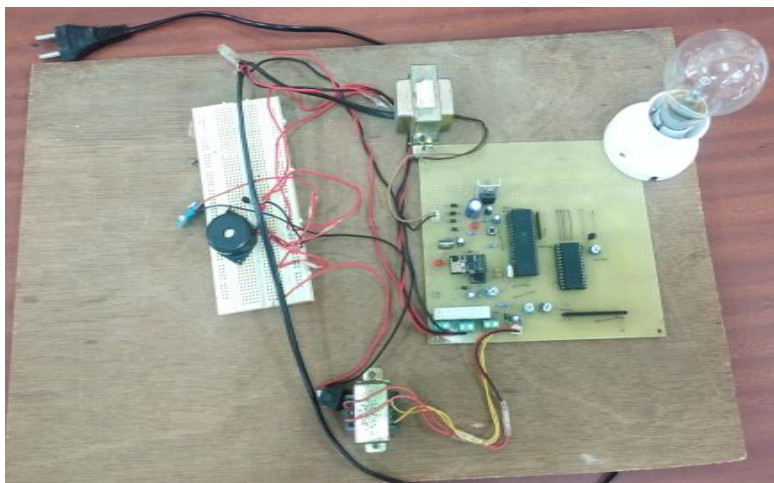


Figure B.6.2.6 Alarm System for Voltage Fluctuation

7. Three Phase Sequence Identifier

This Zero Crossing Detector (Z.C.D.) based project is developed by the students on occasion of department fest 'ELECSPRIE 2k19'. The identification of phase sequence and detection of phase reversal of a three phase ac supply ac supply is important routine test during installation and commissioning of three phase ac motor and chillers etc. Various circuits can be used for phase sequence detection. However the basic logic for finding the sequence remains the same. The sequence of the supply is determined at the time instant when the phase voltage crosses the zero level of voltage. This can be utilised by the aid of a Zero Crossing Detector (Z.C.D.) followed by a Multivibrator (M.V.)

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	15NM1A0248	P. Anantha Laxmi
2	15NM1A0246	P. Hema
3	15NM1A0258	S. Swathi
4	15NM1A0249	P. Yamuna

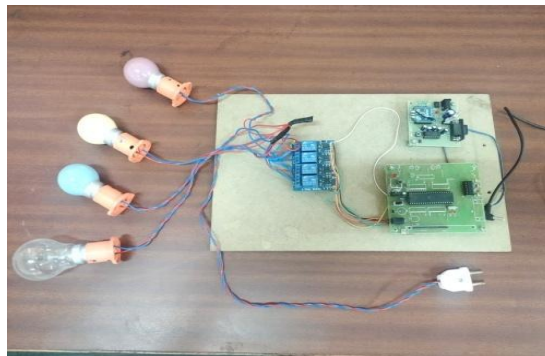


Figure B 6.2.7. Three Phase-Sequence Identifier

8. Biped Robot

The IoT with Robotics cloud based project is developed by the students on occasion of department fest 'ELECSPRIE 2k19'. Simscape Multibody (a Matlab's tool) provides a multibody simulation environment for 3D mechanical systems, in order to model multibody systems using blocks representing bodies, joints, constraints, force elements, and sensors. Here we use microprocessor and microcontroller. The microprocessor CPU is stand alone and microcontroller CPU, RAM, ROM and timer are on. The size of ROM, RAM and I/O ports can be optimized in microcontroller. In this project we are using NodeMCU, microcontroller, Internal LED, DC motor, Analog pins and Digital pins.

List of students carried out this project:

Sl. No.	Roll No	Name of the Student
1	18NM1A0257	R.Lakshmi Prasanna
2	18NM1A0265	A.Supriya
3	18NM1A0266	R.Vanajakshi
4	18NM1A0270	V.Harika

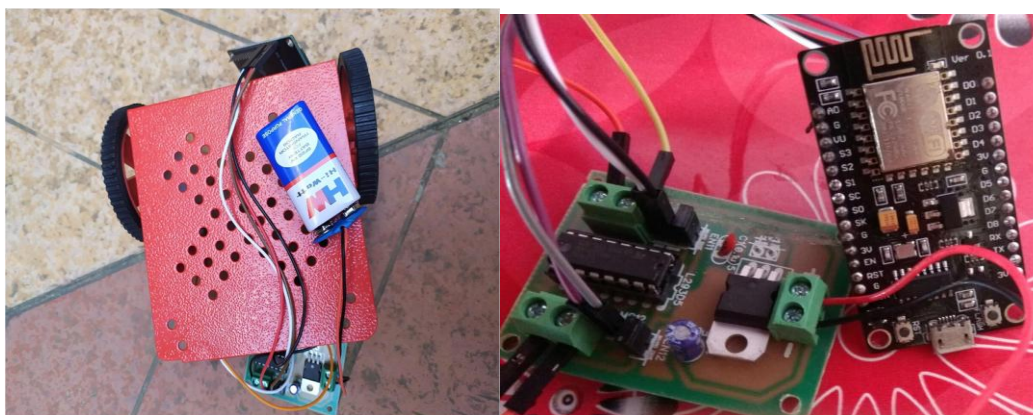


Figure B 6.2.8. Biped Robot

The following certification courses organized in APSSDC Skill excellence centre

Sl. No.	Name of the Workshop	Event Coordinator with contact details	Date(s)	No. of registered students	Relevance to POs/PSOs
1	Embedded system	Dr.K.Durga Syam Prasad 9553371222	18-12-2017 To 20-12-2017	53	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO12/PSO1
2	Coursera IoT Certification	Mr.V.Avinash 9985859469	14-05-2018 To 02-06-2018	30	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1
3	Workshop on Higher Education(webinar)	Mr.K.Sri Ram Prasad 9246473210	22-06-2018	15	PO11, PO12
4	TCS Hackthon	Mr.A.Chandraiah 9393990143	04-07-2018 To 15-07-2018	10	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1
5	SCALE Workshop	Dr.Akanksha Mishra 9704559874	26-07-2018 To 28-07-2018	30	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1
6	Build Box	Mr.K.Vamsi 9704559874	26-12-2018 To 10-01-2019	30	PO1, PO3, PO4, PO5, PO9, PO11, PO12/PSO1.
7	MSTP (Multi Skill Training Program)	Mr.P.V.Sarath 913376630	03-12-2019 To 18-02-2020	12	PO1, PO3, PO4, PO5, PO9, PO11, PO12

3. Laboratories: Maintenance and Overall ambience (10)

(Self-Explanatory)

The department has well equipped and well maintained laboratories to conduct the experimental work in a healthy and safe environment. The institute has a dedicated and qualified committee, comprising of senior faculty and personnel of electrical maintenance.

Maintenance

Electrical Machines Lab:

- Electrical Machines, meters like voltmeter and ammeter are calibrated for every month by technicians.
- Wirings are checked at regular intervals in order to avoid voltage fluctuations.
- Relays are serviced once in a year and checked regularly.
- Ageing of the machines and transformers are reduced by routine inspection.
- Cleaning of machines is carried out regularly.

Power system Simulation Lab:

- Softwares are updated at customary intervals based on its evolution.
- In order to avoid malware and other factors the computers and kits are serviced for experiments
- LANs, WLANs are checked by networking team to have better performance.
- Faculties and students are maintained separate login registers.
- Air Conditioners are serviced consistently.
- By frequently cleaning the Monitors and Laboratory.

Power Electronics Lab:

- Trainer ICs and kits are serviced in Regular intervals.
- To avoid voltage fluctuations the wirings are checked at regular intervals.
- The innovative works and student projects are set aside in Lab.
- Cleaning of the workbenches and kits are done oftentimes.

Control Systems Lab:

- All Controller kits are serviced regularly by qualified technicians.
- At regular Intervals the instruments are calibrated.
- Inspection of primary measuring elements like Sensors and Detectors are done periodically.

- Cleaning of the Kits and workbenches are done often times.

The Lab Maintenance Committee takes the accountability of lab maintenance and ambience from end to end and positive number of reviews taken from time to time. This committee comprises of HoD as Chair person, senior faculty, lab in charge and senior technical staff. In order to maintain the laboratories professionally, a systematic procedure is followed for all electrical laboratories.

Periodic maintenance:

Standard checks are carried out at specified periods and logs are maintained.

a) Condition based maintenance

Machine / equipment observed for abnormalities during operation and measures are taken as deemed necessary and logs are maintained.

b) Breakdown maintenance

Breakdown maintenance is undertaken as situation demands. The record of breakdown and corrective actions is maintained.

Calibration test

- The Process of calibration for various equipment and other instruments is taken up once in every semester.
- The measured values are compared with the earlier measured data and also with the standard values.
- Any deviations in this regard are noted and necessary steps are initiated to refine the equipment.
- Department seeks the assistance of suppliers from time to time in order to maintain the equipment and to verify their performance (Minor repairs are carried out by the lab technical staff as per the requirement).

Laboratory Maintenance Committee:

Sl. No.	Name of Committee Member	Role of committee member	Name of the audit	Responsibility
1	Dr.K.D.S.Prasad	Chair Person	All electrical laboratory Maintenance	<ul style="list-style-type: none"> • Laboratory Equipment Purchases & Maintenance • Log book maintenance • Software maintenance • Stock book maintenance • Power supply maintenance and ambiance • Project lab maintenance • Project Batch division • Project output Verification
2	Mr.A.Chandraiah	EM-I Lab Incharge		
3	Mr.V.Avinash	EM-II Lab Incharge		
4	Mr.P.V.Sarath	EMS Lab Incharge		
5	Ms.V.S.Santoshi	ES Lab Incharge		
6	Mr.M.Suresh	PE Lab Incharge		
7	Mr.G.Ravi Kumar	CS Lab Incharge		
8	Mr.B.Srinivas	Senior Technician		
9	Mr.R.N.Satynarayana	Technician		

Table B.6.3 a. Laboratory Maintenance Committee (LMC)**Other aspects:**

Four registers are maintained in the laboratories i.e.

- a) **Log Registers :** In and out times of the students along with panel numbers they are using are noted in this register.
- b) **Complaint Register:** Complaints during usage of the machinery is registered in this Complaint register. These complaints are forwarded to the third party maintenance team, in case of necessity.
- c) **Stock Registers:** The stock-in-hand details/newly purchase equipment specification, quantity and cost are noted here.
- d) **Feedback Register:** Each laboratory contains a Feedback Register, which is available to students to represent any issues in the respective laboratory.

Stock Verification Committee:

For every two years Stock Verification Committee will be constituted by the Head of the Institution to audit all lab equipment, furniture and infrastructure. This committee will submit Deficiency (if any) report to the Principal.

The below attachments are related to the maintenance of faulty equipment:

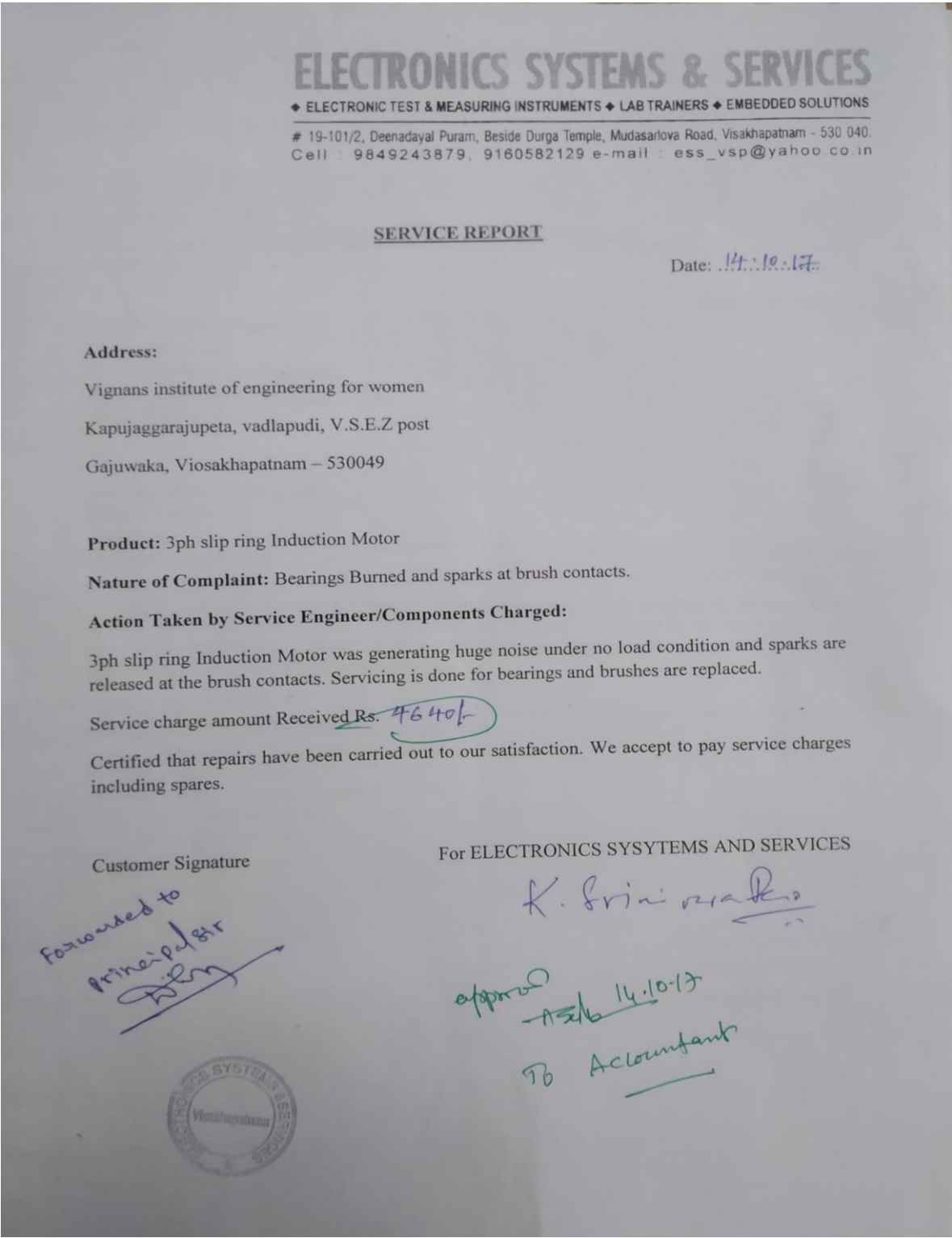


Figure B.6.3 a. Service letter

VIGNAN'S INSTITUTE OF ENGINEERING STOCK			
DEPARTMENT: EEE			
S.No.	INVOICE		Description of the article
	Bill No.	Date	
1.	031/10-11	27-7-10	Multi tech systems i) PLC along with Kaukiguda, spread control 120V AC Hzyl-27. motor M.I.N.T.C model
STOCK VERIFICATION COMPLETED			
2.	101/14-15	31/12/2014	Lakshya Electro Tech Solutions i) PLC study and Plures, block no. 1 verification of APIC Galaxy, app truth table of logic Radhika Theatre, gates, simple ladder Hyl-500062 expression and application of speed control of motor.
STOCK VERIFICATION COMPLETED			

FOR WOMEN, VISAKHAPATNAM REGISTER							
NAME OF THE ARTICLE: Programmable logic controller.							
Unit Cost Rs.	Ps.	No. of Units	Total Cost Rs.	Ps.	Issue/ Breakages	Stock on hand	Signature Remarks
20,100/-	00	100	20,10,000/-	00		100	[Signature] ASK
DATE: 01/05/15 COMMITTEE CHAIRMAN: [Signature] ASK							
STOCK VERIFICATION COMPLETED							
DATE: 14/5/15 VSVR Model COMMITTEE CHAIRMAN: [Signature]							
50,000/-	00	100	50,000/-	00			[Signature] ASK
			2500/-				[Signature] ASK
Total				52,500/-			[Signature] ASK
DATE: 28-12-16 VSVR Model COMMITTEE CHAIRMAN: [Signature]							
DATE: 07/06/2019 COMMITTEE CONVENOR: [Signature]							
DATE: 10/06/2019 COMMITTEE CHAIRMAN: [Signature]							
DATE: 30/12/16 ASK STOCK VERIFICATION COMPLETED							
DATE: 21-6-19 ASK STOCK VERIFICATION COMPLETED							

Figure B. 6.3 b. Sample page of Stock Register

Figure B.6.3.c. Annual Maintenance Contract Letter

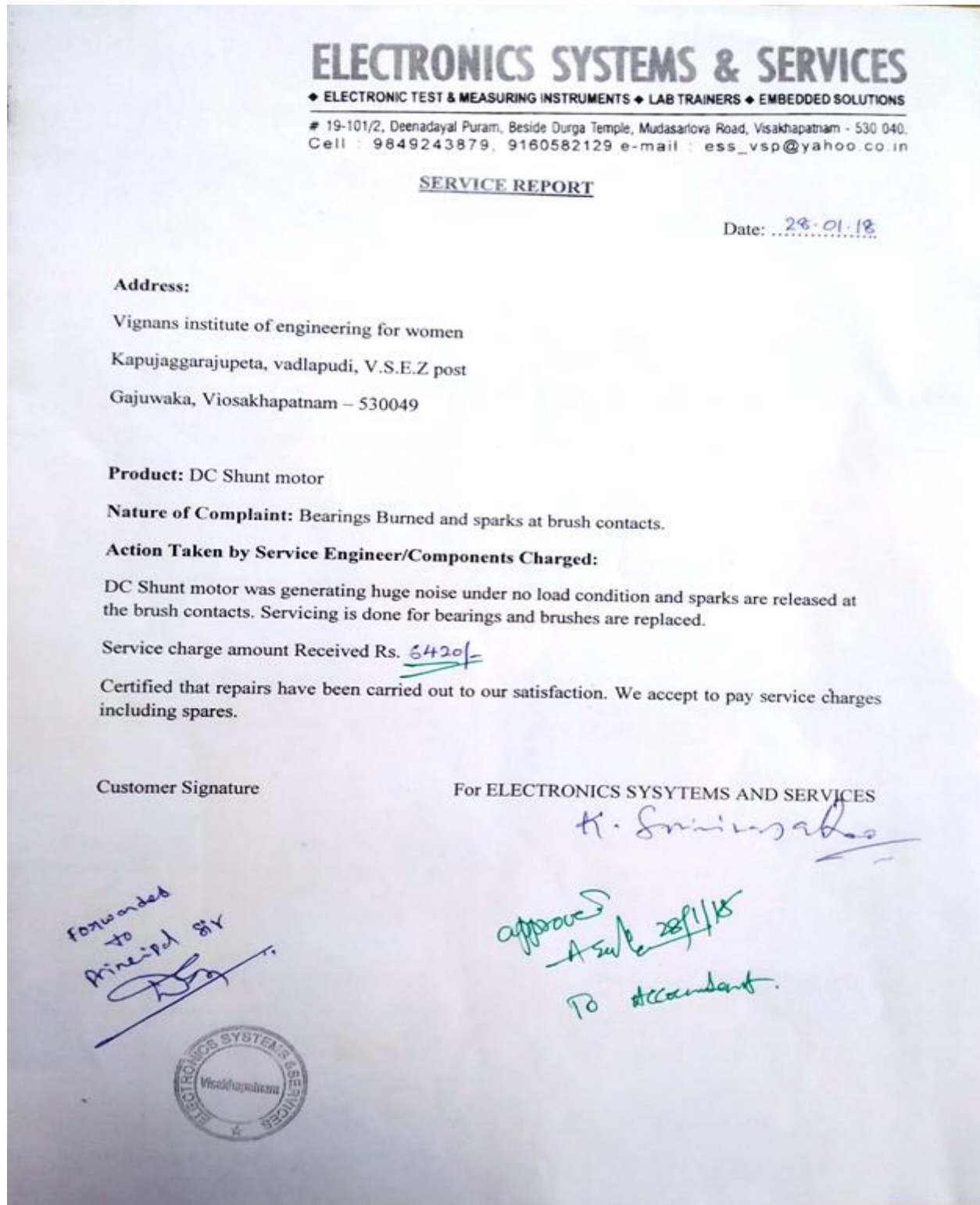


Figure B. 6.3 d. Service Letter

Cell : 93947 53929
Ph : 0891-3297016

Sri Rama Electrical & Electronics Work's

D.No. 3-32, Chintalagraharam, Vepagunta (P.O.),
Pendurthi (M.D.), Visakhapatnam - 530 047.

Ref : **SERVICE REPORT** **Date :** 25/11/2014

Address:
Vignans Institute of Engineering for Women
Kapurugaddajupeta, Vaddapudi, V.S.C.2. (POST)
GATJWATA, Visakhapatnam - 530049


Product: DC Rectifier 220-100
SI No./Date of Manufacturing: 080-436
Nature of complaint:

Action taken by Service Engineer/Components Charged _____
3-φ Rectifier is in not working condition while charging the thyristors those are damaged replaced by new thyristors. controlling relay also not working condition and it is replaced by new one.
Service charges amount received RS : 20,000/-

CERTIFIED THAT Repairs have been carried out to our satisfaction. We accept to pay service charges including spares

Customer Signature: *(Signature)*
K. Durga Shan Prasad
HEAD OF THE DEPARTMENT
Electrical & Electronics Engineering
VIGNAN'S INSTITUTE OF
ENGINEERING FOR WOMEN
KAPURUGADDAJUPETA, VISAKHAPATNAM-49

For SRI RAMA ELECTRICAL AND ELECTRONICS WORKS
(Signature)
SERVICE ENGINEER
(L. PRASAD)
Proprietor



Make arrangements for payment
of Rs 20,000/-
Asent, 25/11/2014
To Accounts Dept

Figure B. 6.3 e. Service Report Letter

Overall Ambiance

The overall ambience in laboratories is to meet the curriculum requirements as well as the POs and PSOs, and technical manpower in the department.

- Laboratories are well equipped with sufficient number of benches and chairs to facilitate the students to carry out the experimental studies with ease.
- The overall ambience is good enough for the students to excel in their practical Applications.
- All laboratories are well furnished with work benches and good ventilating facility.
- Overall ambience of laboratory is good:
 - ✓ All old records are burnt in the oven which is available in the college.
 - ✓ Every lab is provided with suffice number of dust bins.
 - ✓ Housekeeping team clean the laboratories on regular basis
- The Laboratory setup is well secured to students by taking the rubber mats
- Painting and renovation of the laboratory is done at regular intervals.
- The PCs, hardware kits & components are arranged in such a way that student are comfortable while performing the experiments.
- All laboratories have sufficient natural light, good ventilation with tubes and fan arrangement.
- Sufficient instructional area and teaching place for staff and students.
- Laboratories are equipped with projectors and other teaching aids.
- The equipment with specifications, labeling, and mounting are displayed



Figure 6.3 f. Electrical Circuits lab and Electrical Measurements lab

Sl.No	Name of the Maintenance Activity	Need for the Activity	Frequency of the Activity
1	Calibration of Instruments	The Laboratory equipment needs to be accurate in order to obtain correct results.	Once in 12 months
2	Stock purchase	New stocks of resistors, bulbs, probes, and connecting wires are needed every semester for the students to work upon	Once in 6 months

Table B.6.3 b. List of Electrical Circuits Lab maintenance and regularity of the activity



Figure B.6.3 g. Electrical Machines Lab

Sl.No	Name of the Maintenance Activity	Need for the Activity	Frequency of the Activity
1	Alignment check	Necessary to avoid misalignment and vibrations during the operations.	Once in 6 months
2	Calibration of Instruments	The Laboratory equipment needs to be accurate in order to obtain correct results.	Once in 12 months
3	Stock purchase	New stocks of resistors, probes, bulbs and connecting wires are needed every semester for the students to work upon.	Once in 6 months

Table 6.3 c: List of Electrical Machines lab maintenance and regularity of the activity



Figure 6.3 h. Power Electronics & Simulation lab and Control Systems & Simulation lab

Sl.No	Name of the Maintenance Activity	Need for the Activity	Frequency of the Activity
1	Calibration of Instruments	The Laboratory equipment needs to be accurate in order to obtain correct results.	Once in 12 months
2	Stock purchase	New stocks of resistors, probes, bulbs and connecting wires are needed every semester for the students to work upon.	Once in 6 months

Table 6.3 d: List of Power Electronics & Simulation lab maintenance and regularity of the activity

6.4. Project laboratory (5)

(Mention facilities & Utilization)

The Department has a separate project laboratory with the latest equipment and systems. It also contains other facilities such as internet, scanner, printer, etc. All the previous project reports are available for ready reference. The Project hours are allocated in the regular time table. The students are also allowed to do their projects beyond the working hours.

The project laboratory is well equipped with the following facilities:

- 30 computer systems
- MATLAB/PSpice software
- All systems are well connected with high speed internet
- Lab is equipped with LCD projector
- Lab is equipped with 10 KVA UPS
- Lab is utilized by UG and PG students
- UG and PG students do their mini and major projects

In addition the following labs also provided

Sl. No	Name of the Laboratory	Name of the Software / Equipment	Purpose	Faculty Incharge	Qualification
1	Electrical Simulation Laboratory	PSpice Software and Matlab Software	Projects and Research Development	Dr.K.Durga Syam Prasad	Ph.D
2	Power Electronics and Drives Laboratory	3-Phase PWM Pulse Generation using Pic microcontroller	Projects and Research Development	Mr.A.Chandraiah	M.Tech (Ph.D)
3	IoT Laboratory	Lab contains Arduino board, Raspberry Pi, MSP430 boards along with supported software	Projects and Research Development	Mr.K.Vamsi	M.Tech (Ph.D)
4	WAR Robotics Laboratory	3D Printer, CNC laser and 36 sensors	Projects and Research Development	Mr. P.V. Sarath	M.Tech

Table 6.4 a: Project Laboratories

Below table shows the facilities of project laboratory utilized by students.

Sl. No	Major Equipment Name	No. of Units	Outcomes
1	LPC 2148 (ARM 7) Development Board	1	<ul style="list-style-type: none"> Investigate a variety of emerging devices and technologies such as smart sensing, pervasive connectivity, virtual interfaces & ubiquitous computing and their potential applications. Provide students unique interdisciplinary learning and innovation experiences with IoT technologies Collaborate on research with industry partners to address significant and complex challenges surrounding IoT technologies and applications
2	ARM CORTEX N3	3	
3	Innovate ARM 926 dev kit	3	
4	IoT Development Board Self Starter learning Arduino Kit	9	
5	MSP 430 EXP G2 Launch	30	
6	MSP EXP430F5529 Experimenter Board	2	
7	RF Booster Pack CC110L	5	
8	STEPS Experimenter Pack for MSP430	10	
9	MSP-EXP430F5529LP	10	
10	BOOST-DAC8568	2	
11	No. of Desktops	15	

Table B. 6.4 b. Hardware Project Laboratory

Sl. No	System Configuration	Installed Software	Outcomes
1	30 Desktops, Intel Core I3, 3.6 GHz, 4 GB RAM, 1 TB Hard Disk Drive (HDD), Key Board Mouse with 49.5 cm LED Monitor	1.MATLAB 2.Arduino for IoT 3.Some Virtual simulator software versions (eg. Tinker cad, Proteus, Vir_labs.etc.)	<ul style="list-style-type: none"> Able to simulate integrator circuit, differentiator circuit, Boost converter, Buck converter, full convertor and PWM inverter. Able to simulate transmission line by incorporating line, load and transformer models. Able to build and Simulate Core Electrical Circuits based on the problem described

Table B. 6.4 c. Software Project Laboratory

A list of quality projects for the last three academic years is listed below:

Academic Year	Sl. No	Regd. No	Name of the student	Project Title	Relevance to POs/PSOs
2017-2018	1	14NM1A0220	Lekkala Swathi	Obstacle Avoidance Robotic Vehicle Using Ultrasonic Sensor And Arduino For Obstacle Detection	PO3,PO5,PO6,PO9, PO11,PO12/ PSO1, PSO2
		15NM5A0210	Hecherella Triveni Priyanka		
		14NM1A0250	Vennela Swetha		
		14NM1A0243	Kalla Swathi		
	2	14NM1A0231	Saalapu Sai Lakshmi	Optimal Placement Of DG On Radial Distribution System For Loss Minimisation and Voltage Profile Improvement	
		14NM1A0226	Chintala Vimala		
		14NM5A0206	Kokkirigadda Prakashmercy		
		14NM1A0206	Kotnana Harika		
	3	14NM1A0215	Majji Swetha	Automatic Load Frequency Control of Multi-Area Power System Using Fuzzy Logic	
		14NM1A0241	Peela Ashwini		
		15NM5A0208	Pelluru Lalitha Sai Sri		
		13NM1A0269	Penta Laxmi Prasanna		
		14NM1A0219	Rochana Madhulekha Peethala		
	4	15NM5A0203	Savithri Mahapatro	Improvement Of Voltage Profile of a Power System Using Statcom	
		14NM1A0238	Seepana Manjula		
		14NM1A0236	Palanati Usha Sai Lakshmi		
		14NM1A0244	Siddabattula Haritha Jyothi		
5	14NM1A0201	Kalla Swathi	Solar Driven Arduino Based		
	14NM1A0210	Marada Divya			

		14NM1A0232	Vennela Swetha	Irrigation System On Sensing Soil Moisture Content	
		14NM1A0246	Kalla Swathi		
	6	14NM1A0214	Saalapu Sai Lakshmi	Automatic Reset Of Three Phase Fsults	
		14NM1A0234	Chintala Vimala		
		14NM1A0235	Kokkirigadda Prakashmercy		
14NM1A0202	Kotnana Harika				
2018-2019	7	15NM1A0209	Dadi Anusha	Speed Control Of Dcmotor Using P, PD, PID Controllers Based on PSO Technique	PO3,PO5,PO6,PO9, PO11,PO12/ PSO1, PSO2
		15NM1A0224	Vanthram Yamini		
		15NM1A0204	Muvvala Punyavathi		
		16NM5A0208	Pudu Maneesha		
	8	16NM5A0206	Sanapathi Anusha	Mitigation Of Harmonics Intransmission Lines Using Statcom	
		15NM1A0226	Nelli Girija Gayatri		
		15NM1A0215	Nakkella Gayathri		
		15NM1A0218	Dekka Ramanamma		
	9	16NM5A0205	Dama Bala Kavya	Smart Helmet For Two Wheelers	
		15NM1A0234	Kujur Ankita Sikha		
		15NM1A0216	Gorapalli Naga Pushpa		
		15NM1A0225	Balla Hyma Sai Rajeswari		
	10	15NM1A0214	Bera Sowmya	Simplified Active and Reactive Power Control Of Doubly Fed Induction Generator And Simulation With Statcom	
		15NM1A0233	Vanthram Yamini		
		16NM5A0210	Muvvala Punyavathi		
		16NM5A0214	Pudu Maneesha		
11	15NM1A0203	Sanapathi Anusha	Speed Control Of Induction Motor Using model Referfence Adaptive Technique		
	16NM5A0213	Nelli Girija Gayatri			
	15NM1A0206	Nakkella Gayathri			
	15NM1A0213	Dekka Ramanamma			

2019-2020	12	16NM1A0214	A. Alekhya	Simplified Active and Reactive Power Control of Doubly Fed Induction Generator and Simulation With STATCOM
		16NM1A0235	G. Bhavya	
		16NM1A0268	K. Vathsalya	
		16NM1A0240	K.B.J.L. Aparna	
		17NM5A0219	M. Poojitha	
	13	16NM1A0286	M. Deepthi Sree	A STATCOM -Control Scheme For Grid Connected Wind Energy Generating System For Power Quality Improvement
		16NM1A0283	N. Navya	
		16NM1A0281	N. Subha Sri	
		16NM1A0245	P. Sri Kavya	
		16NM1A0280	P. Neeharika	
	14	17NM5A0211	S. Sharmila	Enhancement Of Power System Stability Using Static Synchronous Series Compensator (SSSC)
		16NM1A0224	S. Prasanna	
		17NM5A0215	S. Prameela	
		16NM1A0241	V. Monika	
		15NM1A0205	V. Usha Sri	
	15	17NM5A0209	V. Usha Sri	Mitigation Of Power Quality Disturbances By Using Dynamic Voltage Restorer.
		16NM1A0294	V.Swathi	
		17NM5A0208	A. Alekhya	
		16NM1A0279	G. Bhavya	
		16NM1A0233	K. Vathsalya	
16	17NM5A0212	K.B.J.L. Aparna	Detection Of Power Grid Synchronisation Failure Beyond Acceptable Voltage and Frequency	
	16NM1A0249	M. Poojitha		
	16NM1A0292	M. Deepthi Sree		
	16NM1A0274	N. Navya		
	16NM1A0212	Indala Vasanthi		

Table B. 6.4 d. list of quality project details

6.5. Safety measures in laboratories (10)

- Workshop on Fire and electrical safety will be conducted at the beginning of the academic year to help students to know more about the usage of Fire Extinguisher.
- Fire Extinguishers are refilled from time to time.
- The locations and operating procedures of all safety equipment including first aid kit(s), and fire extinguishers are instructed to students.
- Students must follow proper dress code.
- Wear Shoes while handling machinery parts.
- Obtain permission before operating any high voltage equipments.

Sl.No	Name of the Laboratory	Safety measures
1	Electrical Machines Laboratory	<ul style="list-style-type: none"> • Students are instructed to wear aprons & shoes while conducting the experiments • Electrical equipment are properly grounded • Class C fire extinguishers are provided at various location of the lab. • Rotating parts are covered with guard. • A fire extinguisher and first- aid kit is maintained for emergency needs. • All safety measures are displayed in the laboratory • Rubber mats are provided near experiment table. • Live joints and loose connections are not allowed. • Loose garments are not allowed during experiments. • Suitable rating fuses are used for every machine to protect from over currents.
2	Electrical Technology & Networks Laboratory	<ul style="list-style-type: none"> • Students are instructed to wear aprons & shoes while conducting the experiments • Live joints and loose connections are not allowed • Suitable rating fuses are used to protect the circuit components. • Class C fire extinguishers are used. • Use of extension cords are strictly avoided as a substitute for permanent wiring.

3	Electrical Measurement Laboratory	<ul style="list-style-type: none"> • Equipment, appliance and extension cords are regularly monitored for good condition and not frayed, damaged, or taped. • Students are instructed to wear aprons & shoes while conducting the experiments • Live joints and loose connections are not allowed • Class C fire extinguishers are used. • Master switch is provided for every experiment so that to off it during any fault condition.
4	Control Systems laboratory	<ul style="list-style-type: none"> • Unobstructed access to all electrical panels • Students are instructed to wear aprons & shoes while conducting the experiments
5	Power Electronics Laboratory	<ul style="list-style-type: none"> • Class C fire extinguishers are used. • Students are instructed to wear aprons & shoes while conducting the experiments • Live joints and loose • Electrical equipment must be properly grounded
6	Electrical Simulation Laboratory	<ul style="list-style-type: none"> • Power strips should not be daisy-chained together

General instructions in Electrical Machines Laboratory

While working in Electrical Machines laboratory, following general precautions are followed.

Do not touch any terminal or switch without ensuring that it is dead.

1. Keep away from all the moving parts as far as possible.
2. Wearing of shoes with rubber soles is desirable.
3. Do not use loose garments, while working in the laboratory.
4. Girls have to wear aprons compulsorily.
5. Use sufficient long connecting leads, rather than joining two or three small ones, because in case, any joint is open, it could be dangerous.
6. Use a fuse wire of proper rating only.
7. While using electronic equipment, ensure that these are properly earthed. Earth link should not be removed unless it is absolutely necessary.
8. Make sure all the electrical connections are tight, before switching on any circuit.
9. The faulty connections may cause short circuit, resulting in the damage of parts of the equipment.

10. The Circuit should be de-energized, while changing any connection
11. In case of emergency or fire, cut-off the master switches on the main panel board.
12. Do not allow any loose connections.
13. Use suitable type of wire for connecting different parts of the circuit. For example, flexible wire should be used for connecting the voltmeters and pressure coil of wattmeter, because current is negligible. Sufficient cross-section should be used for the current carrying circuits.
14. When a motor is started, never apply full voltage suddenly increase the voltage gradually and using it to the rated value.
15. While loading a particular machine, switch – on the load gradually and similarly switch – off gradually.
16. Switch on the supply, only after getting the circuit checked.
17. Never touch any live terminals, while the experiment is being conducted.

General instructions in power electronics lab

While working in power electronics laboratory, following general precautions are followed.

Do's:

1. Keep away from all the moving parts as far as possible.
2. Wearing of shoes with rubber soles is desirable.
3. Girls have to wear aprons compulsory.
4. Use sufficient long connecting leads, rather than joining two or three small ones, because in case, any joint is open, it could be dangerous.
5. Use a fuse of proper rating only.
6. While using equipment, ensure that these are properly earthed.
7. Make sure that the power chord connection is right, before switching ON any circuit.
8. While inserting the USB, DSO should be in ON condition.
9. Switch on the supply, only after getting the circuit checked.

Don'ts:

1. Do not touch any terminal or switch without ensuring that it is dead.
2. Do not use loose garments, while working in the laboratory.
3. The faulty connections may cause short circuit, resulting in the damage of parts of the equipment.
4. Avoid loose connections of patch chords and pulse connectors.

ELECTRICAL MEASUREMENT LAB

The following safety instructions are followed.

1. Do not touch any terminal or switch without ensuring that it is dead.
2. Keep away from all the moving parts as far as possible.
3. Wearing of shoes with rubber soles is desirable.
4. Do not use loose garments, while working in the laboratory.
5. Girls have to wear aprons compulsorily.
6. Use sufficient long connecting leads, rather than joining two or three small ones, because in case, any joint is open, it could be dangerous.
7. Use a fuse of proper rating only.
8. Make sure that the power chord connection is right, before switching ON any circuit.
9. The faulty connections may cause short circuit, resulting in the damage of parts of the equipment.
10. In case of emergency, cut-off the master switches on the main panel board.
11. Do not allow any loose connections of patch chords.
12. Switch on the supply, only after getting the circuit checked.
13. Keep your work area clean and organized; no food or drinks at the work station.
14. Keep all unnecessary objects, i.e. backpacks, papers, tools, away from test platforms.
15. Turn off power to the circuit before making topological changes.
16. Where possible, slowly increase voltage/current levels to verify functionality.
17. Do not wear jewelry, including rings, bracelets, necklaces, etc., when working with electricity; they can cause unintentional shock.
18. If you see a problem, are unsure of what is happening, or do not know what to expect, stop work and resolve the issues. SAFETY FIRST.

Criterion 7	Continuous Improvement	50 M
7.1	Actions are taken based on the results of the evaluation of each of the POs & PSOs	20M
7.2	Academic Audit and Actions Taken thereof during the Period of Assessment	10M
7.3	Improvement in Placement, Higher Studies and Entrepreneurship	10M
7.4	Improvement in the quality of students admitted to the program	10M

7. Continuous Improvement(50)

7.1. Actions are taken based on the results of the evaluation of each of the POs & PSOs (20)

(Identify the areas of weaknesses in the program based on the analysis of the evaluation of POs & PSOs attainment levels. Measures identified and implemented to improve POs & PSOs attainment levels for the assessment years.)

For continuous improvement in the Program Outcome of B.Tech Electrical and Electronics Engineering and to measure the drawbacks in the program, based on curriculum, the analysis and evaluation of Course Outcomes, Program Outcomes and Program Specific Outcomes analysis is compulsory.

The Teaching-learning process, Assessment and Evaluation processes will be very useful to identify the targets set to POs and PSOs. Based on the observations for specific PO and PSO, Actions and corrective measures are recommended to achieve, improve and maintain the target attainment in the coming assessment years.

The following are the Action plans suggested for those courses in which the targets of POs are not achieved. The improvement in the attainment of POs and PSOs are monitored in the subsequent years for the courses towards the achieved target.

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.2	2.28	<ul style="list-style-type: none"> Target is achieved. The attainment levels for the courses like C215 [EM-I LAB], C303 [PS-II], C307 [EM-II LAB], C308 [CS LAB], C404 [INST], C405 [EDS], C407 [ES LAB], C408 [PSS LAB] can be further improved.
<p>Action 1: Practical sessions should be incorporated apart from regular lab sessions on PSPICE and MATLAB to improve the attainment for courses C407, C408.</p> <p>Action 2: Students should be trained to design the circuit for the courses C307, C308.</p>			
PO2: Problem analysis: Identity, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			

PO2	2.2	2.27	<ul style="list-style-type: none"> • Target is achieved • Need to improve problem identification and analyzing skills.
<p>Action 1: Tutorial classes have to be conducted to enhance analyzing ability.</p> <p>Action 2: Faculty members are advised to interact more with students towards complex engineering problems.</p>			
<p>PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</p>			
PO3	2.2	2.25	<ul style="list-style-type: none"> • Target is achieved • This attainment can be improved further in courses like C213 [EM-II], C304 [EM-III], C305 [PE], C310 [SGP], C312 [UEE], C313 [PSA], C314 [PSD], C401 [RESS], C402 [HVAC&DC], C403 [PSOC], C405 [EDS], C410 [SEM], C411 [FACTS], C412 [AI]. • Need to concentrate more on design solutions for engineering problems.
<p>Action 1: Workshop is proposed on the "SMART GRID" for the elaboration of concepts related to the courses C401, C402, C405, C411.</p> <p>Action 2: Workshop is proposed on "IoT" with cloud Robotics to increase the awareness towards the public health and safety within environmental considerations.</p>			
<p>PO4:Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions</p>			
PO4	2.2	1.98	<ul style="list-style-type: none"> • Target is not achieved • This is due to low attainment in courses like C214 [CS], C303 [PS-II], C304 [EM-III], C305 [PE], C310 [SGP], C312 [UEE], C314 [PSD], C402 [HVAC&DC], C410 [SEM]. • Need to extend the ability to experimentally analyze the problems through relevant software.
<p>Action 1: Remedial classes should be taken for the courses C214, C305, C314, and C402 to practice the relevant graphs.</p> <p>Action 2: Revision hours apart from scheduled hours should be conducted for theory courses like C303, C304, C310, C312, C410.</p>			
<p>PO5:Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering</p>			

activities with an understanding of the limitations			
PO5	2.2	1.91	<ul style="list-style-type: none"> • Target is not achieved • PO attainment is low due to courses like C205 [EMF], C206 [EM-I], C210 [STLD], C212 [PS-I], C213 [EM-II], C214 [CS]. • Recommended the usage of additional software's latest testing equipment.
Action 1: Tutorial classes have to be conducted for these basic courses.			
PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice			
PO6	2.0	2.06	<ul style="list-style-type: none"> • Target is achieved. • Investigation of problems faced by society has to be addressed.
Action 1: Expert talk should be conducted Legal rights and women empowerment.			
Action 2: Expert talk should be conducted on Scope of new avenue growth in Engineering.			
PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	2.0	2.09	<ul style="list-style-type: none"> • Target is achieved
Action 1: NSS activities are planned to create environmental awareness.			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			
PO8	2.0	1.98	<ul style="list-style-type: none"> • Target is achieved • Ethical knowledge has to be improved
Action 1: Faculty members are advised to teach engineering ethics and moral values			
PO9: Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO9	2.0	2.19	<ul style="list-style-type: none"> • Target is achieved
Action 1: Students should be allowed to work in groups for co and extracurricular activities.			
PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.0	2.12	<ul style="list-style-type: none"> • Target is achieved
Action 1: Students should be encouraged to conduct and participate for poster and paper			

presentation at national level contests.			
Action 2: NPTEL Video Lecture on Communication skills has to be demonstrated to the students.			
Action 3: It is proposed to have MoU with prestigious organizations like Oxford University and British council for local chapter skill development.			
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.0	2.14	• Target is achieved.
Action 1: National Technical Fest - TECHRITZ is proposed wherein students will organize various events for other college students.			
Action 2: Classes have to be organized to understand the principles of financial analysis of projects			
PO12:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.0	2.10	• Target is achieved.
Action 1: Technical Workshop for GATE 2017 has to be conducted.			
Action 2: Expert talk should be conducted on The Opportunities in Higher Studies.			
PSO1: Analyze and solve critical problems associated with power systems/control systems using modern software tools.			
PSO1	2.2	2.43	<ul style="list-style-type: none"> • Target is achieved • This can be improved further by enhancing exposure on problem analysis using hardware and software tools.
Action 1: Workshops are proposed on “I BOOT UP IOT SERIES CONTROLLERS” and “PLC power system Automation”.			
PSO2: Apply the knowledge of power electronics to control and design high-performance electrical drives for careers in interdisciplinary fields.			
PSO2	2.2	2.41	<ul style="list-style-type: none"> • Target is achieved • Enhanced exposure is needed on concepts and techniques adopted in Power Plants and industries.
Action 1: Industrial Visits are proposed to substations and Machkund power plant			

Table 7.1.1: POs attainment levels and actions for improvement during CAYm3 (2016-17)

POs	Target Level	Attainment Level	Observations
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PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.3	2.39	<ul style="list-style-type: none"> • Target is achieved • This attainment can be improved further in courses like C215 [EM-I LAB], C303 [PS-II], C404 [INST], C405 [EDS].
<p>Action1: Faculty should provide PowerPoint presentation with applications in an interesting manner for complete theory courses like C404, C405.</p> <p>Action2: Additional problems should be exercised through extra classes for C303.</p> <p>Action3: Students should be allowed to join MOOCs from NPTEL for enhancement in the basic courses.</p>			
PO2: Problem analysis: Identity, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	2.3	2.37	<ul style="list-style-type: none"> • Target is achieved. • Need to improve problem identification and analyzing skills.
Action1: Seminars should be arranged with industrial experts to learn contemporary issues.			
PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO3	2.3	2.33	<ul style="list-style-type: none"> • Target is achieved. • The attainment levels for the courses like C213 [EM-II], C304 [EM-III], C305 [PE], C310 [SGP], C312 [UEE] and C313 [PSA] can be further improved.
<p>Action1: A Visit to Thermal power station is recommended to understand the concepts like circuit breaker operation for C310.</p> <p>Action2: A workshop on "MATLAB/SIMULINK" is proposed to design skills for C313.</p> <p>Action3: Analysis based assignments have to be given for these courses C213, C304, C305, and C312.</p>			
PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions			

PO4	2.3	2.32	<ul style="list-style-type: none"> • Target is achieved. • The attainment levels for the courses like C206 [EM-I], C213 [EM-II], C302 [EMS], C313 [PSA], C401 [RESS], C403 [PSOC], C411 [FACTS] can be further improved.
<p>Action1: Faculty is advised to use cut-sections of both A.C and D.C machines for the explanation of constructional features for courses C206, C213.</p> <p>Action2: Workshop on “Recent trends on electrical equipment interfacing with embedded systems” is proposed for research orientation of students, having scope for courses like C313, C401, and C411.</p> <p>Action 3: Students have to be encouraged to publish their project work in reputed journals by providing registration fee from the management.</p>			
PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations			
PO5	2.3	1.94	<ul style="list-style-type: none"> • Target is not achieved • This is due to low attainment levels in courses like C303 [PS-II], C304 [EM-III], C305 [PE], and C310 [SGP].
<p>Action1: Expert talk conducted on Automation in Industry.</p> <p>Action 2: Workshop on” PLC & SCADA” and” C Programming” has to be conducted.</p>			
PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice			
PO6	2.1	2.12	<ul style="list-style-type: none"> • Target is achieved.
Action1: Real-world projects have been carried out by the students of the Department like Water pumping using low HP motors, smart home energy management etc. for the environmental up-gradation and to develop the societal need.			
PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO7	2.1	2.15	<ul style="list-style-type: none"> • Target is achieved
<p>Action1: Projects related to economical and environmental contexts were planned for final year students to carry out real-world projects for environmental and societal up-gradation.</p> <p>Action 2: Case studies are to be improved to address sustainability issues.</p>			
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			

PO8	2.1	2.07	<ul style="list-style-type: none"> • Target is not achieved • This can be attained by inculcating more ethical principles to face professional challenges.
<p>Action1: Motivational lectures have to be arranged by eminent people to develop self-consciousness on ethics and human values.</p> <p>Action2: Seminar on Cybercrime has to be organized.</p>			
<p>PO9: Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings</p>			
PO9	2.1	2.27	<ul style="list-style-type: none"> • Target is achieved • Need for more co-ordination and team management.
<p>Action 1: Visits to NTPC, substations should be made mandatory for students.</p> <p>Action 2: Projects about the latest problems were analyzed with frequent interactions from industrial experts and to distribute the work within the team through academic projects.</p>			
<p>PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such a being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.</p>			
PO10	2.1	2.20	<ul style="list-style-type: none"> • Target is achieved.
<p>Action1: Classes related to communication skills has to be inculcated in the academic calendar.</p> <p>Action 2: Seminars related to the latest Engineering topics has to be conducted about respective courses.</p> <p>Action 3: It is proposed to conduct British council teaching learning workshop for students to improve their communication Skills.</p>			
<p>PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work, as a member and leader in a team, to manage projects and in multidisciplinary environments.</p>			
PO11	2.1	2.21	<ul style="list-style-type: none"> • Target is achieved • Need more ability to plan and execute projects.
<p>Action1:Need to conduct undergraduate project contest, wherein students design the project development cycle including budgeting. Importance of financial management is discussed during the project work</p> <p>Action2: Expert talk on Financial education should be conducted.</p> <p>Action 3: National Technical FEST should be conducted wherein students will organize various events for other college students.</p>			

PO12:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.1	2.18	<ul style="list-style-type: none"> • Target is achieved • Need to motivate the students towards the importance of life-long learning.
Action1: Need to inculcate training Programs for International exams like GATE, GMAT which will also be helpful for national and state-level entrance exams likes the CAT, MAT.			
PSO1: Analyze and solve critical problems associated with power systems/control systems using modern software tools.			
PSO1	2.3	2.47	<ul style="list-style-type: none"> • Target is achieved • Need more exposure to problem analysis using hardware and software tools.
Action1: Workshops are proposed on “I BOOT UP IOT based power converters” and “SCADA basedPLC Automation”.			
PSO2: Apply the knowledge of power electronics to control and design high-performance electrical drives for careers in interdisciplinary fields.			
PSO2	2.3	2.44	<ul style="list-style-type: none"> • Target is achieved • Enhanced exposure is needed on concepts and techniques adopted in Power Plants and industries.
Action1: Industrial Visits are proposed to substations and nearby NTPC.			

Table 7.1.2: POs attainment levels and actions for improvement during CAYm2 (2017-18)

POs	Target Level	Attainment Level	Observations
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	2.4	2.48	<ul style="list-style-type: none"> • Target is achieved • This can be improved further in courses like C303 [PS-II], C404 [INST], C405 [EDS] can be further improved. • Lack of ability to solve and analyze the fundamental concepts.

<p>Action 1: Tutorial classes have to be conducted for the concepts related to the transmission line parameters in course C303 [PS-II] for understanding the basic concepts.</p> <p>Action 2: More assignment questions and practical explanation of topics like digital voltmeters are to be incorporated for the course C404 [INST].</p> <p>Action 3: A visit to the power grid is to be planned for the exposure of line parameters and distributed systems for a better understanding of the courses C303 (PS-II), C405 [EDS].</p> <p>Action 4: First-year students have to be motivated by explaining the need of mathematics and science fundamentals in any engineering specialization courses.</p>			
<p>PO2: Problem analysis: Identity, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.</p>			
PO2	2.4	2.48	<ul style="list-style-type: none"> • Target is achieved • The attainment levels for the course like C206 [EM-I] can be further improved. • Problem analyzing skills are to be improved further.
<p>Action 1: Guest lectures are to be arranged for construction features of D.C machines on C206 [EM-I].</p> <p>Action 2: Students are encouraged to collect research literature related to real time issues like Earthing, Harmonic content and Disturbances in Signals</p>			
<p>PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.</p>			
PO3	2.4	2.42	<ul style="list-style-type: none"> • Target is achieved • The attainment levels for the courses like C213 [EM-II], C304 [EM-III], C305 [PE] can be further improved. • Design aspects are lagging in the projects • Projects should include awareness of public health and safety issues.
<p>Action 1: Few topics in C213 [EM-II] like construction features of A.C machines have to be explained with more examples.</p> <p>Action 2: An industry visit has to be made mandatory to show practically the synchronization process for better understanding related to course C304 [EM-III].</p> <p>Action 3: Practice sessions should be arranged for the operation of power electronic devices related to course C305 [PE].</p> <p>Action 4: Workshops should be conducted in addition to “I BOOT UP IoT SERIES” and” PLC automation” to improve the designing skill concerning projects towards health and safety.</p>			

PO4:Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions			
PO4	2.4	2.40	<ul style="list-style-type: none"> • Target is achieved. • The attainment levels for the courses like C208 [EC LAB], C307 [EM-II LAB], C316 [PE LAB], and C317 [EMS LAB] can be further improved. • Lack of synthesis ability.
<p>Action 1: More experiments beyond the curriculum should be added to increase the applications-oriented approach in case of courses C208 [EC LAB] like Experimental Analysis of Low and High pass filters. Starting methods of synchronous motor in case of courses C307 [EM-II LAB], Speed control of DC Motor using Rectifiers in case of C316 [PE LAB], and Measurement of high resistance using Megger in case of course C317 [EMS LAB].</p> <p>Action 2: Technical fest and Expert talks should be incorporated into the academic calendar to nurture the ability to investigate and implement complex electrical and electronic systems.</p> <p>Action 3: Faculty members should be advised to discuss simple and relevant journal papers in the classroom to improve research-based knowledge.</p>			
PO5:Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations			
PO5	2.4	2.04	<ul style="list-style-type: none"> • Target is not achieved. • This is due to low attainment in courses like C401 [RESS], C402 [HVAC&DC], C403 [PSOC], C411 [FACTS].
<p>Action 1:Workshop on courses like C401[RESS] and C411[FACTS] are to be conducted to increase the awareness on “Power Transmission on Green Energy”.</p> <p>Action 2: Seminar on Distribution and Transmission System should be conducted related to the Courses C402 [HVAC&DC], C403 [PSOC].</p> <p>Action 3: A workshop is proposed on NI lab to upgrade the latest tools.</p> <p>Action 4: Students are encouraged to do more mini projects by using latest tools like PSCAD, ZMAG, EMTP.</p>			
PO6:The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice			
PO6	2.2	2.21	<ul style="list-style-type: none"> • Target is achieved. • Low attainment is observed for the course C205 [EMF] • Lack of investigation of problems faced by society.

<p>Action1: Real-world projects have to be carried out by the students like Green energy harvesting, Power generation etc. for environmental up-gradation and to develop the societal need.</p> <p>Action2: NSS Activities and UBA (Unnat Bharat Abhiyan) need to be increased to fill the gap between engineering education and society.</p>			
<p>PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.</p>			
PO7	2.2	2.25	<ul style="list-style-type: none"> • Target is achieved • Low attainment is observed for the course C401[RESS]
<p>Action1: Guest lecture on Renewable Energy Sources are to be planned for final year students.</p> <p>Action 2: Student mini projects with relevance to Environmental context have to be conducted.</p>			
<p>PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.</p>			
PO8	2.2	2.28	<ul style="list-style-type: none"> • Target is achieved • The attainment levels for the courses like C402 [HVAC&DC], C411 [FACTS] can be further improved. • Ethical principles along with technical knowledge should be inculcated.
<p>Action 1: Proposed to conduct a seminar on the courses C402 [HVAC&DC] and C411 [FACTS] towards the controlling of power system stability which includes professional ethics by providing reliability to the consumer.</p> <p>Action 2: Visits to the orphanage, adopting poor villages, on the occasion of the women's day and all religious occasions to maintain integrity.</p>			
<p>PO9: Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings</p>			
PO9	2.2	2.30	<ul style="list-style-type: none"> • Target is achieved • The attainment levels for the courses like C303 [PS-II], C304 [EM-III] can be further improved.
<p>Action 1: Technical activities like VISTA 2K18 was organized to improve team building and leadership qualities.</p> <p>Action 2: Proposed to conduct more technical events like Paper Presentation, Poster Presentation and hardware Expo under the professional body chapters like IEI and DAEEE.</p> <p>Action 3: Projects related to real time issues should be analyzed with frequent interactions from industrial experts and to distribute the work within the team towards its execution of academic projects.</p>			

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO10	2.2	2.27	<ul style="list-style-type: none"> • Target is achieved. • This can be improved further in course C214 [CS]. • Need more presentation skills to improve further.
<p>Action 1: Students are motivated to give seminars in topics like Root locus, Stability criterion related to the course C214 [CS].</p> <p>Action 2: Group discussion is proposed to conduct for the final year students on contemporary issues.</p> <p>Action 3: More activities are to be conducted in association with oxford achievers and British Counsel.</p>			
PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO11	2.2	2.30	<ul style="list-style-type: none"> • Target is achieved. • The attainment levels for the courses like C303 [PS-II], C313 [PSA] can be further improved. • Need more ability to plan and to execute the project.
<p>Action 1: Expert talk on Entrepreneurship and International Career Guidance should be conducted.</p> <p>Action 2: Proposed to conduct guest lecture on financial and project management in multidisciplinary environments.</p> <p>Action 3: Students are encouraged to implement mini projects to enhance their engineering and management skills.</p>			
PO12:Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO12	2.2	2.33	<ul style="list-style-type: none"> • Target is achieved. • The attainment levels for the courses like C403 [PSOC], C405 [EDS] can be further improved.
<p>Action 1: Students are encouraged to take up video courses like NPTEL, SWAYAM on recent technologies.</p> <p>Action 2: Students are encouraged to do research and publish their work in reputed journals.</p> <p>Action3: Students are motivated to do higher studies (M.Tech/MS/MBA). An awareness program on higher studies will be conducted.</p>			
PSO1: Analyze and solve critical problems associated with power systems/control systems using modern software tools.			
PSO1	2.4	2.56	<ul style="list-style-type: none"> • Target is achieved.

			<ul style="list-style-type: none"> The attainment levels for the courses like C303 [PS-II], C313 [PSA] can be further improved. Need more exposure to problem analysis using hardware and software tools.
<p>Action 1: Proposed to conduct Workshops on latest topics on Power Systems and Control Systems on “PLC Automation”.</p> <p>Action 2: An awareness program is proposed to conduct on Modern tools of power systems like ZMAG, EMTP.</p> <p>Action 3: Students are encouraged to do projects related to State Space Analysis.</p>			
<p>PSO2: Apply the knowledge of power electronics to control and design high-performance electrical drives for careers in interdisciplinary fields.</p>			
PSO2	2.4	2.54	<ul style="list-style-type: none"> Target is achieved The attainment levels for the courses like C305 [PE], C314 [PSD] can be further improved. Enhanced exposure is needed on concepts and techniques adopted in Power Plants and industries.
<p>Action 1: Students are to be encouraged to do projects in Power Electronics and to publish their work in inter institutional symposium.</p> <p>Action 2: A guest lecture is proposed to conduct on the significance of Power Semiconductor Drives in interdisciplinary fields.</p> <p>Action 3: Innovative teaching-learning activities like open-book exam and flipped class room to enhance higher order thinking levels of students in core domain.</p>			

Table 7.1.3: POs attainment levels and actions for improvement during CAYm1 (2018-19)

PO-Program Attainment Comparison Analysis:

Program Outcome Attainments for the three consecutive batches 2013-17, 2014-18 and 2015-19 are shown below in Table 7.1.4 and in Figure 7.1.1 For the students of the program B.Tech Electrical and Electronics Engineering, we set

- For CAYm3 (2016-17) a target of 2.20 out of 3 is fixed for the POs : PO1 to PO5 which are highly correlated to Engineering core courses and moderately correlated to Non-engineering courses
- For CAYm3 (2016-17) a target of 2.00 out of 3 is fixed for the POs : PO6 to PO12) which are moderately correlated to Engineering core courses and Non-engineering courses

- For CAYm2 (2017-18) a target of 2.30 out of 3 is fixed for the POs : PO1 to PO5 which are highly correlated to Engineering core courses and moderately correlated to Non-engineering courses
- For CAYm2 (2017-18) a target of 2.10 out of 3 is fixed for the POs : PO6 to PO12) which are moderately correlated to Engineering core courses and Non-engineering courses
- For CAYm1 (2018-19) a target of 2.40 out of 3 is fixed for the POs : PO1 to PO5 which are highly correlated to Engineering core courses and moderately correlated to Non-engineering courses
- For CAYm1 (2018-19) a target of 2.20 out of 3 is fixed for the POs : PO6 to PO12) which are moderately correlated to Engineering core courses and Non-engineering courses

For the admitted batch 2013-17, nine Program Outcomes PO1, PO2, PO3, PO6, PO7, PO9, PO10, PO11 and PO12 attained the target set by us.

For the admitted batch 2014-18, eleven Program Outcomes PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11 and PO12 attained the target set by us.

For the admitted batch 2015-19, eleven Program Outcomes PO1, PO2, PO3, PO4, PO6, PO7, PO8, PO9, PO10, PO11 and PO12 attained the target set by us.

From the above analysis, the attainment of target values for PO9, PO10, PO11 and PO12 of all the batches indicates that our Teaching-Learning methodologies are in line with Outcome Based Education (OBE). This in turn leads to the achievement of stated vision by inculcating team work, communication, management and lifelong learning skills in our young minds.

POs	Improvement measures
PO1, PO2, PO3, PO4, PO5	<ul style="list-style-type: none"> • Extra classes, Expert talks, Re-tests, Industry interaction through Visits, project competitions are proposed to improve the domain engineering knowledge. • Training on Advanced software tools are planned to enhance design and synthesis skills.
PO6, PO7, PO8, PO9, PO10, PO11, PO12	<ul style="list-style-type: none"> • Technical training, Technical Events, NSS activities, Societal activities need to be increased for effective communication skills and teamwork • E-library is proposed to access Swayam portal, NPTEL Video lectures, e-books etc...for enhancement of lifelong learning. • Frequent guest lectures have to be arranged on personality development and moral values including public health and safety.

Table 7.1.1: Actions taken for the improvement

Hence, we incorporate the gaps identified from the stake holders into our regular curriculum for the subsequent batches to improve the attainments. The progressive growth of placements Proves that our EEE students attained the target of program outcomes which gives the confidence and strength for the upcoming batches.

TARGET	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2013-17	2.20	2.20	2.20	2.20	2.20	2.00	2.00	2.00	2.00	2.00	2.00	2.00
2014-18	2.30	2.30	2.30	2.30	2.30	2.10	2.10	2.10	2.10	2.10	2.10	2.10
2015-19	2.40	2.40	2.40	2.40	2.40	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ATTAINED	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
2013-17	2.28	2.27	2.25	1.98	1.91	2.06	2.09	1.98	2.19	2.12	2.14	2.10
2014-18	2.39	2.37	2.33	2.32	1.94	2.12	2.15	2.07	2.27	2.20	2.21	2.18
2015-19	2.48	2.48	2.42	2.40	2.04	2.21	2.25	2.28	2.30	2.27	2.30	2.33

Table 7.1.2: Comparative Analysis of PO attainment

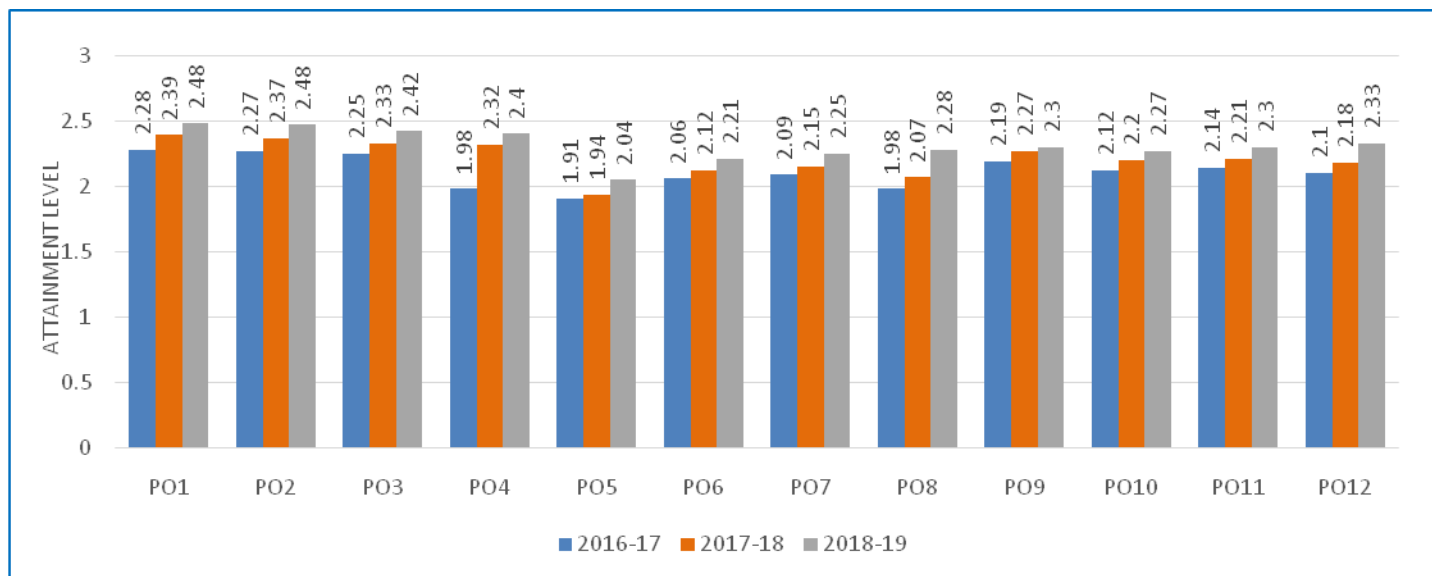


Figure 7.1.1: PO attainment levels for CAYm3, CAYm2, and CAYm1

PSO -Program Attainment Analysis:

Program Specific Outcome attainment for the three consecutive batches 2013-17, 2014-18 and 2015-19 are shown below in Table 7.1.5 and in Figure 7.1.2 For the students of the program B.Tech Electrical and Electronics Engineering, we set

- For CAYm3 (2016-17) a target of 2.20 out of 3 is fixed for both PSO1 and PSO2 which are highly correlated to Engineering core courses and moderately correlated to Non-engineering courses.
- For CAYm2 (2017-18) a target of 2.30 out of 3 is fixed for both PSO1 and PSO2 which are highly correlated to Engineering core courses and moderately correlated to Non-engineering courses.
- For CAYm1 (2018-19) a target of 2.40 out of 3 is fixed for both PSO1 and PSO2 which are highly correlated to Engineering core courses and moderately correlated to Non-engineering courses.

For PSO-Program Attainment for the three consecutive batches 2013-17, 2014-18 and 2015-19, PSO1 and PSO2 reached the target set by us. A continuous improvement is observed for the three batches in PSO attainment which is achieved by preparing our students towards the needs of learning the upcoming tools in electrical technology by motivating students to participate in industry interactions.

Target	2013-17	2014-18	2015-19
PSO1	2.20	2.30	2.40
PSO2	2.20	2.30	2.40
Attained	2013-17	2014-18	2015-19
PSO1	2.43	2.47	2.56
PSO2	2.41	2.44	2.54

Table 7.1.3: Comparative Analysis of PSO attainment

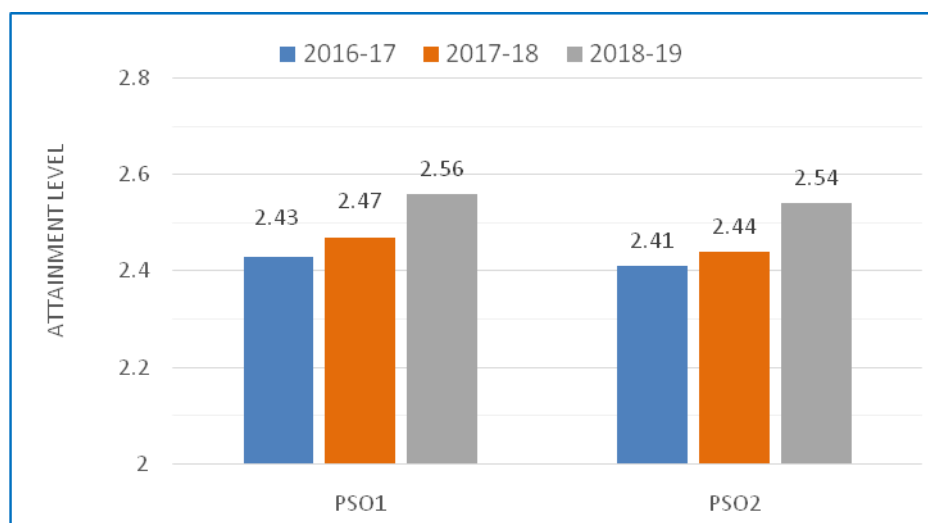


Figure 7.1.2: PSO attainment levels for CAYm3, CAYm2, and CAYm1

7.2. Academic Audit and Actions Taken thereof during the Period of Assessment (10)

(Academic Audit system/process and its implementation about Continuous Improvement)

Academic audits are conducted as per ISO 9001:2008 standard in order to monitor and evaluate the teaching learning process. It consists of Program Assessment and Quality Improvement Committee (PAQIC), Department Advisory Committee (DAC) and Class Review Committee (CRC). Audits are conducted for teaching process, laboratory maintenance and departmental

activities.

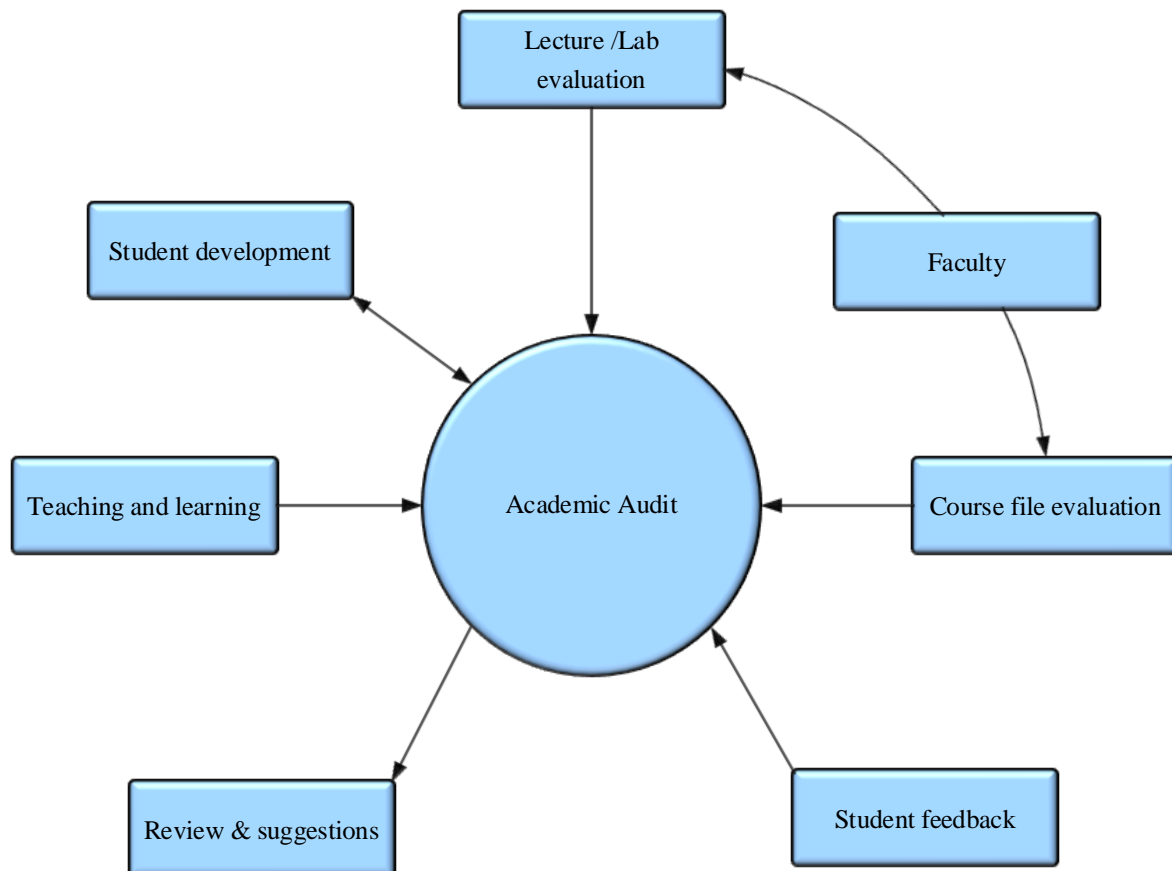


Figure 7.2.1: Flow graph of Academic Audit

The process of Academic Auditing intends to monitor and enhance the quality of technical education through proper guidelines for both teaching faculty and students, so as to ensure qualified engineers/researchers passing out from our Institute.

The Program coordinator is responsible to assess Course Outcomes, Program Outcomes and Program Specific Outcomes to identify gaps in compliance with JNTUK curriculum. If any modifications and suggestions are made by the stakeholders about curriculum it is duly informed to the Program Assessment and Quality Improvement Committee (PAQIC). PAQIC submits the report based on the suggestions to Department Advisory Committee (DAC). DAC will then finalize the curriculum gaps based on the assessment report submitted by the PAQIC along with CRC. The identified curriculum gaps are intimated to affiliated university JNTU Kakinada by PAQIC.

Department Advisory Committee (DAC)	Roles & Responsibilities
<ul style="list-style-type: none"> • Principal • Academic Director • Head of the Department • Industry person • Academic person • Alumni 	<ul style="list-style-type: none"> • Monitoring the achievements of Program Outcomes (POs), Program Specific Outcomes (PSO), Program Educational Objectives (PEOs). • Evaluating program effectiveness and proposing necessary changes. • For quality improvement, monitoring the faculty and students towards attending FDPs, Workshops, Seminars and research activities. • Suggestions on Teaching pedagogy and OBE awareness. • Suggestions for Students –Industry interaction
Program Assessment Committee (PAQIC)	Roles & Responsibilities
<ul style="list-style-type: none"> • Head of the Department • Program Coordinator • Attendance Coordinator • Feedback coordinator • Examination Coordinator • Faculty activities and R& D Coordinator • Project Coordinator • Student Mentoring Coordinator • System Cell In-charge • Training and Placement Coordinator • IQAC Department Coordinator • Student activities Coordinator 	<ul style="list-style-type: none"> • Adherence to academic calendar • Course file verification • Verification of quality of Assignments, tutorials. • Assessing Curriculum- Gap identification. • Identification of the advanced and slow learners and necessary suggestions. Activities towards advanced and slow learners. • Feedback Analysis. • Providing measures to participate and organize FDPs, Conferences, Seminars, Workshops, student chapters, inter- institute events etc. • Review on Quality & Quantity of Research publications. • Assessing of student’s projects (Mini & Major) • Attendance registers, monthly attendance reports, Communication of attendance. • Evaluating the results and measures for improvement. • Review and Guidelines on Campus Recruitment training, On campus and Off campus placements, Measures for improvement of placements • Verification of Lab manuals, Student lab records, Stock registers, Maintenance registers. • Laboratory equipment calibration process. • Available and requirement of lab resources (Equipment, Softwares etc.), their working status and Utilization.

	<ul style="list-style-type: none"> Monitoring the process and Suggestions/ corrective measures for mentoring outcome..
Class Review Committee (CRC)	Roles & Responsibilities
<ul style="list-style-type: none"> Head of the Department Faculty Coordinator- II year Faculty Coordinator- III year Faculty Coordinator- IV year Student Representative- II year Student Representative - III year Student Representative - IV year 	<ul style="list-style-type: none"> SRC meetings to monitor syllabus status Performance analysis of students in internal & external examination Interacting with students regarding student mentoring system and regular absentees. Encouraging students for Internships in Industries. Assessing the requirement of Extra/Tutorial/Remedial Classes Encouraging students to publish papers on final year projects, higher studies, competitive exams, GATE, GRE etc. Review on Classroom activities for better learning and understanding of contents. Interaction with Students about placement and training activities

Table 7.2.1: Committes Responsibilities

Sl. No.	Member name	Designation	Role
1	Dr. K.DurgaSyam Prasad	HOD	Chair person
2	Dr. Akanksha Mishra	Professor	Member
3	Dr. K. Kushal Kumar	Assoc. Professor	Member
4	Ms.B. M. PushpaLatha	Asst. Professor	Member
5	Mr. V. Avinash	Asst. Professor	Evaluator
6	Mr. Rama Krishna	AGM,HNPCL	Member
7	Ms.R.Pavani Kumari	IBM , Hyderabad	Member

Table 7.2.2: PAQIC Members

Sl. No.	Member Name	Designation	Role
1.	Dr.J.Sudhakar	Principal	Chair person
2.	Dr.A.SeshaRao	Academic Director	Member
3.	Dr. K.DurgaSyam Prasad	HOD	Member
4.	Dr. Akanksha Mishra	Assoc. Professor	Member
5.	Dr. K. Kushal Kumar	Assoc. Professor	Member
6.	Ms.B. M. PushpaLatha	Asst. Professor	Member
7.	Mr. V. Avinash	Asst. Professor	Evaluator
8.	Mr.C. Rama Krishna	AGM,HNPCL	Member
9.	R. Pavani Kumari	IBM , Hyderabad	Member

Table 7.2.3: DAC Members

Sl. No.	Member Name	Designation	Role
1.	Dr. K. Durga Syam Prasad	HOD	Chair person
2.	Mr.P.V.Sarath	Asst. Professor	II year class
3.	Mrs.T.Sushma	Asst. Professor	III year class
4.	Mr.A.Chandriah	Asst. Professor	IV year class
5.	Ms.Harika	II year Class	Member
6.	Ms. Sireesha	III year Class	Member
7.	Ms. Adi Lakshmi	IV year Class	Member

Table 7.2.4: CRC Members

Documents to be verified during Academic Audit:

List of documents:

1. Students Batch List
2. Departmental Academic Calendar
3. Class Time Table, Faculty Time Table and Master Timetable
4. Course Files
5. Lab manuals for practical courses
6. Mid-Term paper
7. Final semester project reports
8. Department technical activities

9. Internships/ Industrial visits/ Summer training / Workshops/ Industrial Interaction
10. Details of student's placements, Higher education.
11. Students feedback reports
12. Continuous learning activities of faculty (FDP, Publications etc.)

Suggestions of the committees for the academic audit and actions taken are listed below year wise:

Suggestions of the internal Academic audit in the year 2018-19	The action was taken in the Year 2018-19
1. Innovative teaching methods and uses of ICT facility to be improved.	NPTEL Videos classes are included in regular time table for the advance learner classes & No. of ICT classrooms are increased.
2. An extensive Campus Recruitment Training (CRT) program has to be initiated to improve the quality of placements.	Communication classes are conducted to improve the effective communication and verbal ability of the student from 2 nd year onwards
3. Research incentive schemes are to be initiated to increase research output	Faculty is encouraged by sponsoring for publication in reputed journals and to attend the more number of workshops.
4. Need to Develop the research activity in the Department	Faculty is guided to apply for Funded Research Project and enhance the publications in reputed journals.
5. Improve the real-time Project works	Student project works are focused on considering the societal and environmental issues

Table 7.2.5: Suggestions of the Academic audit and Actions taken for Academic Year 2018-19 (CAYm1)

Suggestions of the internal Academic audit in the year 2017-18	The action was taken in the Year 2017-18
1. The infrastructure facilities such as laboratories and classrooms are to be enhanced	Machine lab is bifurcated to DC & AC Machines Labs to Accommodate the Electrical and Labs are upgraded with new equipment and new version software.
2. Develop the research activity in the Department	Technical Events
3. Impart practical knowledge for related courses	Students are motivated to do an internship during summer vacation.
4. Improve the quality of Project works	Training program on Microcontroller is conducted for 2 nd -year students and Project lab is established for final year student project work.

Table 7.2.6: Suggestions of the Academic audit and Actions taken for Academic Year 2017-18 (CAYm2)

Suggestions of the internal Academic audit in the year 2016-17	The action was taken in the Year 2016-17
1. Communication skills of the students have to be improved	Conducted departmental events like technical debate, group Discussion and think pair and share among the students to develop creative thinking.
2. Impart practical knowledge for a better understanding of the courses	Industrial visits are organized for all the years.
3. Research related Project works has to be emphasized	Training program on MATLAB was conducted for 3 rd year students for enhancing the quality of B. Tech projects.

4. An extensive Campus Recruitment Training (CRT) program has to be initiated to improve the placements.	CRT classes for 3 rd students are conducted
5. Teaching methodology has to be changed for slow & advance learners	Section shuffling was introduced to serve the needs of the meritorious as well as slow learning students

Table 7.2.7: Suggestions of the Academic audit and Actions taken for Academic Year 2016-17 (CAYm3)

Student Counseling System of EEE Department:

Vignan's Institute of Engineering For Women Strongly believes that Student Mentoring system plays a vital role in empowering the women student's at the individual level. Unless a student is ready to learn, whatever may be the intelligence quotient of the student/efficiency of the teacher; learning cannot takes place accurately. In this context, VIEW has an efficient student mentoring system of allotting **20 students** to **every faculty** to address not only the academic/curricular issues but also other issues like economical issues, emotional problems and psychological issues.

Academic Year/Class	2018-19 CAYm1		2017-18 CAYm2		2016-17 CAYm3	
II Year I Sem	EEE-A	Mr.P.V.Sarath	EEE	Mr.K.V. Sri Ram Prasad	EEE-A	Mr.K.Kusal Kumar
	EEE-B	Mr.V.Avinash			EEE-B	Mr.P.V.Sarath
II Year II Sem	EEE-A	Mr.A.Chandraiah	EEE	Mr.B.Rajesh	EEE-A	Mr.A.Chandraiah
	EEE-B	Mrs.G.Spandana			EEE-B	Mr.K.Chiranjeevi
III Year I Sem	EEE-A	Mr.A.Chandraiah	EEE	Mr.K.Chiranjeevi	EEE-A	Mrs.G.Spandana
	EEE-B	Ms.B.M.PushpaLatha			EEE-B	Mr. M Suresh
III Year II Sem	EEE-A	Mr.K.Kusal Kumar	EEE	Mr.V.Avinash	EEE-A	Mr. B Rajesh
	EEE-B	MR.K.V.Sri Ram			EEE-B	Mr.K.Vamsi

		Prasad				
IV Year I Sem	EEE-A	Mrs.Ananksha Mishra	EEE	Mrs.Ananksha Mishra	EEE-A	Mr. G Ravi Kumar
	EEE-B	Ms.V.Kalyani			EEE-B	Mr.A.Chandraiah
IV Year II Sem	EEE-A	Mr.K.Vamsi	EEE	Mr.A.Chandraiah	EEE-A	Ms.B.M.Pushpa Latha
	EEE-B	Mr.A.Chandraiah			EEE-B	Mr.V.Avinash

Table 7.2.8 : Class Coordinators**Class coordinator roles and responsibilities:**

- Verification of monthly attendance by collecting attendance registers from all faculty.
- Identifying the attendance of shortfall students.
- Distributing undertaking forms to respective counselors.
- Monitoring classes and observing latecomers.
- Arranging tutorial/Remedial/slow learners' class.
- Giving Permission to students for necessary reasons.

Class counselors:

For every 20 students in class 1 counselor Number of Counselors per class : 3

Frequency of meeting : 15 days

(Instruction: Here the institution may report the details of the students for various purposes and also state the efficacy of such a system.) A faculty member is assigned to a group of 20 members to help them to clarify their doubts and to improve their technical aspects of the courses.

Roles & Responsibilities of a counselor:

- Maintaining personal information of the students.
- Maintaining previous academic Record
- Motivating the student towards their studies.
- Motivating the students to participate in various Co-Curricular and Extra-Curricular activities.
- By listening to the student problem and guide them to overcome the problem.
- Segregating allotted students as merit, average, poor and guide them properly.

- Encouraging peer group in students to enhance their skills (academics & Non-academic activities).
- Maintaining parent-teacher relation and informing progress of their ward.
- Meeting the students periodically to monitor their performance and their activities.

Class Counselors List for 15 admitted batch– I & II Semester	
Counselors Name	Roll Nos of Students allotted to Individual Counselor
Mr.K.Durga Syam Prasad	15NM1A0209,35,56,54,48,24,33,52,16,57,42,20,18,19,39 16NM5A0215,11,22,28,03,14 (21 Nos)
Mrs.K.Therissa	15NM1A0263,38,34,28,46,15,30,58,49,10,17,37 16NM5A0201,04,12,13,16,18,23,29 (20 Nos)
Mr.A.Chandraiah	15NM1A0203,06,11,23,26,29,31,32,36,40,47,50,60,61,62 16NM5A0202,06,08,10,17,21,30, (22 Nos)
Mr.K.Vamsi	15NM1A0201,02,04,22,25,26,41,43,44,51,55,59,64 16NM5A0205,08,09,12,14,19,20,24,27 (22 Nos)
Class Counselors List for 14 admitted batch – I & II Semester	
Counselors Name	Roll Nos of Students allotted to Individual Counselor
Mr.B.Rajesh	14NM1A0201,02,03,05,06,07,08,09,10,11,12,13,14,15,16,17,18,19,20, 21,22 (20 Nos)
Mrs.V.Kalyani	14NM1A0223,24,25,26,27,28,30,31,32,33,34,35,36,37,38,39,40,41,4 2,43,44 (21 Nos)
Mr.V.Avinash	14NM5A0206,45,46,47,48,49,50 15NM5A0201,03,04,05,06,07,08,09,10,11,12 (21 Nos)
Mr.K.V.Sri Ram Prasad	16NM1A0220,22,06,60,01,58,57,83,08,75,93,21,05,48,25,04,12,33,7 8,76,02,17NM5A0218,23,10 (24 Nos)
Mr.K.Chiranjeevi	15NM1A0205,16NM1A0228,66,89,88,69,92,19,09,10,95,39,16,52,84 45,17,03, 17NM5A0212,11,06,01,19,20 (24 Nos)
Class Counselors List for 13 admitted batch – I & II Semester	
Counselors Name	Roll Nos of Students allotted to Individual Counselor
Mr.M.Suresh	13NM1A0201, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21(21 Nos)
Mr.G.Ravi Kumar	13NM1A0222, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42 (21 Nos)
Ms.B.M.PushpaLatha	13NM1A0243, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63 (21 Nos)

Mr.A.Chandraiah	13NM1A0264, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 14NM5A0201, 02, 03, 04, 05, 06, 07 (22 Nos)
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Table 7.2.9 : Class Counselors

7.3. Improvement in Placement, Higher Studies and Entrepreneurship (10)

Assessment is based on improvement in:

- Placement: number, quality placement, core industry, pay packages etc.
- Higher studies: performance in GATE, GRE, GMAT, CAT etc., and admissions in premier institutions.
- Entrepreneurs.

A. Improvement in Placement numbers, quality, core hiring industry and pay packages (5)

The placement data of the program observes a progressive growth in terms of offered packages. Campus recruitment training helps every student in adapting the latest skills demanded by the industry. Table 7.3.1 summarizes the Placements, Higher Studies and Entrepreneurs. It is observed that an average Placements (Placements, Higher Studies and Entrepreneurs) is 85% for the last three academic years.

Item	CAYm1 (2018-19)	CAYm2 (2017-18)	CAYm3 (2016-17)
Total No. of final year students (N)	85	62	82
No. of students placed in Companies or Government Sector (X)	67	48	65
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT etc) (Y)	5	4	3
No. of students turned entrepreneur in Engineering / Technology (Z)	0	1	2
X+Y+Z =	72	53	70
Placement Index : (X+Y+Z)/N	P1=0.85	P2=0.85	P3=0.85

Average placement in percentage = (P1 +P2+P3)/3*100	85
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Table 7.3.1: Placement, higher education and entrepreneurs details

MNC companies like Capgemini, Infosys, HCL and others offered placements with good packages. The following table lists the number of placements and salary offered for the academic year 2018-19.

Sl. No.	Name of the Company	No of Students Placed	Package (in LPA)
1.	CAPGEMINI	9	3.5
2.	HCL	1	3.5
3.	PATHFRONT	11	3.0
4.	INFOSYS	1	3.0
5.	NET2SOURCE	2	3.0
6.	CONVERGYS	1	2.7
7.	IBeON INFOTECH	5	2.4
8.	VIZAG STEEL PLANT	1	2.0
9.	THINKSYNQ	23	1.68
10.	I PROCESS	13	1.56
11.	TECHMBPS	2	1.5
12.	TRIGEO	1	1.4
13.	NIFCO	1	1.0
14.	SRI GAYATRI JUNIOR COLLEGE	1	1.0
15.	OROMOTORS	1	1.0
16.	PATRA PVT LTD	1	1.0
17.	VSEZ	1	1.0
Total number of students placed on campus		67	
Total number of Final year students		85	
Percentage of students placed		78.82	

Table 7.3.2: Placement data for the year (2018-19)

Many prestigious companies like Cognizant, INFOSYS, IBM, Capgemini and many MNCs conducted campus drive with good packages during this year. The following table lists the number of placements for the academic year 2017-18.

Sl. No.	Name of the Company	No of students placed	Package (in LPA)
1.	VIZAG STEEL PLANT	1	3.5
2.	COGNIZANT TECHNOLOGY SOLUTIONS	1	3.5
3.	INFOSYS	6	3.25
4.	IBM	4	3.25
5.	VEE TECHNOLOGIES	2	3.2
6.	CHANDUSOFT TECHNOLOGIES PVT LTD	1	3.2
7.	CAPGEMINI	7	3.15
8.	FACE	5	2.64
9.	THINKTEL SOLUTIONS INDIA PVT LTD	8	2.5
10.	GLOBAL LOGIC COMPANY	1	2.5
11.	JOBIK SOFTWARE PVT LTD	1	2.5
12.	HDFC BANK	1	2.3
13.	KARVY	1	2.1
14.	VDART SPFTWARE SERVICES	4	2.0
15.	MICROMAX	1	2.0
16.	LARSEN & TOUBRO	1	1.9
17.	SUTHERLAND	7	1.85
18.	TECH MAHINDRA	2	1.7
19.	SYENAINFOSOFT PRIVATE LIMITED	1	1.5
20.	CONCENTRIX	1	1.5
21.	WIPRO	1	1.5

22.	ALEXA SOFTWARE	1	1.5
23.	HYOSEONG ELECTRIC CO. LTD	2	1.36
Total number of students placed on campus		48	
Total number of Final year students		62	
Percentage of students placed		77.42	

Table 7.3.3 : Placement data for the year (2017-18)

This year notices the remarkable placements with MNCs like Cognizant, Tech Mahindra, Wipro, HCL and other companies. It is noticed an increase in number of placements during this year. The following table lists the number of placements for the 2016-17.

Sl. No.	Name of the Company	No of Students Placed	Package (in LPA)
1.	COGNIZANT TECHNOLOGY SOLUTIONS	2	3.5
2.	TECH MAHINDRA	18	3.25
3.	CAPGEMINI	1	3.0
4.	GENPACT	2	2.4
5.	SUTHERLAND	21	2.0
6.	WIPRO	2	2.0
7.	GLENWOOD	1	2.0
8.	HCL	16	2.0
9.	SPICEJET	1	2.0
10.	HGS	15	1.73
11.	INTELENET	1	1.73
12.	JET AIRWAYS	1	1.73
13.	GIITS	1	1.0
14.	SYNNEX	1	1.0

Total number of students placed on campus	65
Total number of Final year students	82
Percentage of students placed	79.27

Table 7.3.4: Placement data for the year (2016-17)

Academic year	Placement %	Maximum package (in LPA)	Minimum package (in LPA)	Average annum Salary(in LPA)	No of students with more than 3 LPA
CAYm1	78.82	3.5	1.0	2.16	24
CAYm2	77.42	3.5	1.36	2.44	22
CAYm3	79.27	3.5	1.0	2.24	21

Table 7.3.5: Placement details

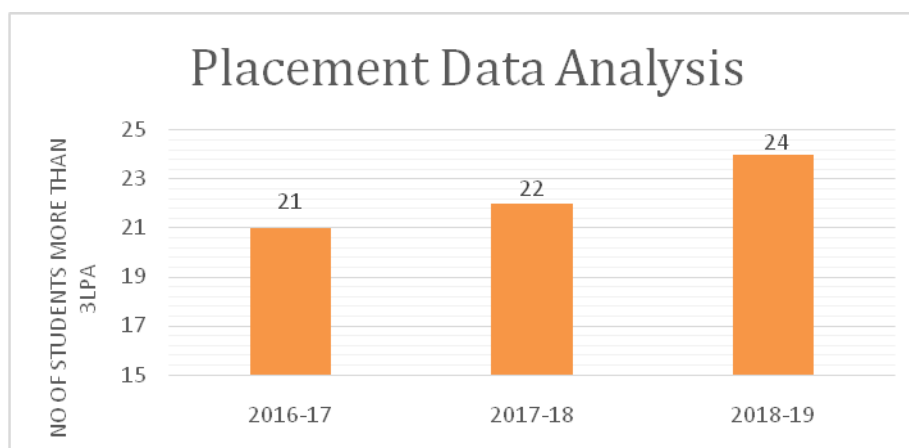


Figure 7.3.1: Placement Data Analysis

B. Improvement in Higher Studies admissions for pursuing PhD in premier institutions (3)

The students of EEE department are always prepared for higher studies by conducting GATE classes and motivational guidance towards entrepreneur development through guest lectures. The following Table 7.3.6 presents the details regarding higher studies for the CAYm3 (2016-17), CAYm2 (2017-18) and CAYm1 (2018-19).

Sl. No	Year	Registration number	Name	Higher studies admission details (M.S /M.Tech/ MBA/PhD)
1.	CAYm3 (2016-17)	12NM1A0212	Chekka Pavani	Power Industrial and Drives, M.Tech, VIEW Andhra Pradesh
2.		13NM1A0269	Sirasapalli Jyosna	MHRM, AU Andhra Pradesh
3.		13NM1A0272	S. Padmaja	MBA, NIT Warangal
4.	CAYm2 (2017-18)	14NM1A0216	Kokkirigadda Prakash Mercy	M.Tech, VIIT Andhra Pradesh
5.		14NM1A0223	Malla Bhargavi	M.Tech, DIET Andhra Pradesh
6.		14NM1A0234	P.Vijaya Lakshmi	M.Tech, VIIT Andhra Pradesh
7.		14NM1A0237	RochanaMadhulekhaPeethala	MS, Bolton University, UK
8.	CAYm1 (2018-19)	15NM1A0204	Bera Sowmya	Electrical, M.Tech, GVP, Andhra Pradesh
9.		15NM1A0226	Kandregula Priyaswi	M.Tech, AVEN, Andhra Pradesh
10.		15NM1A0238	Muvvala Punyavathi	M.Tech, AVEN, Andhra Pradesh
11.		15NM1A0263	VarshaTejaswi Kilaparthi	MS, Bolton University, UK
12.		16NM5A0203	Bhallamudi Bharathi	M.Tech, VIET, Andhra Pradesh

Table 7.3.6: Higher studies details for the CAYm3 (2016-17), CAYm2 (2017-18) and CAYm1 (2018- 19)

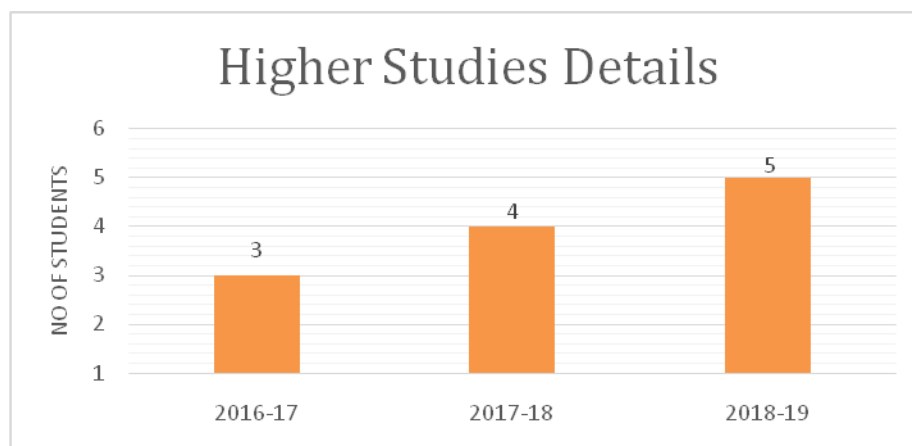


Figure 7.3.2: Higher Studies Analysis

C. Improvement in number of Entrepreneurs (2)

The following Table 7.3.7 presents the details regarding entrepreneurships for the CAYm3 (2016-17), CAYm2 (2017-18) and CAYm1 (2018-19).

Sl. No	Year	Registration number	Name	Entrepreneur details
1	CAYm3 (2016-17)	13NM1A0254	P. Sravani	A prototype on Women Safety using Alarm buzzer system using GPS, Visakhapatnam
		13NM1A0264	S. ManiHarika	
2	CAYm2 (2017-18)	14NM1A0222	Majji Swetha	Key Chain Hangers with 3D Printer
3	CAY	16NM1A0269	Ponnada Srikavya	Designed Slates with Multi-CNC machine.

Table.7.3.7: Entrepreneurs details for the CAYm3 (2016-17), CAYm2 (2017-18) and CAYm1 (2018-19)

7.4. Improvement in the quality of students admitted to the program (10)

Assessment is based on improvement in terms of ranks/score in qualifying state level/national level entrances tests, percentage marks in Physics, Chemistry and Mathematics in 12th Standard and percentage marks of the lateral entry students.

The following Table 7.4.1 depicts the quality of students admitted into the program. The EAMCET and ECET qualified students joined the program with good academic merit in 12th standard /intermediate marks. The opening & closing ranks along with the average percentage are mentioned in the table.

Item	Particulars	CAY (2019-20)	CAYm1 (2018-19)	CAYm2 (2017-18)	CAYm3 (2016-17)
Andhra Pradesh Engineering and Medical Common Entrance Test- EAMCET	No of students admitted	97	64	51	78
	Opening Score/Rank	23490	22036	26449	17372
	Closing Score/Rank	134258	121365	190532	195174
Andhra Pradesh Engineering Common Entrance Test- ECET	No. of Students admitted	24	30	13	5
	Opening Score/Rank	132	224	244	125
	Closing Score/Rank	6379	7240	4409	9508
Average CBSE/Any other Board Result of admitted students (Physics, Chemistry & Mathematics)		87.55	83.43	80.25	81.22
Average percentage marks of the lateral entry students		86.26	82.83	82.90	84.38

Table 7.4.1: Quality of students admitted to the program

Criterion 8	First Year Academics	50 M
8.1	First Year Student Faculty Ratio (FYSFR)	5M
8.2	Qualification of Faculty Teaching First Year Common Courses	5M
8.3	First Year Academic Performance	10M
8.4	Attainment of Course Outcomes of First Year Courses	10M
8.5	Attainment of Program Outcomes for first year courses	20M

Criterion 8	First Year Academics	50M
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8.1. First Year Student Faculty Ratio (FYSFR) (5)

Data for first year courses to calculate the FYSFR

Year	Number of students (approved intake strength) N	Number of faculty members (considering fractional load) F	FYSFR(N/F)	Assessment = $(5 \times 20) / \text{FYSFR}$ (Limited to Max. 5)
CAYm2 (2017-18)	660	43	15	5
CAYm1 (2018-19)	660	43	15	5
CAY (2019-20)	660	41	16	5
Average			15	5

Table B.8.1: First Year Student Faculty Ratio

*Note: If FYSFR is greater than 25, then assessment equal to zero.

8.2. Qualification of Faculty Teaching First Year Common Courses (5)

(Assessment of qualification = $(5x + 3y) / \text{RF}$, x = Number of Regular Faculty with Ph.D., y = Number of Regular Faculty with Post-graduate qualification RF = Number of faculty members required as per SFR of 20:1, Faculty definition as defined in 5.1)

Year	X (Number of Regular Faculty with Ph.D.)	Y (Number of Regular Faculty with PG Qualification)	RF (Number of Faculty Members required as per SFR of 20:1)	(Assessment of faculty qualification) $(5x + 3y) / \text{RF}$
CAYm2 (2017-18)	10	43	33	5.00
CAYm1 (2018-19)	14	42	33	5.00
CAY (2019-20)	10	42	33	5.00
Average assessment	5.0			

Table B.8.2: Faculty Qualifications

8.3 First Year Academic Performance (10)

(Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks in First Year of all successful students/10)) x (number of successful students/number of students appeared in the examination) Successful students are those who are permitted to proceed to the second year.)

The curriculum for first year for all branches of engineering is followed as per the syllabus designed by the affiliating University JNTUK, Kakinada. Each course coordinator along with the respective faculty members discusses the aspects of the course curriculum and defines course objectives and outcomes in accordance with the University Regulations. Consequently, the Course Delivery Plan is prepared, approved and followed. This process is continuously monitored to achieve better academic performance from the faculty as well as students.

We have proved our strength in the domain of studies which is shown in our academic track record. Speaking of our strengths in 1stB.Tech education, we have been the toppers among the JNTUK affiliated colleges five times out of eight batches admitted so far. The other three times we stood in 3rd, 4th & 5th positions.

The Year wise academic performance of First-Year students is given below

Academic Performance	2019-20	2018-19	2017-18
Mean of CGPA of all successful students (X)	7.77	7.63	7.27
Total number of successful students (Y)	74	91	96
Total number of students appeared in the examination (Z)	74	92	97
API=X*(Y/Z)	7.76	7.55	7.19
Average API	7.50		

Table B.8.3: Year wise academic performance

8.4. Attainment of Course Outcomes of First Year Courses (10)**8.4.1. Describe the assessment processes used to gather data upon which the evaluation of course outcomes of first year is based (5)**

(Examples of data collection processes may include, but are not limited to, specific exam questions, laboratory tests, internally developed assessment exams, oral exams assignments, presentations, tutorial sheets etc.)

Course Outcomes are narrower statements that describe and define what students are expected to know and be able to do at the end of each course. They are the measurable parameters which evaluate each student's performance for each course. They cater to the knowledge, skills and behavior that students acquire in their journey/graduation through the course. Semester-wise assessment is done through one or more methods, identifying, collecting and preparing data to assess the performance of the Course Outcomes (COs). The methods are classified into two types: Direct methods and Indirect methods.

A. List of assessment processes (1)

Direct methods: This method reflect knowledge and skill levels of students through assessment tools such as class tests, mid exams, assignments, semester exams, seminars, laboratory assignments and examinations. These methods offer understanding about what students know and/or can do and provide evidence of levels of students' learning.

Indirect methods: This method includes course end survey and faculty assess the student's behavior. These components are utilized to gather further awareness about students' learning abilities and disabilities. Figure 8.4.1a and the Table 8.4.1a represent different methods of the assessment process which reflect attainment levels of the course outcomes, weightage factors and frequency of the assessment cycle.

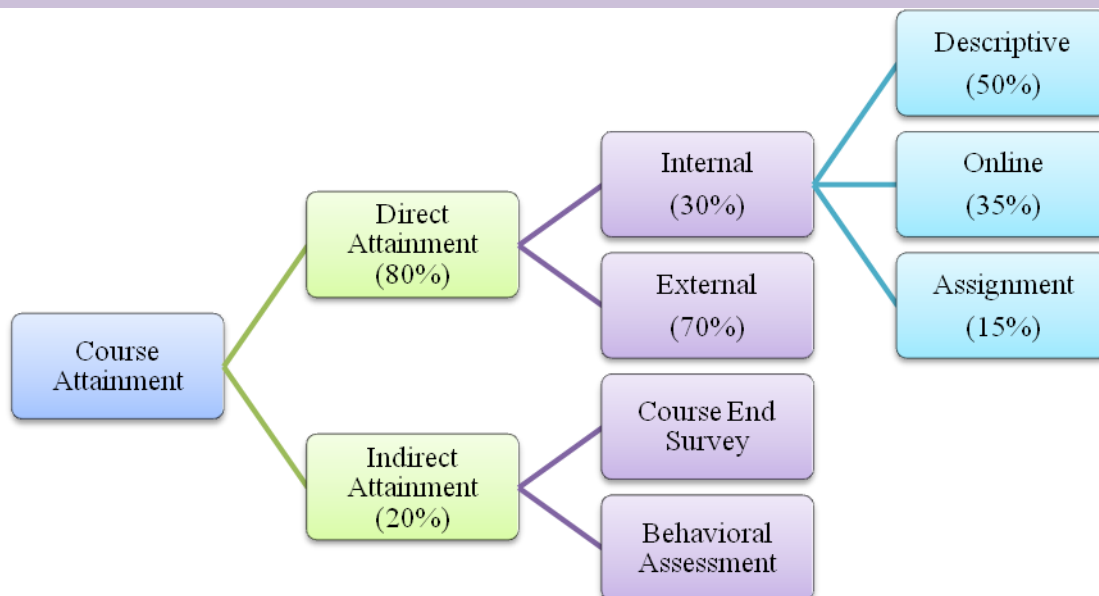


Figure B 8.4.1.a: Course attainment process with their weightages

B. The relevance of assessment tools used (4)**(i) CO Assessment Process for Theory Courses**


The Internal assessment of theory courses consists of two mid examinations and two online quiz examinations which are conducted as per the calendar released by JNTUK. For every mid examination, three assignments will be given.

Type of Assessment	Course Assessment and Evaluation Method	Assessment Frequency	Description	Weightage for Assessment	Weightage for CO Attainment
Direct Assessment	Internal Mid Examination	Twice in a Semester	<ul style="list-style-type: none"> The internal assessment of the theory course is based on the two mid exams conducted each semester according to the academic calendar set by the University. Each theory course examination should be set for a maximum of 15 marks in descriptive pattern. The respective faculty prepares question paper as per the course outcomes for the relevant course by following the Blooms taxonomy and forwards the same to the Examination Cell. Student performance is assessed in the mid exams according to the scheme of evaluation and key prepared by the respective course teacher. 	30%	80%
	Online Quiz	Twice in a semester	<ul style="list-style-type: none"> The online quiz for the theory courses is conducted along with the descriptive mid examination each semester by the University. The online quiz examination consists of 20 objective questions for a maximum of 10 		

			marks. <ul style="list-style-type: none"> • Quiz marks are recorded for assessing the attainment of COs 	
	Assignments	Six in a semester (3 per each mid)	<ul style="list-style-type: none"> • Assignment is a metric used to assess students' analytical and problem-solving abilities. • Assignment questions are prepared for each topic/unit in the course. • Course related tasks are assigned to each student. • Marks are assigned depending on their performance & innovation in solving/deriving the problems. • The assignment works submitted by students are assessed towards CO attainment. 	
	Semester End Examination	Once in a semester	<ul style="list-style-type: none"> • At the end of each semester, external examination is conducted for a maximum of 70 marks by the University. • End examination is set in descriptive pattern generally satisfying the all course outcomes. 	
Indirect Assessment	Course Exit Survey	End of Semester	<ul style="list-style-type: none"> • On completion of each semester, feedback is obtained from the students for the courses they have attended. • Recorded for assessing the attainment of COs 	20%
	Behavioral Assessment	Throughout the Semester	<ul style="list-style-type: none"> • Each student is assessed based on participation and performance in Technical, Social Events & Extra-curricular activities 	

Table B 8.4.1.a: Assessment tools for the calculation of course outcomes

Sample Mid - I Question Paper

 **VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN**
(Kapujaggarajupeta, Duvvada, Visakhapatnam-530 049)

Mid Term Examination-I
(1- B.Tech II Sem, Regulations: R16)

SET-1

Course Name: APPLIED PHYSICS
Branches: EEE
Faculty: Dr. K.Venkata Prasad

Max Time: 1 ½ Hrs.
Max Marks: 15
Date: 09.01.2017


CO: Course Outcome no. (1-6), LEVEL: Revised Bloom's Taxonomy level no. (1-6)

Answer All Questions 3x5=15 M

CO	LEVEL	Q.No	QUESTIONS	
CO1	1a: K2	01	a) Distinguish between Fresnel and Fraunhofer Diffraction.	2M
	1b: K3		b) In Newton's rings experiment, the diameters of 4 th and 12 th rings are 0.4 cm and 0.7 cm respectively. Calculate the diameter of 20 th dark ring.	3M
CO2	2a: K2	02	a) Discuss in detail Fraunhofer diffraction due to N-Slits slits.	3M
	2b: K3		b) Determine an expression for Resolving power of an optical instrument.	2M
CO3	3a: K2	03	a) With a neat diagram, discuss the construction and working of Ruby LASER.	3M
	3b: K3		b) Explain the importance of Optical cavity resonator in a LASER.	2M

* K1 (R): Remembering, K2 (U): Understanding, K3 (P): Applying, * K4 (A): Analyzing, K5 (E): Evaluating, K6 (C): Creating.

Sample Assignment

 **VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN**
(Kapujaggarajupeta, Duvvada, Visakhapatnam-530 049)

Assignment-I
(1- B.Tech I Sem, Regulation: R16)

Course Name: APPLIED PHYSICS 06/01/2017
Branch: EEE

CO: Course Outcome no. (1-6), LEVEL: Revised Bloom's Taxonomy level no. (1-6)

Answer All Questions

CO	Level	Unit	Q.No	Questions	
CO1	K1	1	01	Examine the construction and principle of Michelson's Interferometer. In what circumstances is the compensating plate is essential.	5M
CO2	K3	2	02	Discuss in detail Fraunhofer diffraction due to double slits.	5M
CO3	K3	3	03	With a neat diagram, discuss the construction and working of Ruby LASER.	5M

* K1 (R): Remembering, K2 (U): Understanding, K3 (P): Applying,
* K4 (A): Analyzing, K5 (E): Evaluating, K6 (C): Creating.

Behavioral Assessment

Students after entering into a professional program have to undergo a lot of qualitative change in terms of their behavior. During their four year stay at the institution this aspect has been taken seriously as a part of students' internal assessment. Strictly adhering to the curriculum prescribed by the University at the first-year level, the department of B S & H simultaneously follows a system of continuous assessment of the student by measuring and estimating their behavioral aspects in order to improve their attitude, values and behavior with respect to Program Outcomes. These aspects consist of

1. Social responsibility (PO 6)
2. Environmental consciousness (PO 7)
3. Ethical values (PO 8)
4. Team work (PO 9)
5. Communication Skills (PO 10)
6. Leadership skills (PO11)

Some activities are arranged to measure these aspects in students throughout the first year course work. They are:

- Interactive sessions by renowned personalities in the fields of social work, literature, movies, arts and industry.
- Social service activities such as conducting health camps, blood camps, eye-checkup camps; visits to near-by villages for service; visits to orphanages and under privileged places to offer the helping hand by kind and cash;
- Clean & Green activities consisting of Swatch Bharat; Plantation programs; promoting eco-friendly measures in religious and social occasions; Beach cleaning activity
- Sending students to industries and making them aware of their role as engineer
- Organizing picnics to promote harmonious social culture and togetherness
- Celebration of important days of national significance by involving the student teams right from the planning stage to execution stage in conducting those events
- Celebrating all the religious and cultural festivals
- Through Language Club essay writing competitions, poster presentations, group discussions and debates to improve their social awareness, expression capacities and confidence levels.

- Constant mentoring and counseling through Class Coordinator and Counselor system in sorting out their emotional and academic issues.
- Encouraging the students to actively participate in games & sports inside and outside the college to boost up their physical fitness and morale.

Rubric for Assessment of Behavioral Aspects

	Low – (1)	Moderate – (2)	High – (3)
Social Responsibility	No active participation	Able to participate but poor performance	Very active participation and performance
Environmental Consciousness	Low awareness levels	Adequate level of awareness	Well informed and putting into practice
Ethical Values	Ethical concerns are missing	Flexible attitude towards ethical values	Full appreciation of ethical values and following them
Team Work	Uneven role assignment and limited awareness about responsibilities	Fair distribution of workload and respect towards the team	Clearly defined roles & increased level of clarity, cooperation and respect
Communication Skills	Inadequate	adequate	Very effective
Leadership Traits	Passive	sufficient	Proactive and active listener

Table B.8.4.1.b: Rubric for behavioral assessment

Based on the level of *participation and performance* in the above-mentioned year long activities students will be assessed. Lowly scored students will be identified.

Corrective and Transformation Measures:

- Bringing them to the front in the next activity;
- Motivating them;
- Inspiring them;
- Taking personal interest in them and encouraging them to see others and read literature;
- Empathizing with their social & economic concerns and slowly changing their focus towards positivity
- Changing group composition within the section and mixing with other sections and branches

(ii) CO Assessment Process for Laboratory Courses

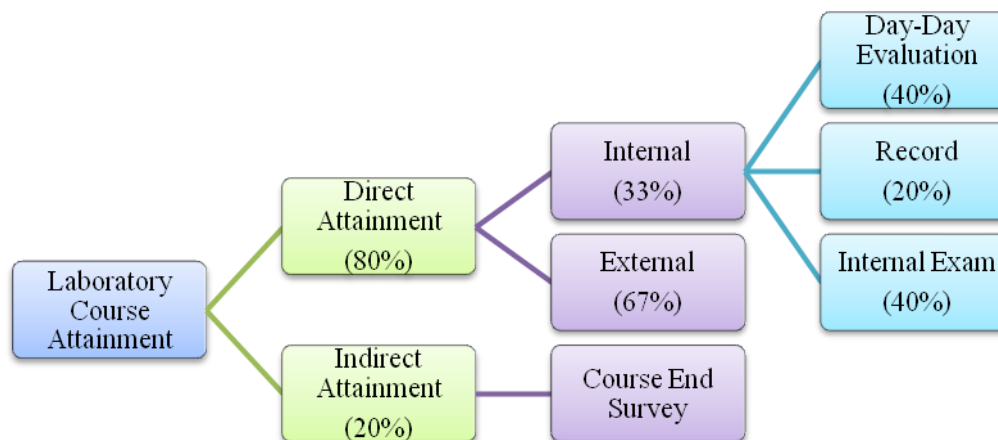


Fig. B 8.4.1b: CO assessment process for Laboratory with their weightages

Type of Assessment	Course Assessment and Evaluation Method	Description	Weightage for Assessment	Weightage for CO Attainment
Direct Assessment	Internal	<ul style="list-style-type: none"> • Lab Assignment/Experiment is a qualitative performance assessment tool designed to assess students' practical knowledge and problem-solving skills. • Internal assessment of students for laboratory courses is based on continuous evaluation of laboratory experiment work done by the students, their record work and performance in 	33%	80%

		<p>the internal examination.</p> <ul style="list-style-type: none"> • Internal examinations are conducted by the respective faculty members. • Each laboratory course shall have a maximum of 25 internal marks. • The marks distribution for the laboratory courses is as follows <ul style="list-style-type: none"> ○ Continuous Assessment (10) ○ Record (5) ○ Internal Exam (10) 		
	External	<ul style="list-style-type: none"> • End Semester practical examinations are the metric to assess the course outcomes. • External examination is conducted for a maximum of 50 marks by the University. 	67%	
Indirect Assessment	Course Exit Survey	<ul style="list-style-type: none"> • On completion of each semester, feedback is obtained from the students for the courses they have attended. • Recorded for assessing the attainment of COs 		20%

Table B.8.4.1.c: CO assessment process for Laboratory

Laboratory Continuous Assessment

A Continuous assessment for laboratory courses is done to enable a measurable rate of progress and learning for students throughout the course period. Regular monitoring facilitates scope for improvement and remedial action in assessing the performance of the students.

Assessment for Science Laboratory

Attendance	Experiment Procedure	Result	Handling / Safety	Record Submission
2	2	2	2	2

Assessment for Language laboratory

Attendance	Activity	LSRW Skills	Body Language	Activity Record
2	2	2	2	2

The Relevance of Assessment Tools Used:

- The assessment tools evaluate the student's knowledge and ability to apply their skills through continuous assessment process such as internal examinations, end semester examinations, presentations, assignments, tutorials etc. These tools reflect the levels of student learning. The weightage given for various assessment tools used for the attainment of Course Outcomes is shown in Table 8.4.1a & 8.4.1b
- The CO attainment level is measured based on internal assessment and external examination conducted by the University. It is a form of measure of direct attainment. The University conducts two internal exams for each course in a semester.
- In each exam, the percentage of students achieving a set target is calculated for the covered COs. After two tests, the average of these percentages is calculated to determine the attainment level. The guidelines for deciding the attainment levels are as follows:
 - Attainment Level 1: 60% of students' scores more than the target level.
 - Attainment Level 2: 70% of students' scores more than the target level.
 - Attainment Level 3: 80% of students' scores more than the target level.
- According to the weightage given by the University, 33% of the internal attainment and 67% of the external attainment is considered to be the course attainment through marks.
- Individual faculty will conduct the course end survey on the course outcomes at the end of every semester.
- Hence, 80% of the attainment level obtained through marks and 20% of the attainment level obtained through end survey, feedback, is considered to be the total Course Attainment

8.4.2. Record the attainment of the course outcomes of all first-year courses (5)

(The attainment levels shall be set considering average performance levels in the institution level examination or any higher value set as target for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments with respect the COs of a subject plus the performance in the institution level examination)

The course outcome attainments for 2016-17, 2017-18 and 2018-19 are given below

CAYm3: 2016 – 17

Course Code	Course Name	Direct Attainment (DA) (80%)	Indirect Attainment (IA) (20%)	Course Attainment (DA+IA)
C101	English-I	2.24	0.59	2.83
C102	Mathematics-1	1.80	0.57	2.37
C103	Applied Physics	1.76	0.57	2.33
C104	Computer Programming	2.12	0.57	2.69
C105	Mathematics-II	2.12	0.58	2.70
C106	Engineering Drawing	1.89	0.56	2.36
C107	English Communications Skills Lab-I	2.40	0.58	2.98
C108	Applied Physics Lab	2.40	0.49	2.89
C109	Computer Programming lab	2.40	0.58	2.98
C110	English -II	2.08	0.58	2.67
C111	Mathematics -III	1.80	0.57	2.37
C112	Applied Chemistry	1.76	0.57	2.33
C113	Environmental Studies	1.72	0.57	2.29
C114	OOPS THROUGH C++	1.68	0.56	2.24
C115	Engineering Mechanics	1.72	0.58	2.30
C116	English Communications Skills Lab-II	2.40	0.58	2.98
C117	Applied Chemistry Lab	2.40	0.58	2.98

C118	OOPS THROUGH C++ LAB	2.40	0.56	2.96
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Table B 8.4.2a: Course Outcome attainments for CAYm3 (2016-17)

CAYm2: 2017 – 18

Course Code	Course Name	Direct Attainment (DA) (80%)	Indirect Attainment (IA) (20%)	Course Attainment (DA+IA)
C101	English-I	2.36	0.59	2.95
C102	Mathematics-1	2.00	0.57	2.57
C103	Applied Physics	1.84	0.59	2.43
C104	Computer Programming	2.08	0.56	2.64
C105	Mathematics-II	2.20	0.58	2.78
C106	Engineering Drawing	1.84	0.58	2.42
C107	English Communications Skills Lab-I	2.40	0.58	2.98
C108	Applied Physics Lab	2.40	0.57	2.97
C109	Computer Programming lab	2.40	0.58	2.98
C110	English -II	2.36	0.59	2.95
C111	Mathematics -III	2.04	0.57	2.61
C112	Applied Chemistry	2.08	0.58	2.67
C113	Environmental Studies	2.28	0.59	2.87
C114	OOPS THROUGH C++	2.08	0.58	2.66
C115	Engineering Mechanics	1.72	0.58	2.30
C116	English Communications Skills Lab-II	2.40	0.58	2.98
C117	Applied Chemistry Lab	2.40	0.58	2.98
C118	OOPS THROUGH C++ LAB	2.40	0.57	2.97

Table B.8.4.2.b: Course Outcome attainments for CAYm2 (2017-18)

CAYm1: 2018 – 19

Course Code	Course Name	Direct Attainment (DA) (80%)	Indirect Attainment (IA) (20%)	Course Attainment (DA+IA)
C101	English-I	2.40	0.59	2.99
C102	Mathematics-1	2.36	0.56	2.92
C103	Applied Physics	2.20	0.57	2.77
C104	Computer Programming	2.24	0.58	2.82
C105	Mathematics-II	2.40	0.59	2.99
C106	Engineering Drawing	0.94	0.55	2.51
C107	English Communications Skills Lab-I	2.40	0.59	2.99
C108	Applied Physics Lab	2.40	0.58	2.98
C109	Computer Programming lab	2.40	0.58	2.98
C110	English -II	2.36	0.59	2.95
C111	Mathematics -III	2.04	0.55	2.59
C112	Applied Chemistry	2.28	0.56	2.84
C113	Environmental Studies	2.40	0.57	2.97
C114	OOPS through C++	1.80	0.55	2.35
C115	Engineering Mechanics	2.08	0.57	2.65
C116	English Communications Skills Lab-II	2.40	0.59	2.99
C117	Applied Chemistry Lab	2.40	0.59	2.99
C118	OOPS THROUGH C++ LAB	2.40	0.58	2.98

Table B.8.4.2.c: Course Outcome attainments for CAYm1 (2018-19)

The graphical representation of CO attainments for each course is presented below for the academic years 2016-17, 2017-18 and 2018-19 admitted batches.

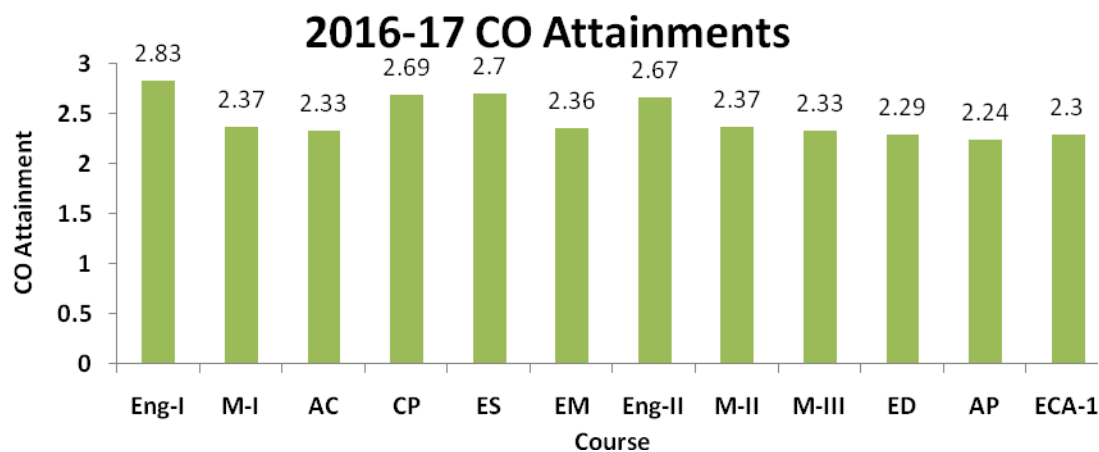


Figure B.8.4.2.a: Graphical representation of attainment levels of various courses during the academic year 2016 - 17

Observation: During 2016-17 academic year the attainment for the courses Mathematics-I, Applied Physics, Mathematics-III, and Engineering Mechanics was comparatively low. This may be due to lack of conceptual knowledge and grounding in Mathematics, Physics and Chemistry.

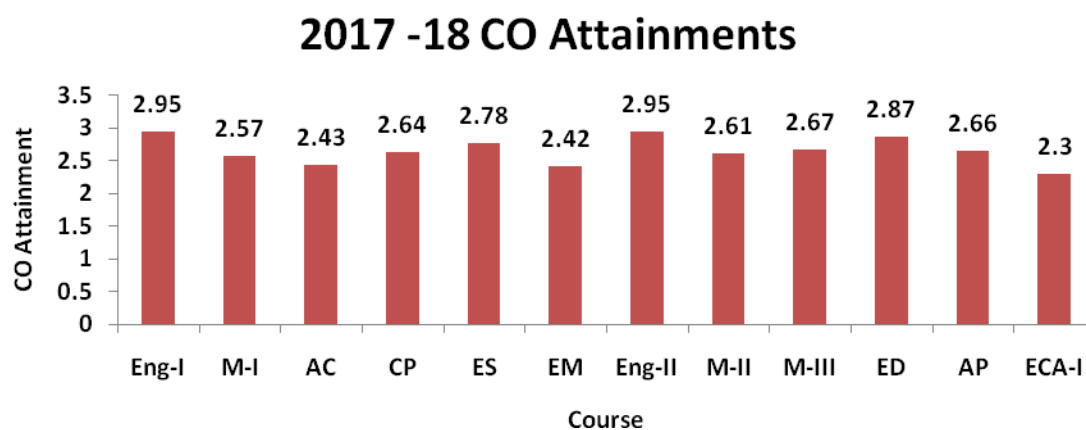


Figure B. 8.4.2.b: Graphical representation of attainment levels of various courses during the academic year 2017 – 18

Observation: During 2017-18 academic year, all the course attainments are above 2.4.

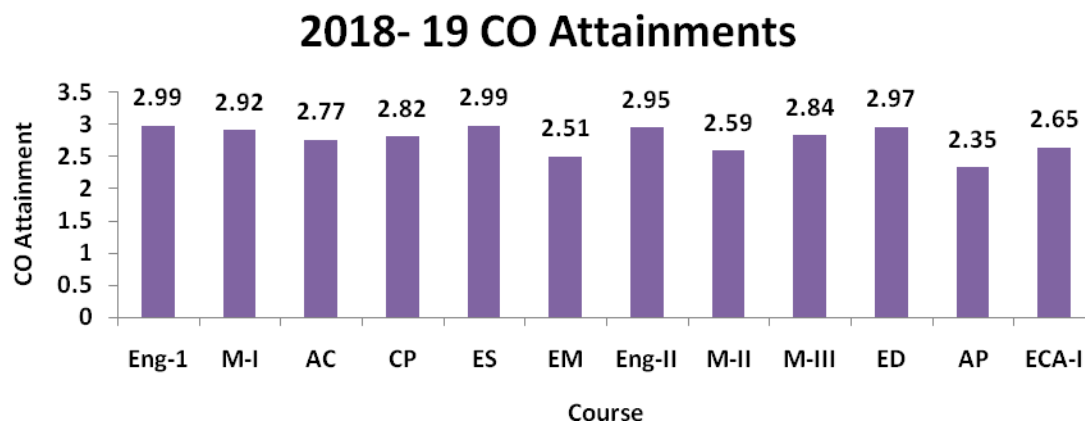


Figure B 8.4.2.c: Graphical representation of attainment levels of various courses during the academic year 2018 - 19

Observation: During 2018-19 academic year all the course attainments are above 2.4.

8.5. Attainment of Program Outcomes for first year courses (20)

8.5.1. Indicate results of evaluation of each relevant PO and/or PSO if applicable (15)

(Describe the assessment processes that demonstrate the degree to which the Program Outcomes and Program Specific Outcomes are attained through first year courses and document the attainment levels. Also include information on assessment processes used to gather the data upon which the evaluation of each Program Outcome is based indicating the frequency with which these processes are carried out)

The process for calculating PO/PSO attainment for all first-year courses is presented below

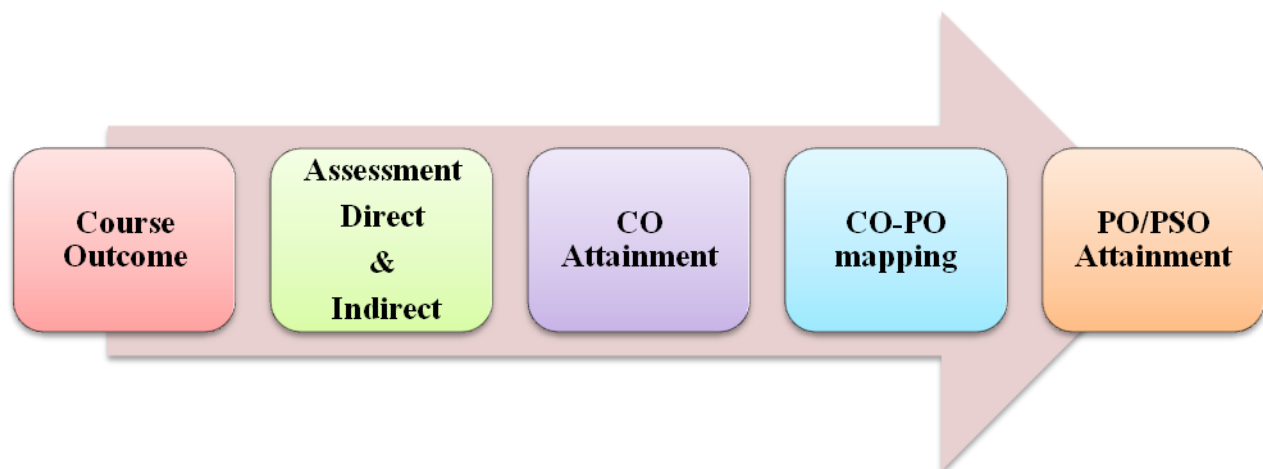


Figure B.8.5.1a: PO/PSO attainment process

- The Program Outcomes (POs)/Program Specific Outcomes (PSOs) are features that graduates can do after completing their program. At the end of each program, a PO / PSO assessment is done from the CO attainment of all curriculum components.
- For every Course, there are number of outcomes to be achieved at the end of the course.
- For each course, attainment level of all course outcomes is arrived at rigorously based on student performance in the internal and external examinations.
- All COs i.e., [CO₁, CO₂ ...CO₆] are mapped to all POs i.e. [PO₁, PO₂ ...PO₁₂] specified in a given course by correlating with the attainment levels (3, 2, 1) obtained in CO-PO mapping.
- A mapping matrix is prepared for every course and establishes a correlation between the course outcomes and program outcomes.
- After doing the CO-PO Mapping, the Course-PO attainment values are calculated using,
$$\text{Course-PO attainment} = \frac{(\text{Course-PO mapping}) * (\text{Course attainment})}{3}$$
- The average of all these attainments with respect to individual POs is calculated. This gives the direct PO attainment.

CAYm3: 2016 – 2017

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	English -I	-	-	-	-	-	2.20	2.20	2.20	2.20	2.83	2.36	2.83
C102	Mathematics- I	2.37	2.37	2.37	2.37	-	2.37	1.97	1.97	-	-	1.97	2.37
C103	Applied Chemistry	2.33	2.33	1.94	1.94	-	1.94	1.94	1.94	-	-	-	1.94
C104	Computer Programming	2.39	2.39	2.24	2.24	2.24	-	-	-	2.24	-	-	2.24
C105	Environmental Studies	-	-	2.25	-	-	1.80	2.02	2.02	2.02	-	2.10	2.10
C106	Engineering Mechanics	2.36	2.20	2.16	2.10	1.97	-	-	-	-	-	-	-
C107	English Communication Skills lab-I	-	-	-	-	-	1.99	1.99	1.99	2.98	2.98	1.99	2.98
C108	Computer Programming Lab	2.89	2.57	2.25	2.25	2.25	-	-	2.25	2.25	-	-	-
C109	Applied Chemistry Lab	2.65	2.32	-	2.48	2.48	-	1.99	-	1.99	1.99	-	1.99
C110	English -II	-	-	-	-	-	2.22	2.07	2.22	2.07	2.07	2.22	2.66
C111	Mathematics-II	2.24	2.11	2.06	2.06	1.98	-	2.37	2.37	-	-	2.06	2.22
C112	Mathematics-III	2.33	2.33	2.33	1.81		1.81	1.81	1.81			1.81	2.33
C113	Engineering Drawing	2.03	1.91	1.91	1.91	-	1.91	2.29	2.29	2.29	-	2.29	2.29
C114	Applied Physics	2.24	1.99	2.24	2.24		2.24	2.06	2.06				1.99
C115	Electrical Circuit Analysis -1	2.30	2.30	2.30	2.30	1.53							
C116	English Communication Skills lab-II	-	-	-	-	-	1.98	1.98	1.98	2.98	2.98	1.98	2.98
C117	Engineering Workshop & IT workshop	2.32	2.48	2.98	-	2.32	-	-	-	2.32	-	-	2.98
C118	Applied Physics Lab	2.96	2.47	2.30	2.30	2.30	1.97	1.97	1.97	1.97	1.97	-	1.97
	Direct Attainment	2.42	2.29	2.26	2.17	2.13	2.04	2.05	2.08	2.30	2.47	2.09	2.39

Table B. 8.5.1.a: Program Outcome attainment for CAYm3 (2016 – 17)

CAYm2: 2017 – 2018

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	English -I	-	-	-	-	-	2.29	2.29	2.29	2.29	2.95	2.46	2.95
C102	Mathematics- I	2.57	2.57	2.57	2.57	-	2.57	2.14	2.14	-	-	2.14	2.57
C103	Applied Chemistry	2.43	2.43	2.03	2.03	-	2.03	2.03	2.03	-	-	-	2.03
C104	Computer Programming	2.35	2.35	2.20	2.20	2.20	-	-	-	2.20	-	-	2.20
C105	Environmental Studies	-	-	2.32	-	-	1.85	2.08	2.08	2.08	-	2.16	2.16
C106	Engineering Mechanics	2.42	2.26	2.22	2.15	2.02	-	-	-	-	-	-	-
C107	English Communication Skills lab-I	-	-	-	-	-	1.99	1.99	1.99	2.98	2.98	1.99	2.98
C108	Computer Programming Lab	2.97	2.64	2.31	2.31	2.31	-	-	2.31	2.31	-	-	-
C109	Applied Chemistry Lab	2.65	2.32	-	2.48	2.48	-	1.99	-	1.99	1.99	-	1.99
C110	English -II	-	-	-	-	-	2.46	2.29	2.46	2.29	2.46	2.46	2.95
C111	Mathematics-II	2.47	2.32	2.26	2.26	2.18	-	2.61	2.61	-	-	2.26	2.44
C112	Mathematics-III	2.66	2.66	2.66	2.07		2.07	2.07	2.07			2.07	2.66
C113	Engineering Drawing	2.55	2.39	2.39	2.39	-	2.39	2.87	2.87	2.87	-	2.87	2.87
C114	Applied Physics	2.66	2.36	2.66	2.66		2.66	2.43	2.43				2.36
C115	Electrical Circuit Analysis -1	2.30	2.30	2.30	2.30	1.53							
C116	English Communication Skills lab-II	-	-	-	-	-	1.99	1.99	1.99	2.98	2.98	1.99	2.98
C117	Engineering Workshop & IT workshop	2.32	2.48	2.98	-	2.32	-	-	-	2.32	-	-	2.98
C118	Applied Physics Lab	2.97	2.48	2.31	2.31	2.31	1.98	1.98	1.98	1.98	1.98	-	1.98
Direct Attainment		2.56	2.43	2.40	2.31	2.17	2.21	2.21	2.25	2.39	2.56	2.27	2.54

Table B.8.5.1.b: Program Outcome attainment for CAYm2 (2017 – 18)

CAYm1: 2018 – 2019

Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	English -I	-	-	-	-	-	2.33	2.33	2.33	2.33	2.99	2.49	2.99
C102	Mathematics- I	2.92	2.92	2.92	2.92	-	2.92	2.43	2.43	-	-	2.43	2.92
C103	Applied Chemistry	2.77	2.77	2.31	2.31	-	2.31	2.31	2.31	-	-	-	2.31
C104	Computer Programming	2.51	2.51	2.35	2.35	2.35	-	-	-	2.35	-	-	2.35
C105	Environmental Studies	-	-	2.49	-	-	1.99	2.24	2.24	2.24	-	2.33	2.33
C106	Engineering Mechanics	2.51	2.34	2.30	2.23	2.09	-	-	-	-	-	-	-
C107	English Communication Skills lab-I	-	-	-	-	-	1.99	1.99	1.99	2.99	2.99	1.99	2.99
C108	Computer Programming Lab	2.98	2.65	2.32	2.32	2.32	-	-	2.32	2.32	-	-	-
C109	Applied Chemistry Lab	2.65	2.32	-	2.48	2.48	-	1.99	-	1.99	1.99	-	1.99
C110	English -II	-	-	-	-	-	2.46	2.29	2.46	2.29	2.46	2.46	2.95
C111	Mathematics-II	2.45	2.30	2.24	2.24	2.16	-	2.59	2.59	-	-	2.24	2.42
C112	Mathematics-III	2.84	2.84	2.84	2.21	-	2.21	2.21	2.21	-	-	2.21	2.84
C113	Engineering Drawing	2.64	2.48	2.48	2.48	-	2.48	2.97	2.97	2.97	-	2.97	2.97
C114	Applied Physics	2.35	2.09	2.35	2.35	-	2.35	2.15	2.15	-	-	-	2.09
C115	Electrical Circuit Analysis -1	2.65	2.65	2.65	2.65	1.77	2.21	-	-	-	-	-	-
C116	English Communication Skills lab-II	-	-	-	-	-	1.99	1.99	1.99	2.99	2.99	1.99	2.99
C117	Engineering Workshop & IT workshop	2.33	2.49	2.99	-	2.33	-	-	-	2.33	-	-	2.99
C118	Applied Physics Lab	2.98	2.48	2.32	2.32	2.32	1.99	1.99	1.99	1.99	1.99	-	1.99
Direct Attainment		2.66	2.53	2.50	2.40	2.23	2.27	2.27	2.31	2.44	2.57	2.35	2.61

Table B.8.5.1.c: Program Outcome attainment for CAYm1 (2018 – 19)

PSO ATTAINMENTS**CAYm3: 2016 – 2017**

Code	Subject	PSO1	PSO2
C101	English -I	-	-
C102	Mathematics- I	2.11	-
C103	Applied Chemistry	1.55	-
C104	Computer Programming	2.39	2.39
C105	Environmental Studies	-	-
C106	Engineering Mechanics	-	-
C107	English Communication Skills lab-I	-	-
C108	Computer Programming Lab	2.57	2.57
C109	Applied Chemistry Lab	-	-
C110	English -II	-	-
C111	Mathematics-II	2.11	-
C112	Mathematics-III	1.55	1.55
C113	Engineering Drawing	1.91	1.91
C114	Applied Physics	-	-
C115	Electrical Circuit Analysis -1	2.3	2.3
C116	English Communication Skills lab-II	-	-
C117	Engineering Workshop & IT workshop	-	-
C118	Applied Physics Lab	-	-
	Average	2.06125	2.144

Table B.8.5.1.d: Program Specific Outcome attainment for CAYm3 (2016 – 17)

CAYm2: 2017– 2018

Code	Subject	PSO1	PSO2
C101	English -I	-	-
C102	Mathematics- I	2.29	-
C103	Applied Chemistry	1.62	-
C104	Computer Programming	2.35	2.35
C105	Environmental Studies	-	-
C106	Engineering Mechanics	-	-
C107	English Communication Skills lab-I	-	-
C108	Computer Programming Lab	2.97	2.97
C109	Applied Chemistry Lab	-	-
C110	English -II	-	-
C111	Mathematics-II	2.32	-
C112	Mathematics-III	1.77	1.77
C113	Engineering Drawing	1.91	1.91
C114	Applied Physics	-	-
C115	Electrical Circuit Analysis -1	2.30	2.30
C116	English Communication Skills lab-II	-	-
C117	Engineering Workshop & IT workshop	-	-
C118	Applied Physics Lab	-	-
	Average	2.16	2.26

Table B.8.5.1.e: Program Specific Outcome attainment for CAYm2 (2017 – 18)

CAYm1: 2018– 2019

Code	Subject	PSO1	PSO2
C101	English -I	-	-
C102	Mathematics- I	2.6	-
C103	Applied Chemistry	1.85	-
C104	Computer Programming	2.51	2.51
C105	Environmental Studies	-	-
C106	Engineering Mechanics	-	-
C107	English Communication Skills lab-I	-	-
C108	Computer Programming Lab	2.98	2.98
C109	Applied Chemistry Lab	-	-
C110	English -II	-	-
C111	Mathematics-II	2.3	-
C112	Mathematics-III	1.89	1.89
C113	Engineering Drawing	1.98	1.98
C114	Applied Physics	-	-
C115	Electrical Circuit Analysis -1	2.65	2.65
C116	English Communication Skills lab-II	-	-
C117	Engineering Workshop & IT workshop	-	-
C118	Applied Physics Lab	-	-
	Average	2.345	2.402

Table B.8.5.1.f: Program Specific Outcome attainment for CAYm1 (2018 – 19)

8.5.2 Actions taken based on the results of evaluation of relevant POs and PSOs (5)

(The attainment levels by direct (student performance) are to be presented through Program level Course-PO matrix as indicated)

PO Attainment Levels and Actions for improvement – CAYm1 only – Mention for relevant POs

- ✓ Regular analysis of the results of internal assessment examination of all subjects is done and concerned teachers are guided to take necessary corrective action.
- ✓ Remedial classes are conducted for the academic progress of slow learners.
- ✓ PO-wise actions recommended to bridge the identified gap between target and attainment levels are as follows

CAYm1: 2018-2019

POs	Target Level	Attainment Level	Observations
PO 1: Engineering Knowledge:			Apply the knowledge of mathematics, science, engineering

fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO-1	2.40	2.66	<ul style="list-style-type: none"> • Target achieved. • Lack of knowledge in complex concepts of Physics [AP] and Chemistry.
Action : 1. One-week foundation course on Semiconductors Physics to be conducted. 2. Orientation classes are to be conducted in Nanotechnology.			
PO 2: Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO-2	2.40	2.53	<ul style="list-style-type: none"> • Target achieved. • Attainment can be increased further for the courses like EM [C106], M – II [C111] • Rising conceptual discomfort in seeing the link between basic science concepts and engineering.
Action : 1. Bridge course and foundation courses to be conducted to plug the gap existing between intermediate Mathematics and engineering Mathematics. 2. Few topics in C103 like friction, moment of Inertia and centre of gravity will be explained with more examples. 3. Tutorial classes with more examples are proposed for C111 to enhance the analyzing ability.			
PO3: Design Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.			
PO-3	2.40	2.50	<ul style="list-style-type: none"> • Target is achieved. • Attainment can be increased further for courses AC [C103], CP [C104], EM [C106], M – II [C111], AP [C114]
Action: 1. Tutorial classes will be conducted on Complex topics like friction in C106 and non conventional energy sources in C103. 2. Reasoning based assignments for C104, C106 and C111 are proposed to reinforce the design skills. 3. Demonstrations with Vignettes are proposed for C103 and C114.			
PO 4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.			
PO-4	2.40	2.40	<ul style="list-style-type: none"> • Target is achieved • Attainment can be increased further for courses AC [C103], CP [C104], EM [C106], M – II [C111], C112 [M-111] and AP [C114] • Insufficient data reading abilities

Action :			
<ol style="list-style-type: none"> 1. Application oriented problems are to be included in the assignments for C106, and C111, C112 to enhance their solving skills. 2. Additional lab sessions are added for C104 to go through the content beyond the syllabus. 3. Students are encouraged to analyse and interpret the data related to contemporary issues in C103 and C114. 			
PO 5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.			
PO-5	2.40	2.33	<ul style="list-style-type: none"> • Target is not achieved. • Attainment can be increased further for courses CP [C104], EM [C106], M – II [C111], ECA - I [C115] • Limited awareness about application techniques in dealing with problems of complex engineering data.
Action:			
<ol style="list-style-type: none"> 1. Video lessons on modeling concepts of derivatives and integrations for C111. 2. Building awareness about modeling and simulation packages through virtual lab visits for C106 and C115. 3. Additional tutorial classes with senior faculty to be conducted for C104 to know more about advancement in programming tools. 			
PO 6: The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.			
PO-6	2.20	2.27	<ul style="list-style-type: none"> • Target is achieved. • Attainment can be increased further for course ES [C105]. • Inadequate understanding of the role of engineer.
Action :			
<ol style="list-style-type: none"> 1. Orientation programme by industry experts in the first two weeks of induction. 2. Encourage students to participate in NSS activities to fill the gap between Engineering education and Society. 			
PO 7: Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.			
PO-7	2.20	2.27	<ul style="list-style-type: none"> • Target is achieved. • Attainment can be increased further for course EP [C114]. • Improvement is desired in environmental consciousness.
Action :			
<ol style="list-style-type: none"> 1. Involving students in yearlong activities such as plantation, eco-friendly practices and champagnes for reducing carbon emissions. 2. Expert lectures are planned to improve Consciousness on Environment and sustainability issue. 3. Tutorial classes should be conducted with more examples for semi conductors in C114. 			
PO 8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.			

PO-8	2.20	2.31	<ul style="list-style-type: none"> • Target is achieved. • Attainment can be increased further for course EP [C114]. • Insufficient understanding of role of ethics in engineering
Action :			
<ol style="list-style-type: none"> 1. Organize guest lecture on “Professional ethics “by Motivational speakers. 2. Teachers leading the students by example in matters of sincerity punctuality and commitment to duty. 			
PO 9: Individual and Team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.			
PO-9	2.20	2.44	<ul style="list-style-type: none"> • Target achieved. • Students need to be more team oriented.
Action :			
<ol style="list-style-type: none"> 1. Students are motivated to organize more events through “English Language Club.” 2. Students are encouraged to involve in organizing events and competitions on Independence day, Women’s day and Republic day. 			
PO 10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.			
PO-10	2.20	2.57	<ul style="list-style-type: none"> • Target is achieved. • Improvement is desired in exhibiting effective communication and language skills
Action :			
<ol style="list-style-type: none"> 1. Involving students in language club activities 2. Organizing interactive seminars on Personality development by in-house and Outside experts. 3. Plan to organize British Council and Oxford Acheivers Programmes for language enhancement. 			
PO 11: Project management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.			
PO-11	2.20	2.35	<ul style="list-style-type: none"> • Target is achieved. • Insufficient leadership characteristics.
Action :			
<ol style="list-style-type: none"> 1. An awareness program is to be conducted on financial and project management . 2. Involving class representatives and their classmates in monitoring conduct of class 2. Students are able to motivated to take active role in technical, sports and cultural activities. 			
PO 12: Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.			
PO-12	2.20	2.61	<ul style="list-style-type: none"> • Target is achieved. • Attainment can be increased further for course AP [C114].
Action :			
<ol style="list-style-type: none"> 1. Enable students to take up online courses like NPTEL, SWAYAM on recent technologies. 2. Students are encouraged to attend national level competitive exams. 3. Motivate the students to make use of web sources. 			

Table B.8.5.2.a: PO attainment levels and action taken for CAYm1 (2018 – 19)

PSOs Attainment Levels and Actions for Improvement

CAYm1 (2018-2019)

PSOs	Target Level	Attainment Level	Observations
PSO 1: Analyze and solve critical problems associated with power systems/control systems using modern software tools.			
PSO1	2.40	2.34	<ul style="list-style-type: none"> • Target is not achieved. • Attainment can be increased further.
Action: Exposure on modern software tools related to power systems and control systems.			
PSO 2: Apply the knowledge of power electronics to control and design high-performance electrical drives for a career interdisciplinary field.			
PSO 2	2.40	2.40	<ul style="list-style-type: none"> • Target is achieved. • Attainment can be increased further.
Action: Proposed to conduct guest lecture on importance of electrical drives.			

Table B.8.5.2.b: PSO attainment levels and action taken for CAYm1 (2018 – 19)

Criterion 9	Student Support Systems	50
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9.1 Mentoring system to help at individual level (5)

Type of mentoring: Professional guidance/career advancement/course work specific/laboratory specific/allround development. Number of faculty mentors: Number of students per mentor: Frequency of meeting: (The institution may report the details of the mentoring system that has been developed for the students for various purposes and also state the efficacy of such system)

9.1.1 Student Mentoring System

Vignan's Institute of Engineering For Women Strongly believes that Student Mentoring system plays a vital role in empowering the women student's at individual level. Unless a student is ready to learn, whatever may be the intelligence quotient of the student/efficiency of the teacher; learning cannot takes place accurately. In this context, VIEW has an efficient student mentoring system of allotting 20 students to every faculty to address not only the academic/curricular issues but also other issues like economic issues, teenage problems, emotional problems and psychological issues. Number of faculty mentors at VIEW are **107** in total among the programs CSE (34), ECE (34), EEE (29) and IT(11).

9.1.2 Objectives of the Student Mentoring System:

The objectives of the Mentoring System at 'VIEW' are:

- A. To monitor and enhance the student's regularity & discipline
- B. To monitor and enhance the students's academic/curricular performance.
- C. To counsel the students and provide confidence to improve their quality of life by addressing their issues such as:
 - Economic Issues
 - Teenage Issues
 - Health Issues
 - Emotional Issues
 - Psychological Issues
- D. To engage the parents in the continual improvement of their ward's performance.
- E. To encourage student's participation in co-curricular & extra-curricular activities with a balanced academic performance.
- F. To guide the students towards campus recruitment, higher education, research & entrepreneurship.

9.1.3 Process of Mentoring at VIEW:

Process of Mentoring student's at VIEW was developed to **achieve** the **objectives** of the Student Mentoring system in the following attributes:

A. Regularity & Discipline

- Once in a week, every faculty/mentor will informally meet their allotted student's/mentee's for counselling and making a note of their status in the respective Student Mentoring Book.
- During the counselling, if the student was observed to be performing good they will be appreciated. If the student was observed to be non-attentive/non-performer/irregular, the exact reasons/issues will be identified by the mentor and will be given with enough counselling/support in resolving/addressing the concerned issues.

B. Academic/Curricular Performance:

- In the first stage at the beginning of every semester, the faculty/mentor will address the allotted students regarding the details of academics in the semester and evaluation procedure in line with the respective PO's, PEO's, Mission, Vision at program and institute level.
- The detailed performance evaluation/results for every assessment will be noted down in the respective student mentoring book.
- If the student/mentee performance is good then she will be recommended for Merit Scholarship else she will be guided and tutored to improve her performance.

C. Other Issues to increase confidence of Student/Mentee to improve their quality of life:

- Economic Issues: During the counselling process, if any student/mentee was observed to be suffering financial crisis impacting their performance will be recommended for various opportunities such as MEAN Scholarships.
- Teenage Issues: During the counselling process, if any student/mentee was observed to be having issues like adolescence, including social media, body image, substance use and sleep will be counselled accordingly in resolving issues at mentor level and even if the issues still persists the student/mentee will be directed to grievance and redressal cell for further counselling through Program Coordinator.
- Health Issues: During the counselling process, if any student/mentee was observed to be having any health problem disturbing their performance will be inspected with

Health Club with concerned parent consent. Where if the issue deserves a doctors consultation, the primary consultation will be borne by the institution and further recommendations will be handed over to the parent.

- **Emotional Issues:** During the counselling process, if any student/mentee was observed to be having emotional issues chronic discipline problems, is truant often, temper tantrums, lack of empathy/compassion, bullying others, causing damage to others properties, having conflicts with parents and authority figures will be counselled accordingly. Even if the issue continues to persist, student/mentee will taken for further counselling with Program Coordinator.
- **Psychological Issues:** During the counselling process, if any student/mentee was observed to be suffering from psychological issues like depression, stress, anxiety, eating disorders, self injury, bipolar disorder and phychotic will be counselled for the resolution. Even if the issues continues to persist the student/mentee will be recommended to a psychologist consultation through program coordinator and parents.

D. Engaging Parents for continual improvement: The attendance, performance report and the counselling remarks will be constantly shared with parents daily, monthly and whenever it is necessary. A daily SMS for regularity, monthly attendance report, performance and counselling whenever it is necessary will be shared with the parents.

E. Co-curricular & Extra-curricular Activities: During the counselling process, a student/mentee observed to be keen or excelling in any co-curricular or extra-curricular will be given proper guidance towards a balanced learning to maintain better performance in academics and the concerned activity as well. Such student/mentee will be forwarded to the respective clubs for her participation and further guidance in national & international level.

F. Campus recruitment, higher education, research & entrepreneurship: During the counselling process, the faculty/mentor will understand the goal of the students regarding her career and guide her towards achieving her goals by recommending her active participation towards Trainings, Seminars, Conferences, Workshops, Publications, Projects, etc., At every stage, the student/mentee will be monitored and report will be maintained cumulatively to motivate them for a better career opportunity.

9.1.4. Efficacy of the Mentoring system:

Students will be able to:

- Improve their attendance percentage leading to low detention rates.
- Students who perform badly in initial tests can improve due to the assignments given, question paper solving and effective guidance.
- Register better academic performance.
- Lead a quality learning life with confidence.
- Succeed in Campus Placements and career building.

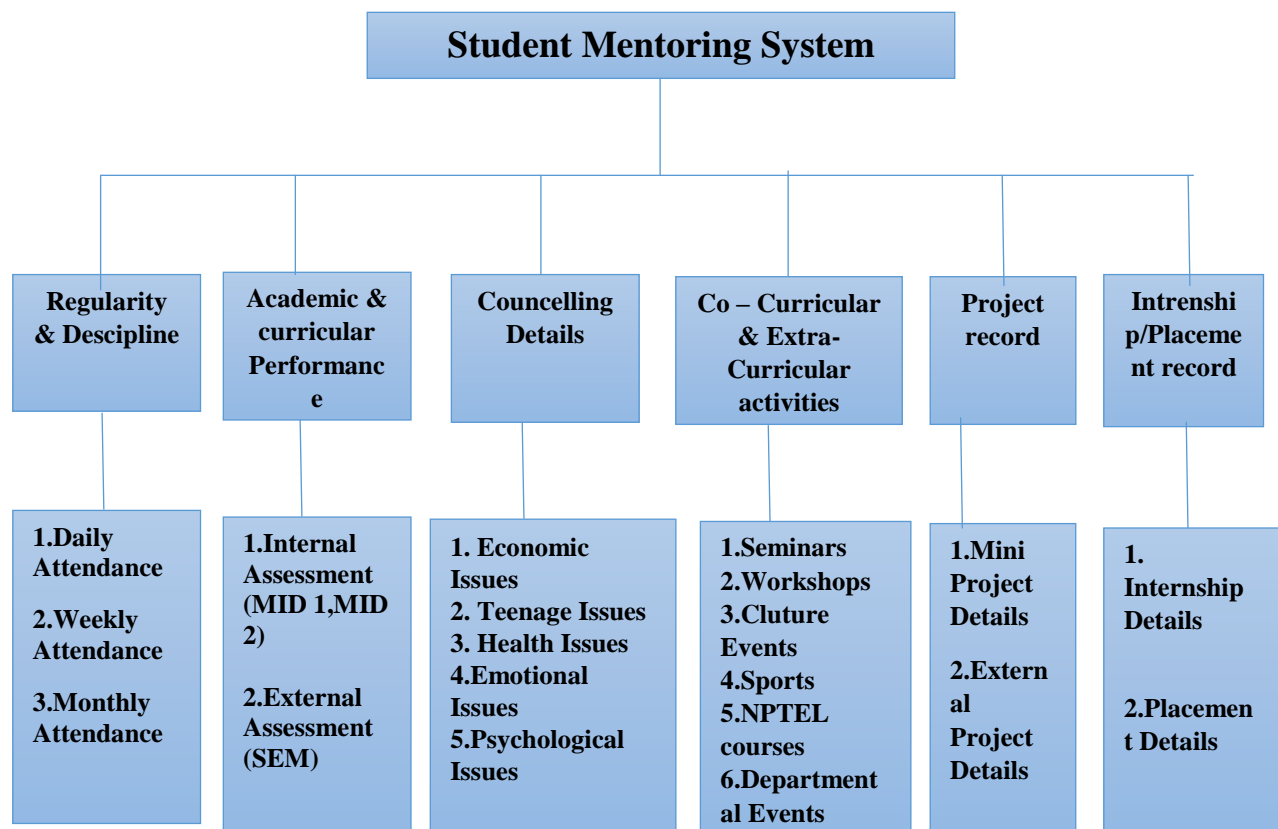


Figure B.9.1.1: Flow chart of Student Mentoring System

Impact through Counselling on Special Issues:

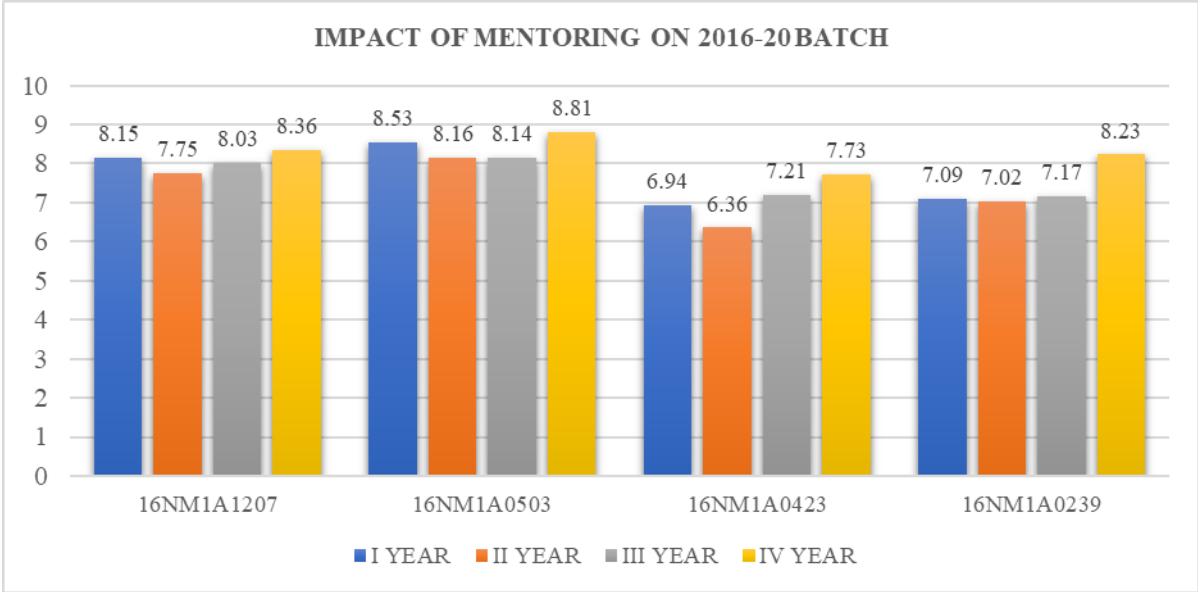
S No	Name of student	Nature of Problem	Status of student (Issue)	Counselling or Support given	Efficacy
1	15NM1A0218 G.Naga Puspa	Academic/ Curricular Performance	Backlogs problem	1.Organising extra classes 2.Remedial and tutorial classes held for preparing remedial exams.	Cleared all the active backlogs
2	16NM1A05G7 M.Keerthi	Regularity & Discipline	Irregularit y problem	1. Asking about the reason of irregularity. 2. Motivated to attend regularly by explaining the value of education.	Regularity Improved
3	15NM1A1205 A. Lalitha sri diya	Psychologic al Issues	Depressio n problem	1. Knowing the reason and motivated the student by showing the motivational and spiritual videos. 2. Daily interacted with student to know the status of her.	Student participate d and interacted actively.
4	17NM1A0562 Joba Kumari Preethi	Economic Issues	Financial problem	1. Asking about the reason and motivated the student to study well in order to get institute provide mean and merit scholarship.	Student received mean scholarshi p provided by the institute.
5	16NM1A0275 R.JHANSI	Teenage Issues	Love failure	1. Knowing the reason and guide the student to choose the right path and also said about the importance of parents and how they are struggling about her.	Student choose the correct path and focused on studies.
6	16NM1A1228 K.Bhargavi	Academic/ Curricular Performance	Dropping the college due to unable to understan d the concepts	1. Knowing the reason and suggested easy ways to understand the concepts through online videos and also provided study materials to prepare the exams. 2. Assisted good knowledgeable students also.	The student continued in the college and cleared all the subjects.

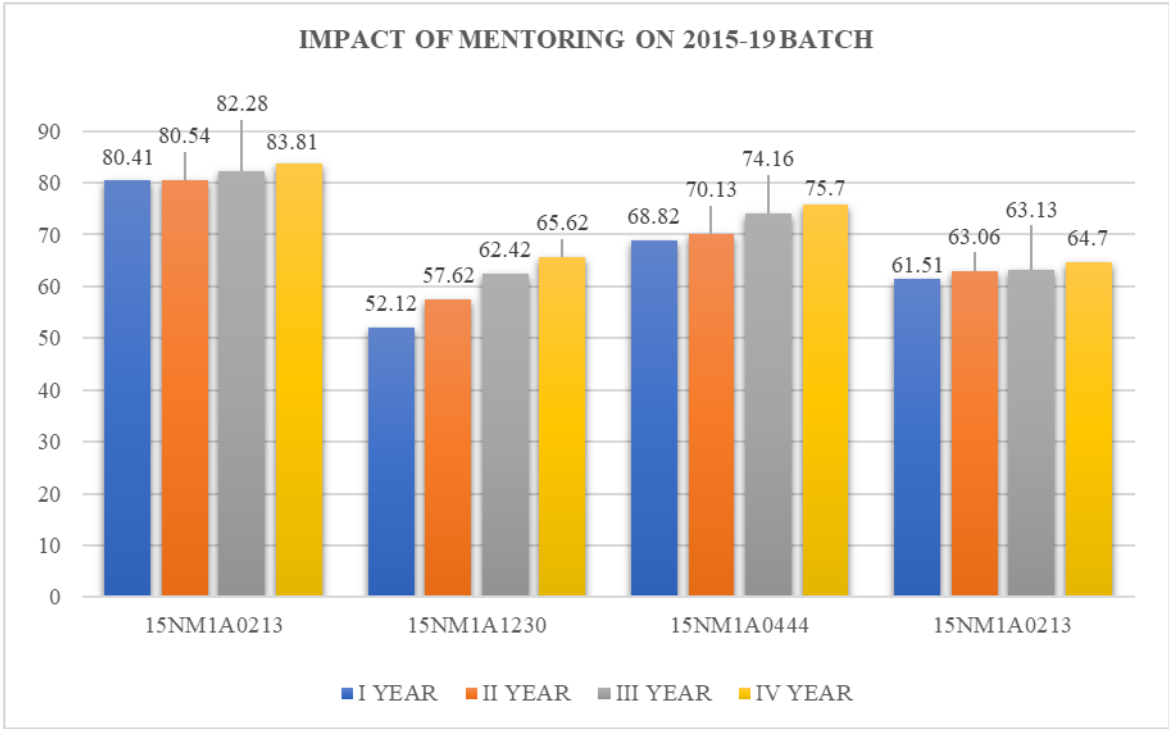
7	16NM1A05G8 P. Tanmay	Health Issues	Irregularity problem due to health issues	1. Asked about the reason and suggested to submit the medical certificate and also informed about importance of attendance to write exams.	She submitted medical certificate and tried to come regularly.
8	17NM1A0593 L.Trisha	Psychological Issues	Behaviour problem	1. Knowing the reason and explained about the importance of behaviour and human ethics through youtube videos.	She changed her attitude and interacted with classmates nicely.

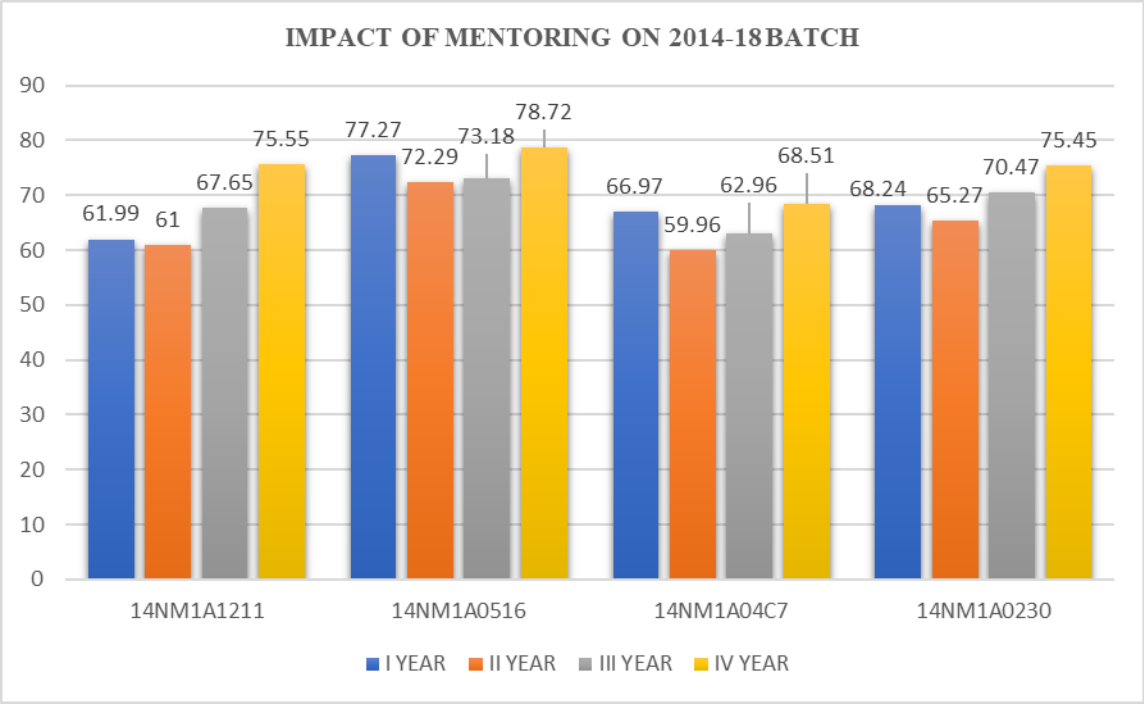
Table B.9.1.1: Impact through Counselling on Special Issues:

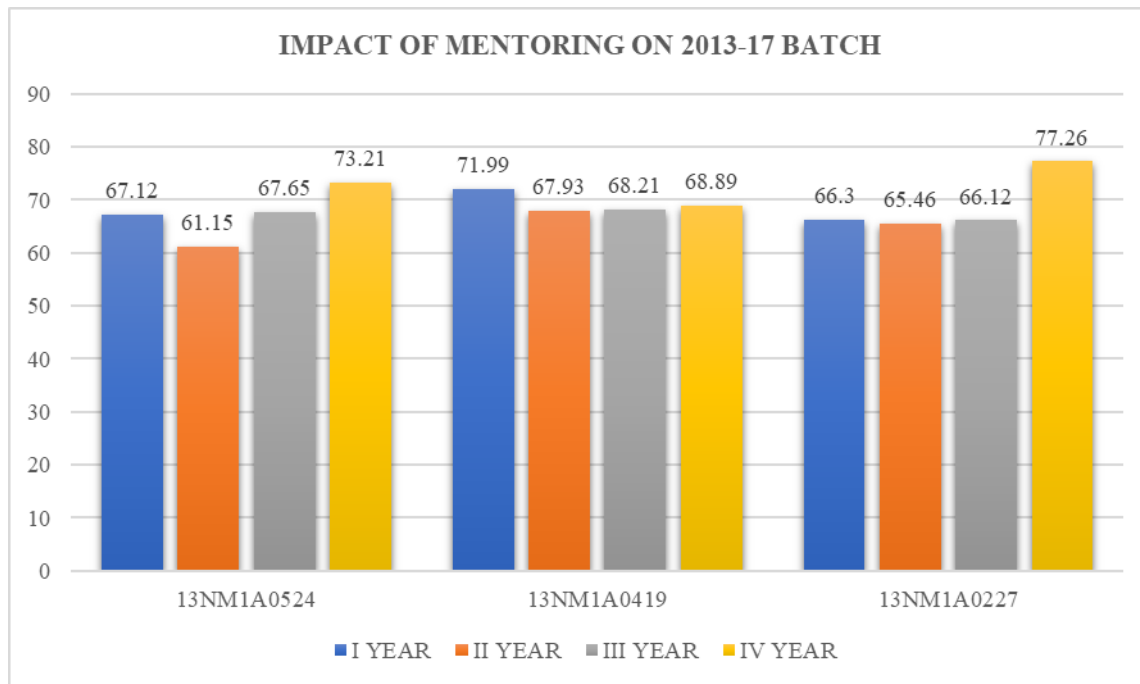
9.1.5. Impact through counselling on Academic Performance:-

The Academic/Curricular performance of the Student's/Mentee's was good upto their First academic year. Later in the second year their academic performance was fall down due to not able to clarify their doubts intime with inferiority complex. In order to improve their academic performance, proper mentoring and guidance was provided with the help of student mentoring system by respective mentor. So that, it was observed student's/mentee's performance was improved in the further academic years.









The institute initiated Merit scholarship to encourage and appreciate the students/mentees academic performance. The merit scholarship is recommended to students/mentees who secured highest aggregates in their academic years at institute rank wise and departmental rank wise.

S.No	Academic year	Number of Selected students to Merit scholarship			
		CSE	ECE	EEE	IT
1	2017-18	3	6	5	6
2	2018-19	6	9	5	4

9.1.6. Impact through counselling on Economic Issues

The faculty/mentor not only observes performance of the student/mentee in academic perspective but also observes their financial background and it's impact on their academics. So, the faculty/Mentor suggests such an identified students for various scholarshpis and the college initiated mean scholarships.The list of selected students to mean scholarship for acdameic year 2018-2019.

S.No	Academic year	Number of Selected students to Mean scholarship			
		CSE	ECE	EEE	IT
1	2017-18	14	25	17	8
2	2018-19	32	15	20	4



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Approved by AICTE, New Delhi & Affiliated to JNTUK)

Kapujaggarajupeta, VSEZ (Post) Visakhapatnam – 530 049

Phone: 9133300357, 8886066339

Email: viewvizag@yahoo.com

STUDENT DETAILS: -

Student Name :
Date of birth :
Year of Admission :
Registered no :
Branch : **Photo**
Section :
Father/ Guardian :
Mother :
Student mobile no :
Parent mobile no :
Occupation :
E mail Id :
Permanent address :

Present address : **Hostler/Day Scholar** **Availing Bus Facility: Yes/No**

Education Details

S.No	Education	Board	School	CGPA/%
1	X			
2	XII/Inter/			
3	Diploma			

Admission Details

Quota : **Convenor/Mgmt** **EAMCET/ECET Rank** :
Category : **SC/ST/BC/OC** **Sub Category** :

ATTENDANCE DETAILS**I B.Tech. I Semester****Date of commencement of Semester:**

S. No	As on	Conducted hours (Cumulative)	Attended hours (Cumulative)	Attendance (%)	Remarks
1					
2					
3					
4					
5					
6					
7					

ACADEMIC PERFORMANCE

S. No	Subject	Mid – 1	Mid – 2	Internal	End exam	Month/year of passing
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
CGPA						
No. of Backlogs in Current Semester:						
Total No. of Active Backlogs:						

DETAILS OF CO-CURRICULAR / EXTRA CURRICULAR ACTIVITES

Date(s)	Year/ Sem	Event Details	Participation Details	Awards (If Any)

**Event Details includes Name of the Event, Organized By & In Association with*

Project Record

S.No	Year/Sem	Title	Guide Name	Remarks

Internship/Placement Record

S.No	Year/Sem	Intern/Placement	Organization	Stipend/Pay	Duration

PARENT VISIT SHEET

Feedback collected for all courses: YES/NO; Apecify the feedback collection process; Average percentage of students who participate; Specify the feedback analysis process; Basis of reward/ corrective measures, if any; Indices used for measuring quality of teaching & learning and summary of the index values for all courses/teachers; Number of corrective actions taken.

In VIEW, sampling technique is the methodology used for the feedback collection on teaching learning process. A feedback form illustrated in figure B.9.2.2 resembles the format of colletion of feedback.

Feedback collection, analysis and evaluation at our institute is as follows:

- Step-1** Collection of feedback forms for all the subjects from the students based on parameters specified in the questionnaire.

- Step-2** Estimation of average for all the parameters and calculation of cumulative otherwise called threshold.

- Step-3** After the recommendations of Priincipal, the threshold value will be finalized. The normal value setup at present is 8

- Step-4** If the threshold exceeds 8, it will be considered as good. If it is less, the faculty performance is considered as average or below average.

- Step-5** If the faculty receives good performance, he will be rewarded with monitory benefits (additional increment). If he/she receives average or below-average performance, he/she gets counselling and allows them to get correct their performances.

Figure B.9.2.1 illustrates the flowchart implemented for the corrective actions taken against the feedback analysis.

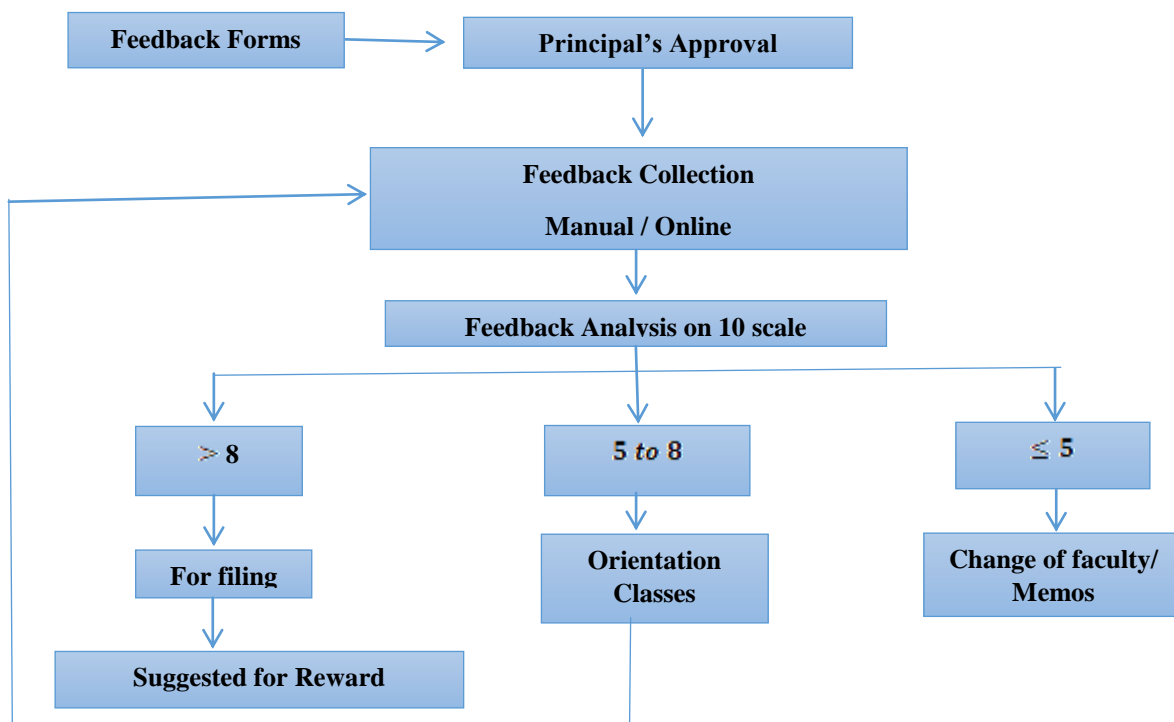


Figure B.9.2.1: Flowchart for feedback analysis process

9.2.1. Feedback collection process

Feedback is collected against the format shown in figure 9.2.2 once in a semester before Mid-I assessment from the students having attendance greater than 75% at the time of collecting feedback.

Percentage of students participating: 90% (Approximately)

Specify the feedback analysis process: The feedback is collected on 10 Parameters on a 10 point scale as shown below.

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN:: VISAKHAPATNAM
STUDENT FEEDBACK - CSE - C

Date: _____

Class: II B. Tech (2018 Admitted Batch) - II Sem Academic Year: 2019-20

S.No		SE	JP	ADS	CO	FLAT	PPL
		MML	IR	GS	RP	RS	RRy
1	Do you feel the class interesting?						
2	Are the fundamental concepts presented with clarity?						
3	Do you consider the teacher knowledge in subject?						
4	Does the teacher come to the class well prepared?						
5	Is Teacher speed adequate?						
6	Is the syllabus properly covered?						
7	Are the classes regularly & punctually taken?						
8	Can the teacher be heard by the back-bench students?						
9	Is the teacher approachable for clarification of doubts?						
10	Is the handwriting/figures visible?						

* Rating should be given in Yes/No

Overall Opinion

							Subjects			
SE	Excellent		Very Good		Fair		Poor	SE	Software Engineering	
JP	Excellent		Very Good		Fair		Poor	JP	Java Programming	
ADS	Excellent		Very Good		Fair		Poor	ADS	Advanced Data Structures	
CO	Excellent		Very Good		Fair		Poor	CO	Computer Organization	
FLAT	Excellent		Very Good		Fair		Poor	FLAT	Formal Languages & Automata Theory	
PPL	Excellent		Very Good		Fair		Poor	PPL	Principles of Programming Language	
							Name of the Faculty			
MML								MML	Mrs.M.Mamatha Laxmi	
IR								IR	Mr.I.Raju	
GS								GS	Mrs.G.Sandhya	
RP								RP	Mrs.R.Pravallika	
RS								RS	Mrs.Rahimunnisa Shaik	
RRy								RRy	Ms.Rita Roy	

Comments if any _____

Figure B.9.2.2. Student Feedback Form

9.2.1 Methodology followed for the analysis of Feedback on Teaching-Learning Process

Acquired feedback will be analyzed based on 4 points using the following methodology. Where Excellent (A), Very good (B), Fair (C), Poor (D)

Table B.9.2.1: Sample analysis of feedback on Teaching-Learning Process

S.No	Name of the faculty	Designation	subject	Grades				Total strength	A+B+C+D	Over all index (10)
				A	B	C	D			
1	XXXXX	Asst.Prof	XXX	42	12	0	0	54	54	9.56

10% Overall Index Scale: A = 10, B = 8, C = 4, D = 0

$$\text{Calculation: } \frac{(A \times 10) + ((B \times 8) + (C \times 4))}{\text{Total strength}}$$

9.2.2 Effectiveness of Methodology being followed for analysis of feedback

Effectiveness of the methodology being followed was illustrated based on feedback indicator. Feedback indicator is value of average feedbacks employed by the faculty in a department over a batch of students during their entire academics. This feedback indicator was evaluated for the CAY, CAYm1, CAYm2 for all the programs and illustrated in the figure B.9.2.3.

From the figure B.9.2.3, there is a gradual improvement in the Teaching-Learning Process among all the programs for the last three academic years consistently with the methodology implemented for the analysis of feedback.

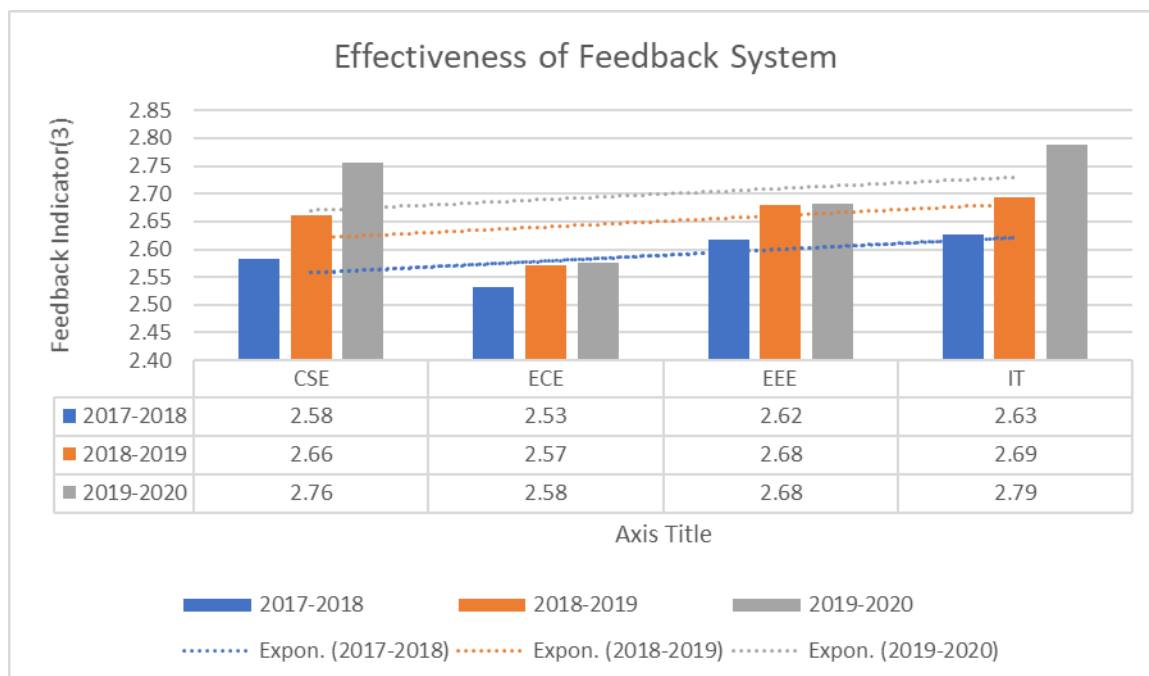


Figure B.9.2.3: Effectiveness of Feedback System

9.2.3. Corrective actions taken and it's efficacy of the Feedback analysis:

In the process of feedback analysis to improve the teacher learning process, a unique process was developed. After the evaluation of feedbacks, faculty who received below 8 will be listed out for further evaluation either through a orientation class or recommended to attend FDP's etc,. Faculty recommended for orientations class will be listed out and sent for principal's office further actions. A record of corrective actions taken were maintained cumulatively for all the three batches. Through principal's office a notification will be issued regarding the orientations to be delivered for the improvement of teaching learning process. A committee will be constituted including Principal along with two program specific internal faculty members and one program specific external member with similar expertise. The recommendations of the committee will be constituted and will given to faculty undergoing orientation will be given a specific time to improve his skills for a better teaching learning process. After the specified time, the faculty will be analysed against the feedback during his delivery in the same class and will be assessed based on the feedback taken again. Further improvements or guidelines will be forwarded to principal

office accordingly. A list of such record of corrective actions taken were detailed below in table B.9.2.2 for reference.

Table B. 9.2.2. Record of corrective actions taken based on feedback:

Academic Year 2019-20								
S N o	Prog ram	Date	Faculty	Topic	Corrective Actions	Feedback (10)		Commen ts
						Before	After	
1	ECE	09.07.19	Mrs.B.M anjula	Pulse code Modulatio n	Try to finish off the core concept in first 35 Mins	7.52 III-I (DC)	8.57	Very Good
2	CSE	05.07.19	Mrs.M. Mamatha Laxmi	File system Implemen tations	Each topic should be clear so that students will understand better. Submit lecture notes.	7.81 II-II (SE)	8.87	Average.
Academic Year 2018-19								
S N o	Prog ram	Date	Faculty	Topic	Corrective Actions	Feedback (10)		Commen ts
						Before	After	
4	CSE	4.7.18	Mrs.D.K amal Kumari	Micro operations	Technical Knowledge is poor Prepare lecture notes well in advance Be serious in the class.	7.67 IV-I (CAO)	8.12	Good Repeat Demo
Academic Year 2017-18								
S N o	Prog ram	Date	Faculty	Topic	Corrective Actions	Feedback (10)		Commen ts
						Before	After	
1	EEE	07.09.17	Mr.K.Va msi	Hydro Thermal Schedulin g	Registered Ph.D, Read different text books	6.65 IV-I	8.45	Very Good
2	EEE	07.09.17	Mr.B.Raj esh	Classificti on of Transmiss ion lines	Registered for Ph.D. Attend teaching learning workshops	6.6 III-I	8.24	Good Repeat Orientatio n
3	ECE	05.07.17	Mr.K.V. Ramana Rao	VHDL Program Sructure	More preparation is required	7.38 III-I (DICA)	8.09	Good
4	ECE	05.07.17	Mr.K.Sri dhar	Bridge Rectifier	Registered for Ph.D	7.99 II-I (EDC)	8.87	Very Good
5	ECE	05.07.17	Mr.B.Sri nivasa Rao	Fouries series	Registered for Ph.D (Preferbly in IITS)	6.87 II-I (SS)	8.79	Very Good
6	IT	24.06.17	Mr.Ch.R amasuri A Naidu	Variables	Advised to go a bit slow improve hand writing. Registered for Ph.D	7.1 IV-II (HCI)	8.94	Very Good
7	BS& H	22.08.17	Dr.R.S.S. Srikanth Vemuri	Galvanic cells	Read more books. Listen audio lectures. More practices is required	7.46 I-II (AC)	8.72	Very Good

9.3. Feedback on facilities (5)

Assessment is based on student feedback collection, analysis and corrective action taken.

9.3.1 Feedback Collection Process:

The class review committee/amenities committee in the department looks after the facilities. Student feedback is collected on facilities every semester through class review committee meetings. Feedback on facilities will be collected from the following:

- a. Student Feedback Form
- b. Parent Feedback Form
- c. Suggestion box
- d. JNTUK FFC recommendations on facilities

The minutes of the meeting are thoroughly analyzed at the department level and any corrective actions to be initiated are reported to the management and the facilities will be provided wherever possible. Institute centrally takes the feedback on facilities once in every semester through Exit feedbacks and Alumni feedbacks (batch wise with sampling numbers), Parents feedback (online and offline modes) and corrective measures are taken wherever necessary. The maintenance logbooks are provided in the department for continuous monitoring of amenities. A suggestion box is placed in the department to get the opinion on the functioning, maintenance of the facilities and documented for further actions. The details of the approval letters and the summary of meetings/discussions are presented in Annexures.



Figure B.9.3.1: Flow chart showing the collection and evaluation of feedback on facilities

9.3.2 Analysis of Feedback on Facilities:

Assessment is based on student feedback collection, analysis and corrective action taken.

Overall rating on the facilities available in the department/institution in parameter wise given in the below Table. The feedback collected will be cumulatively taken on a scale of 5.

Table B.9.3.1. Student feedback rating on parameters:

S.No	Parameters	Rating (5 Point scale)		
		2017-18	2018-19	2019-20
1	Classroom ambience	4	3.8	4.2
2	Lab & Computing facilities	3.7	4	4.2
3	Hygiene in canteen	3.5	4	4.4
4	Training & Placement cell	4	3.7	4.5
5	Library facility (E-resources & Digital library)	3.8	4	4.3
6	Transparency in examination & Evaluation	4.3	4.4	4.6
7	Functioning of grievance cell	4	4.2	4.4
8	Hostel & Transport facility	4.2	4	4.3
9	Sports facilities	3.9	4	4.2
10	Medical facilities	3.8	4.2	4.4
11	Means & Merit Scholarship provided by VIGNAN	4.4	4.5	4.8
12	Overall rating about facilities at VIEW college	4.2	4.1	4.4
Average		3.98	4.08	4.39

Table B.9.3.2: Parent feedback rating on parameters:

S No	Parameter	Rating (5 Point scale)		
1	Teaching & Learning Process	4.2	3.8	4.4
2	Counselling/Mentoring System	4	4.2	4.5
3	Campus Recruitment Training & Placements	4.3	4	4.5
4	Scholarship provided by VIGNAN	4.5	4.5	4.7
5	Student discipline	4.2	4.2	4.4
6	Overall Personality development of your ward	4.3	4.4	4.6
7	Laboratory facilities	4.2	4.2	4.4
8	Library facility	4.2	4.4	4.5
9	Sports facilities	3.9	4	4.2
10	Transport facility	3.8	4.2	4.4
11	Canteen & Hostel facility	4.4	4.5	4.8
12	Co curricular & Extra Curricular Activities	4.2	4.1	4.4
13	Grievance and redressal cell	4.5	4.5	4.5
14	Medical facilities	4	4.2	4.4
15	Overall rating of VIEW	4.2	4.3	4.4
Average		4.19	4.23	4.47

9.3.3. Corrective Actions Taken:

As per the key identifications from the parameters in above tables, a recommendations list will be prepared and will be presented in the governing body meetings. As per the guidelines given from the minutes, correction actions will be taken and for last three year academic years were listed below in table B.9.3.3.

Table B.9.3.3: List of corrective actions taken against recommendations

S.No	Recommendations	Corrective Actions Taken		
		2017-18	2018-19	2019-20
1	Hostel Facilities	Yes	Upgraded	Upgraded
2	Library Facilities	Yes	Upgraded	Upgraded
3	Medical Facilities	Yes	Upgraded	Upgraded
4	Transport Facilites	Yes	Upgraded	Upgraded
5	Fire & Safety	Floor wise	All exposed areas	Upgraded
6	Canteen Facilities like Xerox, stationary, etc arranged in a spacious canteen	Institute Level	Upgraded	Upgraded
7	LCD projectors and computer systems are fixed in every classroom	Limited to program wise	Limited to section wise	Yes
8	Focusing lights are arranged at the top of the board to clear visibility to the students.	Limited	Yes	Yes
9	Quality equipment and computing facilities increased in the department.	Yes	Upgraded	Upgraded
10	Active functioning of the grievance cell to look after the issues of students.	Yes	Yes	Yes
11	Increased the kits for the in-door and out-door games/sports.	Yes	Upgraded	Upgraded
12	Management providing Means & Merit scholarships to encourage the students	Limited	Yes	Yes
13	Wifi & Internet Facilities	Yes	Upgraded	Upgraded



Figure B.9.3.2: Some Facilities upgraded in the last three academic years with illustrations

Student and parent Feedback forms on facilities are as follows:



VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Approved by AICTE & Affiliated to JNT University, Kakinada) Estd. 2008
ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Institution
Kapujaggarajupeta, VSEZ (Post), Visakhapatnam-530 049, Andhra Pradesh, India
Phone : 9133300357, 8886066339 :: Fax : 0891-2010485
Email : viewvizag@yahoo.com, viewprincipal@gmail.com website : www.vignanview.org

STUDENT'S FEEDBACK ON FACILITIES

Name :

Branch:

Regd. No:

Admitted Year:

Please rate the Institute as per the criteria given below. Mark a tick '√' in the appropriate cell:

(Note: Excellent-5; Very Good-4; Good-3; Satisfactory-2; Poor-1)

S.No	Question	Rating				
		5	4	3	2	1
1	Classroom ambiance	5	4	3	2	1
2	Lab & Computing facilities	5	4	3	2	1
3	Hygiene in canteen	5	4	3	2	1
4	Training & Placement cell	5	4	3	2	1
5	Library facility (E-resources & Digital library)	5	4	3	2	1
6	Transparency in examination & Evaluation	5	4	3	2	1
7	Functioning of grievance cell	5	4	3	2	1
8	Hostel & Transport facility	5	4	3	2	1
9	Sports facilities	5	4	3	2	1
10	Medical facilities	5	4	3	2	1
11	Means & Merit Scholarship provided by VIGNAN	5	4	3	2	1
12	Overall rating about facilities at VIEW college	5	4	3	2	1

Additional Comments:

Approved.

PRINCIPAL
Vignan's Institute of
Engineering for Women
K.J.Peta, VSEZ (P.O.),
Visakhapatnam-49.


VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN

(Approved by AICTE & Affiliated to JNT University, Kakinada) Estd. 2008

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Kapujaggarajupeta, VSEZ (Post), Visakhapatnam-530 049, Andhra Pradesh, India

Phone : 9133300357, 8886066339 :: Fax : 0891-2010485

Email : viewvizag@yahoo.com, viewprincipal@gmail.com website : www.vignanview.org

PARENTS' SURVEY FORM ON FACILITIES
Name of the Parent:
Name of the student:
Program:
Regd. No. of the student:

Please rate the Institute as per the criteria given below. Mark a tick '√' in the appropriate cell:

(Note: Excellent-5; Very Good-4; Good-3; Satisfactory-2; Poor-1)

S.No	Question	Rating				
		5	4	3	2	1
1	Teaching & Learning Process	5	4	3	2	1
2	Counseling/Mentoring System	5	4	3	2	1
3	Campus Recruitment Training & Placements	5	4	3	2	1
4	Scholarship provided by VIGNAN	5	4	3	2	1
5	Student discipline	5	4	3	2	1
6	Overall Personality development of your ward	5	4	3	2	1
7	Laboratory facilities	5	4	3	2	1
8	Library facility	5	4	3	2	1
9	Sports facilities	5	4	3	2	1
10	Transport facility	5	4	3	2	1
11	Canteen & Hostel facility	5	4	3	2	1
12	Co curricular & Extra Curricular Activities	5	4	3	2	1
13	Grievance and redressal cell	5	4	3	2	1
14	Medical facilities	5	4	3	2	1
15	Overall rating of VIEW	5	4	3	2	1

Please give your valuable suggestions for improvement of the college.

Date:
Signature:

 Approved
 PRINCIPAL
 Vignan's Institute of
 Engineering for Women
 K.J.Peta, VSEZ (P.O.),
 Visakhapatnam-49.

9.4: Self-Learning

(The institution needs to specify the facilities, materials and scope for self-learning / learning beyond syllabus, Webinars, Podcast, MOOCs, etc. and evaluate their effectiveness)

9.4.1. Scope For Self-Learning

Self-Learning at Vignan's Institute of Engineering For Women was one of the unique ecosystems with diversified learning for women students. The details of the self-learning for the student's of our institution were clearly explained and illustration in the figure B.9.4.1 for the last three academic years.

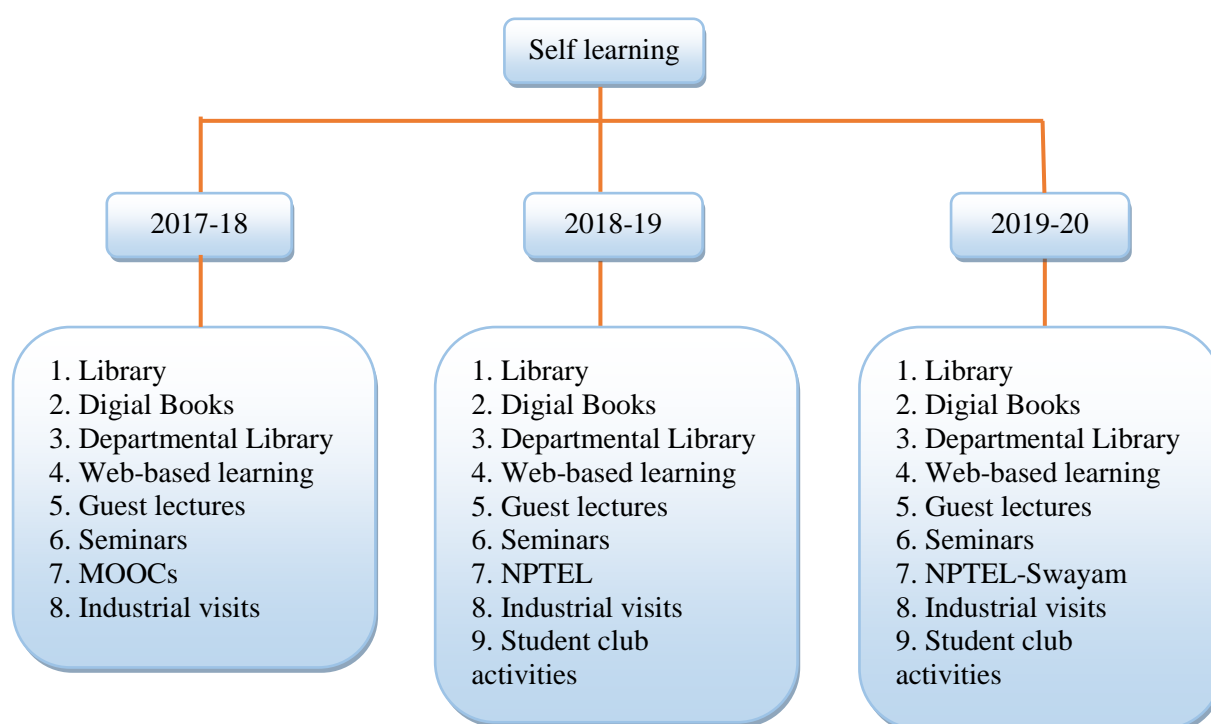


Figure B.9.4.1. Illustration chart for the scope of self learning

Self-Learning method is an individualized method of learning collecting information, processing it, and retaining it without the need for another individual to teach it.

Table B.9.4.1: Details of Self Learning Processes

Sl. No.	Self – Learning process	Description
1	Library	Several books provided in each department.
2	Digital Library	<ul style="list-style-type: none"> • Availability of NPTEL videos. • Sufficient systems with multimedia facilities. • Institutional membership, Internet facility like swayam, etc.
3	Departmental Library	Availability of course material, departmental library

		books,PPTs.
4	Web-based learning	Video lectures through internet
5	Professional bodies / other association and club activities	professional association memberships,departmental associations
6.	Seminars & workshops	Seminars given by the students
7	Assignments	Assignment books and weightage of marks for assignments/Quizzes/seminars
8	Industrial visits	Students Industrial visits are
9	Guest lectures	List of Guest lectures organized
10	MOOCs	MOOCs data

9.4.B. Detailed list of Self – Learning facilities:

Various self learning facilities available at VIEW were listed below in detail:

a) Central Library

The Vignan Vahini Library has a huge collection of 27784 books with 5676 titles on various subjects including technical, humanities, managerial and reference Books covering biographies, dictionaries, yearbooks etc. The library subscribes 108 national and international print journals and 5230 e-journals, and holds over 1018 project reports. The Learning materials, Previous Question Papers, Project Reports of all departments are made available.

- The Library is open for all users from 7.30 am to 5.30 pm. The library hours are extended on the basis of need during examinations.
- Regular class time tables of all branches allot one session contains one hour in a week for library study. Each student have a library card using which that she can lend 5 books for 15 days nearly 30 members utilizes same title of book per year.
- The use of library by students is generally more during examination period.
- During examination period students spends more time in library.
- Digital Library is also available to the students with free internet Access

Table B.9.4.2: Detailed list of vignana vahini library

S No.	Course	Dept.	No. of Titles	No of Volumes	Effective Utilization		
					2017-18	2018-19	2019-20
1	UG	EEE	767	3681	80682	86176	78241 (Covid Impact)
2		ECE	829	4088			
3		CSE	853	4144			
4		IT	813	3312			
5		MECH	676	2915			
11	PG	MBA	731	5027			
12		ECE	92	226			

13		EEE	59	138			
14		CSE	74	180			
15		ME	36	98			
16	BS&H	Total Books	318	2762			
17	General	Books	428	1213			
18	Others	National Journals	34	34	Effectively utilized 100% of the sources for developing projects or materials.		
19		International Journal	5	5			
20		International Journal	12	12			
21		Magazines	17	17			
22		News Papers	35	35		100%	
23		Faculty Publications	184	184		100%	
Total			5963	28692	Improvement of utilization was observed over a period of last three academic years.		



Figure B.9.4.2 Vignana vahini library

b) Digital Library

- The institution provides facilities like a digital library which has a seating capacity of 175 students at a time, who can access E-journals of J-Gate Science and Technology, NOBLE INFOTECH has 188 E-Journals & E-Books, DELNET has 400 E-journals in Engineering & Technology of E-Journals & E-Books, IEEE E-journals provides 17 magazines and 35 newspapers students can utilize these sources during the leisure hours.
- The Digital Library has 15 computers and several E-Resource of e-journals, e-books, video lectures (like NPTEL), audio lectures of various publisher are made available in the Digital Library for effective teaching learning process.

Table B.9.4.2: Digital Library

Availability of Digital Library Contents: Yes Following digital contents are made available		
Content	Accessibility	
NPTEL Video Lecture	Access Provided to NPTEL Video Lecture Content	YES, through local Server
National Digital Library of India (NDL) IIT Kharagpur	Membership to NDL Digital Library of India	YES
Availability over Intranet /Internet	YES	
No. of users per day:	25 - 35 Per Day	

c) Departmental Library

- The departmental library comprises books of all engineering subjects of various publications, GATE books, and competitive examination books that are accessible to all students.

d) Professional bodies / other association and club activities

- All departments are associated with professional memberships such as the Institution of Engineers and departmental associations.

e) Seminars & workshops

- Every department has organized seminars, workshops, technical events such as Tech Fest to enhance communication skills in students.
- Students give excellent seminars in front of all the students once in a week about their own interesting topics to enhance their presenting and communication skills. These seminar classes help the students for their campus interviews to place them in better position.

f) Assignments

- All departments maintain assignment books for each and every subject for all students in order to give weightage for evaluating marks.
- Online assignments have been given through REFERENCE GLOBE, whatsapp, google meet to all students to improvise subjective knowledge during the COVID-19 lockdown period.

g) Industrial visits

- Departmental industrial visits have been organized such as ISRO, OBELL BELLOWS, etc. to understand the practical implementation of the subject.



Figure 9.4.3. Illustration sample for Industrial Visits (Source: ECE ISRO visit)

h) Web-Based Learning and Certification Courses

- Students of all departments were given the opportunity to participate in online classes such as MOOCs, NPTEL, and Webinars, etc.
- Department level faculty's are encouraged to the students to the web based certification courses like NPTEL, UDEMY, Google digital garage, UDACITY and CISCO.
- Students those who got extramural ranking in the course they are awarded with price money as a token of appreciation based on the R&D policy.

Table B.9.4.3: Effective Utilization of Web-Based Learning and Certification Courses

Period	SNo	Department	Cert. Course	No of students
2019-20	1	ECE	NPTEL-Swayam	334
	2	IT	NPTEL-Swayam	16
	3	EEE	NPTEL-Swayam	02
	4	CSE	NPTEL-Swayam	99
	5		Sololearn	11
	6		Vision	2
	7		Alison	3
	8		Udacity	3
	9	Wheebox	13	
2018-19	1	IT	NPTEL	02
	2	CSE	NPTEL	24
	3		CISCO	76
	4		Texas measurements	23
	5		Wheebox	11
	6		Solo learn	7
	7		Udemy	7
	8		Data Camp	2
	9		Net CAD	2
	10		Udacity	3
	11		Coursera	2



Figure B.9.4.4: Sample Certification Courses as effective utilization

- MOOCs online program will be conducted by the University of JNTUK to gain the knowledge to the students. These MOOCs classes helps the students to select their written examination during the campus time nearly 141 students get placed by the utilization of these lectures.

Table B.9.4.4: List of MOOC's Web-Based program

Year	S No	Name of The Cordinator	Branch	Year & Sem	Date	Name of The Subject	Name of The Expert
2018-19	1	Mrs.B.M.Pushpa Latha	EEE	IV-I	27-06-2018	Energy Audit and Management	Dr.P.SureshBabu
		Mr.K.Kushal Kumar					
	2	S.Kalyani	CSE /IT	II-I	27-06-2018	Statistics Using R Programming	Tcs Consultants
		I.Raju					
3	A.V. Pradeep	ME CH	III-I	27-06-2018	Metal Cutting Machine Tools	Prof. G. L. Samuel, IIT Madras	
4	G.Lakshman T.SandyaKumari	ECE	II-I	27-06-2018	Signals And Systems	Dr. K .V.Srinivas, IIT BHU	
2017-18	5	P.Praveen Kumar	CSE /IT	II-II	20-11-2017	Java Programming	TCS Consultants, Hyderabad
		Ch.RamaSuriApala Naidu					
	6	A.V. Pradeep	ME CH	II-II	20-11-2017	Design Of Machine Members-1	Ch. Viswanath, IIT Hyderabad
	7	G.Lakshman	ECE	II-II	20-11-2017	Analog Communications	K.V.Srinivas , IIT Varanasi
		T.SandyaKumari					
8	G.Lakshman T.SandyaKumari	ECE	III-II	20-11-2017	Microwave Engineering	J.SriHariRao, NITW(Rtd)	
9	Mrs.B.M.Pushpa Latha	EEE	II-II	20-11-2017	Electrical Machines - II	PradeepkumarYemula, IIT Hyderabad	

	Mr.K.Kushal Kumar						
10	P.Praveen Kumar	CSE /IT	II-II	18-11- 2017	Java Programming	TCS Consultants, Hyderabad	
	Ch.RamaSuriAp pala Naidu						
11	Mrs.B.M.Pushpa Latha	EEE	II-II	18-11- 2017	Electrical Machines - II	PradeepkumarYemula, IIT Hyderabad	
	Mr.K.Kushal Kumar						
12	G.Lakshman	ECE	II-II	18-11- 2017	Analog Communications	K. V. Srinivas, IIT Varanasi	
	T.SandyaKumari						
13	A.V. Pradeep	ME CH	II-II	18-11- 2017	Design Of Machine Members-1	Ch. Viswanath, IIT Hyderabad	
14	G.Lakshman	ECE	III-II	18-11- 2017	Microwave Engineering	J. Sri HariRao, NITW(Rtd)	
	T.SandyaKumari						
15	I. Raju	CSE	IV-I	20-06- 2017	Hadoop& Big Data	KiranKopparapu, Chicago State University	
	P.Praveen Kumar						
16	Mrs.B.M.Pushpa Latha	EEE	II-I	20-06- 2017	Electrical Machines-I	PradeepYamula, IIT Hyderabad	
	Mr.K.Kushal Kumar						
17	S.Kalyani	CSE /IT	II-I	20-06- 2017	Python Programming	Rajkumar Mulge, TCS Consultant	
	I.Raju						
18	A.V. Pradeep	ME CH	IV-I	20-06- 2017	Finite Elements Method	Viswanath Ch, IIT Hyderabad	
19	P.Praveen Kumar	CSE /IT	II-I	17-07- 2017	Python Programming	TCS Consultants	
	Ch.RamaSuriAp pala Naidu						
20	Mrs.B.M.Pushpa Latha	EEE	II-I	17-07- 2017	Electrical Machines-I	PradeepYamula, IIT Hyderabad	
	Mr.K.Kushal Kumar						
21	P.Praveen Kumar	CSE /IT	IV-I	17-07- 2017	Hadoop & Big Data	Kiran Kopparapu, Chicago State University	
	Ch.RamaSuriAp pala Naidu						

Material for Learning Beyond syllabus

i. Coaching's for competitive exams



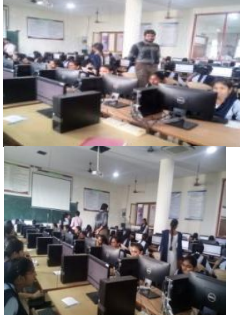
- Institution provides coaching for GATE, aptitude, reasoning and workable training were given as per the prescribed timetable which makes the students attain effectively for their carrier growth.
- Mock interviews, aptitude test and group discussions are conducted periodically to evaluate performance of the students.
- Worksheets have been design on each topic and circulated to the student's to improve their practice exercise.



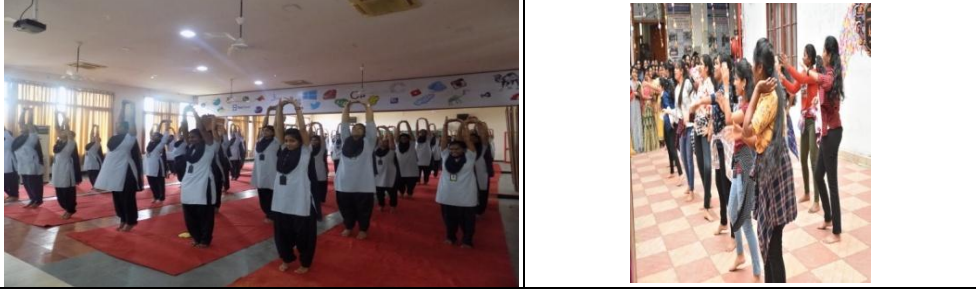
ii. Associations







- Every year Institution level fests are organised in the campus where so any events are conducted like PPTs, poster presentations, rangolis, project expos events are conducted to evaluate their presentation and communication skills.
- In order to provide more exposure to the students towards recent trends emerging technologies and to facilitate better interaction all the departments formed an associations in every year. The main aim of associations is to make sure the students become highly competitive and to acknowledge the inherent talents of the students in both technical and cultural fields.







iii. Student clubs





- Institution establishes so many student clubs in every year under those clubs many activities were performed in order to exhibit their skills like singing, dancing, mehendi etc. Every year blood donation camp was organised under health club.




2019-20			
Club	TECHKRITHI CLUB-2K19		
Event name	Google It	Idea Presentation	Debugging
Student Committee	A. Gantayath, V. Harshini Chowdary	M. Samyuktha, S. Kavitha	M. Venkata Satya Bhavani, V. Keerthi
Demonstration			
Outcome	Students who actively participated in this club have achieved successful placements through knowledge gained in coding skills.		
Club	SAMSKRITHI CLUB-2K19		
Event name	Braid a Card	Artsy Lens	Painting
Student Committee	B. Siva Sai Naga Lalitha, Y. Haritha	B.Niharika, P Tanmay	Sravya S, Y. Haritha







Demonstration		
Outcome	Students acquired unique skills of different fine arts through this skills which helped them stand unique and enhanced their resumes for the campus interviews.	
Club name	Academic clubs	
Event name	Electronics club	Coding club
Student Committee	Ch.Parimala, M.Sushmitha, Roopa Sri	B. Chandana Anooha Manogna
Demonstration		
Outcome	Students unique coding skills with competitive spirit which helped them clearing technical interviews and screening tests.	
Club name	Activity clubs	
Event name	Personality development club	Cultural club
Student Committee	K.L.Ahari, Vandana Pratyusha	K.Ushasri M.Jahnavi, P.Meenakshi Deepika
Demonstration		

			
Outcome	Students participated and headed these clubs were very effective in their personality management. Students with health and psychological issues were recommended to these clubs and found change in their personal upon active participations.		
Club name	Eco-club		
Event name	Plantation	Go Green	
Student Committee	A. Alekhya, K.Pavani	G. Uma, T. Sreeja	
Demonstration			
Outcome	Students participated were grown very familiar with the responsibility towards environment and it's sustainability which helped them stand unique in personal interviews.		
Club name	Shristi club		
Event name	Children welfare	Model expo	Mean stack
Student Committee	B. Vardhini, A. Vishnu Priya	K. Geethika, P. Sahithi	P. Venkata Tanusha, R. Niharika Kumari
Demonstration			
Outcome	Students who actively participated in this club gained product developed knowledge which helped them to develop unique projects.		

Club name	Rythms club		
Event name	Queen of IT	Dance	
Student Committee	P. Sirisha, T. Sreeja	A. Alekhya, G. Keerthi	
Demonstration			
Outcome	Students actively participated in this club have gained self confidence and helped them to improve special skill towards fine arts.		
Club name	Health club		
Event name	Blood donation	Eco rally	Eco ganesha with medicinal seeds
Student Committee	BEESETTY JOSHNA	ANANTAPALLI SAI VAISHNAVI	SIMHADRI LAHARIKA
Demonstration			
Outcome	Students actively participated in this club have gained a unique skill which impacted many other students to aware of health hazards and safety measures.		
Club name	Sports club		
Event name	Kho-Kho		
Student Committee	G Anusha,K.Poorna,S.Tulasi		
Demonstration			

			
Outcome	Students who actively participated in this club enriched their sports skills which helped them stay fit and improved their stamina.		
Club name	Techritz		
Event name	Technical quiz	AI workshop	Model expo
Student Committee	Y. Punyavathi Sridevi Priyadarshini K	V. Sai Sowjanya D. Vandana Sri	R. Sowmya B. Bhanu Priyanka
Demonstration			
Outcome	Students who actively participated in this club have gained special skills in product development and won many prizes in different national level competitions.		

2018-19			
Club name	TECHKRITHI CLUB-2K18		
Event name	Science Quiz	Story Writing	Words In Words
Student Committee	B. Harshavarshini, G. Hima Bindu	A. S S Subramanyaeswari, K. Ravali	B. Kusumanjali, Y. Renuka
Demonstration			
Outcome	Students who actively participated in this club have achieved successful placements through knowledge gained in coding skills.		
Club name	SAMSKRITHI CLUB-2K18		
Event name	Flash Mob	Essay writing	Movie Promotion

Student Committee	S. Malhotra, P. Veena Madhuri	D. Amrita Varma, D. Uma Maheswari	A. Dhinesha, N. Venkata Sravani
Demonstration			
Outcome	Students acquired unique skills of different fine arts through this skills which helped them stand unique and enhanced their resumes for the campus interviews.		
Club name	NAVITAS club		
Event name	Engineering Exploration	Ppt presentation	Poster presentation
Student Committee	DOKALA ANUSHA	PENTAKOTA CHANDANA SRAVANI	KALLEPALLI SAI MOUNICA
Demonstration			
Outcome	Students who actively participated in this club were able to gain demonstration skills which helped them to clear Technical & Personal rounds in the campus interviews.		

Effectiveness of Self-Learning at VIEW:

Self-Learning at VIEW has a huge response for its efficacy showing tremendous in developing products as illustrated below. These are the few highlights of outcomes of the self-learning at VIEW at national level published in various news papers.

5 city girls make gadget that will keep your stove burning

Kamalakara.Rao
@timesgroup.com

Visakhapatnam: Five girls from the city have invented a device that will alert consumers when their LPG (liquefied petroleum gas) cylinders are close to being empty and even when there are leakages. The girls have come up with a device that will have to be attached to the LPG cylinder.

The five girls are in their third-year of engineering in the electronics and communications stream at Vignan's Institute of Engineering for Women.

The girls who have come up with this transformative innovation are Ch Parimala, B Lalitha, K Niharika, K Lahari and B Geetha Bhavani. They were guided by associate professor Ch Ramesh Babu.

Speaking to TOI, Parimala said that they came up with the idea over routine chats at the college canteen. "Our intention was to create something that will help society," she said.

Discussing the invention, the girls said that when the device is attached to the cylinder, the device will send a message to both the user and the dealer

DEVICE THAT CAN SAVE LIVES

- > The device alerts the user and the dealer if the cylinder is close to being empty a few days in advance
- > The device will also alert the user if there is a gas leak
- > Madhya Pradesh registers the highest number of LPG leakage cases
- > Nearly one-sixth of deaths due to accidental fires are caused due to gas leakage
- > There are **30 crore** LPG connections in India at the moment



(According to inputs given by students)

informing them if and when the cylinder is nearly empty. The information will also be displayed on the LCD. Moreover, the device will also alert when there is a leakage.

"We hope that our project will help reduce fire mishaps due to gas leaks. Moreover, the system provides a fully automated approach for booking cylinders," Parimala informed.

Lalitha, another member of the group said that even though technology and devices exist to detect and alert leakages many people in rural areas

are not aware of them. "We have introduced this prototype to help overcome such problems in rural areas," Lalitha said.

On being contacted, Anurag Shrivastava, general manager (LPG wing) of Hindustan Petroleum Corporation Limited (HPCL) said that the students can directly approach the HPCL's headquarters in Mumbai if they have come up with something novel. HPCL's team will review the project and if they find something novel in it they will do justice to the idea, Shrivastava informed.

A cheap robotic hand of foam to make life simpler

Kamalakara.Rao
@timesgroup.com

Visakhapatnam: Three city students have designed a robotic 'hand' that can solve a lot of problems for the disabled. The device, which the students call an 'Ani-matronic hand', can also be used effectively by fire personnel or even people from pharma industry. The robotic hand can act as a duplicate hand for the user and imitates all movements of a hand in flesh and blood. The more interesting part is, one needs to 'wear' the hand.

Take the example of a bomb defusion situation. To make things a lot safer, a cop can stay at a distance and the animatronic hand would do the job for him, imitating the movements of his hand, through a remote control. What's more, this robotic hand is really cost-effective and comes at a price

HANDS-FREE COMFORT



K Sumanjali, P Bhavya Kumari and B Sravani display the animatronic hand at an expo

Material used | Foam, fishing string
Cost ₹10,000

> **Gloved hand can control the robotic hand from a distance**

- > The robotic hand imitates the movements of the gloved hand
- > Robotic hands in the market cost ₹35,000 to ₹40,000 at least

CAN BE USED BY

- > Disabled persons
- > Security personnel for safer diffusion of bombs
- > Firemen
- > Pharma professional
- > Relief workers

lower than ₹10,000.

The hand has been built using foam sheet and fishing thread. The fishing

threads are attached to five servo motors which control the movement of the hand.

The three students, K

Sumanjali, P Bhavya Kumari and B Sravani, are final year students of Information Technology at the Vignan Institute of Women Empowerment (View), Visakhapatnam.

nan Institute of Women Empowerment (View), Visakhapatnam.

Speaking to TOI, Bhavya said that they thought of creating the device with an intention to help the poor and the disabled. The market has such animatronic hands, she said, but these devices cost around ₹35,000 to ₹40,000.

"We have changed the conventional designs of a robotic hand to create this. We took the device to some expos where it received good response," Bhavya added.

Sumanjali told TOI that the hand can help people working in the chemical industry avoid skin diseases. "Many who work in pharma and chemical industries often face accidents and may even lose their arms since they work with strong acids. One can also use this hand for bomb defusion," Sumanjali added.

SANSKRITHI CLUB

Artsy Lens

Braid a Card

Painting

Student Committee
B. Naga Lalitha, Y. Haritha
B.Niharika,P Tanmay
Sravya S,Y. Haritha

OUTCOME
Students acquired unique skills of different fine arts through this skills which helped them stand unique and enhanced their resumes for the campus interviews.

9.5 CAREER GUIDANCE, TRAINING & PLACEMENTs (10)

(The institution may specify the facility, its management and its effectiveness for career guidance including counseling for higher studies, campus placement support, industry interaction for training/internship/placement, etc.)

9.5.1. Career Guidance Facilities:

Vignan's Institute of Engineering For Women has an effective career guidance system with an effective committee and resources which helps students to decide correct and aspired career path. Career Guidance Cell (CGC) operates with the above stated committee in accordance with students at institute level and individual level.

- Institute Level: Programs which helps students to decide and work towards their desire career will be organized.
- Individual Level: Any individual students or the students recommended for career counselling will be directed to CGC and an expert counselling will be provided in choosing their desired career path and working towards it. Special cases directed by Principal, TPO and Program Coordinators will be guided accordingly by CGC whenever it is necessary.

Table B.9.5.1: Career Guidance Cell Committee

S.No	Name of the Faculty	Position	Role
1	Dr.J.Sudhakar	Principal	Chairman
2	Dr.M.Nagendrababu	Training and Placement Officer(TPO)	Member
3	Dr. K.V.Ramana Rao	Assistant TPO	Member
4	Dr.Akansa Mishra	Associate Professor	Member
5	Dr. Vijaya Bharathi	Associate Professor	Member
6	Mr.G.Netaji	Assistant Professor	Member

The college regularly conducts Personality Development Programs to improve the communication skills of the students from rural background which re assures students of their skills and abilities to succeed. Guest speakers from various industries are invited to provide a broad exploration of various career options and industry knowledge to the students.

Various Career guidance programmes will be organized by the CGC at institute level which helps students to choose, work and achieve their desired career goals. These programs were categorized and will be commenced with the approval of principal and all the program coordinators. Such events were listed below in table B.9.5.2.

Table B.9.5.2. Career Guidance Programs conducted

S.No	Date	Name of the Speaker	Students	Topic	Illustration
1	28-01-2019	Mr.Suresh Kumar Tankala	316	Skills First... Jobs Follows	
2	19-03-2019	Lynn Penny	155	Seminar on International career guidance	
3	03-07-2017	Mr.Lakshmi prasad Venugopal	150	Motivational Seminar – Acquire Knowledge, Save a life	

9.5.2. Counselling For Higher Studies

Career Guidance Cell is also responsible for counselling the students for higher studies in the diversified fields of engineering or others in line with the interest and performance of the students. Various higher education awareness programs were conducted to give the detailed structure and instructions set for the students to enhance their knowledge to clear GATE/GRE, GMAT etc.

Table 9.5.3. List of Programs to counsel the students towards higher studies

SNo	Date	Topic	Resource Person
1	17.07.17	Awareness Program on higher education given by Global Tree	Mr.Beesetty G V S Prakash, Business Development Manager
2	22.12.17	Oppurtunities in Abroad by Higher Studies	Mr. Ch.Venkata Ramaiah, Marketing Manager
3	24.01.18	Preparation for GATE, ESE & PSU by Engineers Hub	Prof.A.W.Iqbal Dean Academics
4	16.06.18	Importance of GRE,GMAT,TOEFL by Conduira	Mr.P.V.Rama Sasank, Director
5	13.12.18	Create awareness on overseas Education system	Mr.M.Babuji, Marketing
6	28.01.19	Oppurtunities in US by GLOBAL REACH	Mr.Sasi Kiran Nammi, Marketing Development Executive
7	27.12.19	Higher Education Awareness Program by PVK Educational Consultants	Ms.P.Pushpa Latha, Director
8	04.02.20	An insight into the preparation for GATE by GATE ACADEMY	D.Vijay Sastry, Consulting Partner

Apart of these programs, students those who desires counselling for higher studies will be direct to CGC for further guidance. CGC was chosen to have all the senior level faculty with the department expertise who are well aware of all the possibilities and can counsel the students. Wherever necessary the CGC recommends such students who are keen about their higher studies will be allotted with a mentor specialised in the respective fields.

Table B.9.5.4: Effectiveness & Impact Analysis of CGC:

CAREER GUIDANCE CELL EFFECTIVENESS



VIGNAN'S
INSTITUTE OF ENGINEERING FOR WOMEN

Baliboyna Niharika (16NM1A0512)

PROBLEM :
Lack of self motivation with her financial considerations father being a bike mechanic.

RECOMMENDATIONS :
With the support of CGC through placement support she was recommended for an internship with amazon with product development training.

EFFICACY:
Got placed for 

2019-2020

Package
19
LPA

**CAREER GUIDANCE CELL
EFFECTIVENESS**



2018-2019



VIGNAN'S
INSTITUTE OF ENGINEERING FOR WOMEN

Kotipali Madhavi (15NM1A0559)


PROBLEM :
Her education gap in academics, she was rejected by 16 companies.

RECOMMENDATIONS :
With the support of CGC she has undergone internship training with a stipend of Rs 5000/- which help her to get placed in one of the top MNC's Company


EFFICACY:
Got placed for 

Package
18
LPA

**CAREER GUIDANCE CELL
EFFECTIVENESS**



2017-2018




VIGNAN'S
INSTITUTE OF ENGINEERING FOR WOMEN




Pyla Mounika (14NM5A0519)

PROBLEM :
She came from Telugu background and was weak in communication skills so she got rejected in several companies

RECOMMENDATIONS :
With the guidance of CGC she was given training for a period of 1 month to develop her communication skills

EFFICACY:
Got placed for 

Package
12
LPA

S.No	Name of the Student	Problem	Strategy to rectify problem of the Student	Efficacy/Outcome
1	<p>Pyla Mounika (A.Y. - 2017)</p> 	<p>Since she came from telugu background, she was not confident enough to face the campus drives. Due to lack of communication skills she was rejected in 16 companies.</p>	<p>She was continuously given moral support by the TPO and was given training for a period of one month to improve her communication skills</p>	<p>Got placed in JUSPAY company with a package of 12 lakhs per annum</p>
2	<p>Kotipalli Madhavi (A.Y. - 2018)</p> 	<p>As she was a mother of 2 kids she got break in her academics.</p> <p>Due to the breakage in her academic career she got rejected by 24 companies in final HR round.</p>	<p>With the guidance of TPO she has undergone internship training with a stay fund of Rs 5000/- which helped her to get selected in campus recruitment drive.</p>	<p>Got placed in AMAZON Company with a package of 18 lakhs per annum.</p>
3	<p>Baliboyna Niharika (A.Y 2019)</p> 	<ul style="list-style-type: none"> • She came from a family which is financially weak. • At initial stages during campus recruitment she was unable to clear campus drives due to lack of confidence. 	<p>With continuous support given from CGC & TPO she was able to gain her confidence back and backed her practical skills which helped her to get placed in one of the top MNC's in the country.</p>	<p>Got placed with a package of 19 lakhs per annum in AMAZON.</p>

9.5.3. Pre-Placement Training

Pre-placement training at VIEW was developed to enhance the student's skills such as communicational skills, soft skills, personality development skills and technical skills through outcome based education. Skill sets focused to be developed by Pre-placement training will be cumulated by the below Training & Placement Cell Committee from the employer feedbacks.

Table 9.5.5. Training & Placement Cell Committee

S. NO.	NAME	DESIGNATION	POSITION
1	Dr. J. Sudhakar	Professor	Principal
2	Dr.M.Nagendrababu	Associate Professor	Training and Placement officer
3	Dr.K.V.Ramana Rao	Associate Professor	Assistant Placement Officer
4	Dr.P.Sudhakar	Associate Professor	Assistant Training Officer
5	Mr.M.Krishna Kishore	Assistant Professor	General Aptitude Trainer
6	Mr.Ravi Kumar Sahu	Assistant Professor	Technical Trainer
7	Mr. P.V.Sarath	Assistant Professor	Placements coordinator – EEE
8	Mr. G.Ravi Kumar	Assistant Professor	Training coordinator - EEE
9	Mr.L.V.Suryam	Assistant Professor	T & P coordinator – ME
10	Mr.G.Lakshman	Assistant Professor	Placements coordinator – ECE
11	Mr.E.Tataji	Assistant Professor	Training coordinator - ECE
12	Mr.R.Ravi	Assistant Professor	T & P coordinator – CSE
13	Mr.Ch.Rama Suri	Assistant Professor	T & P coordinator – IT
14	Mrs.T.Suguna	Assistant Professor	T & P coordinator - MBA
15	Mr.P.J.E.Kiran	Junior Assistants	T & P Assistants
16	Mr.O.Chinna Rao	Junior Assistants	T & P Assistants

The recommendations or the suggestions given by the employers and program coordinator will be taken in to the consideration while designing the Pre-Placement Training Calendar. The Pre-Placement Training from Training and Placement will be circulated among all the program for circulations.

Steps in designing Pre-Placement Training:

1. Acquiring feedback of employers and program coordinators.
2. Cumulative recommendations will be developed for the Principal Approval.
3. Preparation and circulation of Pre-Placement Training Calendar.
4. Instructing the students to finish pre-requisites through web-based learning.

5. Ensuring the conduct of Training programs as per the calendar.
6. Conduct of company specific trainings wherever a specific skill was required from the students through Job descriptions (JD).
7. Ensuring the students to be ready for placements before the campus interviews scheduling.

Implementation of Pre-Placement Training:

Post designing the Pre-Placement Training Calendar, a defined procedure will be implemented for executing the Pre-Placement Training:

1. From II B.Tech onwards two non credit courses were implemented such as:
 - a. Aptitude Training – Referenceglobe LMS (Life Time Access)
 - b. Technical Training (Core & Programming Skills) – Referenceglobe & Hackerrank
2. Before IV B.Tech, undertaking forms will be issued to all the students for their consent towards training.
3. Students reporting those who are not willing will be forwarded to CGC through TPO.
4. Students who accepted the undertaking, training will be processed through the following modules;
 - a. Campus Recruitment Training (Eligibility: above 60% aggregate in academics / special cases recommended by program coordinator through principal if any)
 - i. Product Development Training.
 - ii. Application Oriented Training.
 - b. Company Specific Training (as per the eligibility & JD)
 - c. Profesional Internships (Through Campus hiring / Internshala)
 - d. Specialised Training (If any concerns from Principal/CGC/Program Coordinator)
5. Both the stated trainings will be carried out by the following following organizations as stated where ever they were recommended by Principal and TPO.

Table B.9.5.6: List of MoUs made for Pre-Placement Training Programs

S.No.	MOU with companies	Description	Date of MoU
1.	Techno Soft solutions(TSS), Visakhapatnam	Imparting training courses	09.01.2012
2.	Randstad India Limited, Chennai	Providing Job placements	05.04.2013
3.	COIGNEDU & IT Services(P) Ltd., Hyderabad	Imparting Training courses	03.07.2014
4.	Focus Academy for Career	IBM Specific aptitude cracker programme	02.12.2014

	Enhancement(FACE), Coimbatore		
5.	Focus Academy for Career Enhancement(FACE), Coimbatore	Campus placement Cracker programe	14.02.2015
6.	Focus Academy for Career Enhancement(FACE),	Company Specific aptitude cracker programme	06.08.2015
7.	M/s.GRAFX IT Solutions Pvt. Ltd.,	Skill Development Programe	27.08.2015
8.	Talentio solutions India Pvt. Ltd.,Hyderabad.	Skill Enhancement Programme	17.02.2016
9.	Focus Academy for Career Enhancement(FACE), Coimbatore	Imparts Aptitude and Reasoning	03.05.2016
10.	Confederation of Indian Industry(CII), Visakhapatnam	Influence inspire and motivation of Students	25-07-2017
11.	APSSDC, Vijayawada	To make qualitative improvements in imparting Technical Skills.	25-07-2017
12.	DATAPRO COMPUTERS PVT. LIMITED	Provides software courses training	16-07-2019
13.	NSE(NSEIT Limited), Mumbai	Online Examination Service Provide Centre	28-08-2019

Table B.9.5.7: Effectiveness & Impact of Training through Professional Internships:

S.No.	Hired on	Students Name	Company name	Stipend
1	28-11-2017	Aripaka Vijaya Lavanya Likita	Renaissance VIT Chennai	Performance Based
2	04-12-2017	Avuthu Pratyusha Reddy	Indiabulls	□ 2000 /Month
3	24-11-2017	Kavita	AP Janmabhoomi	Performance Based
4	28-01-2018	Uma Divvela	Easy Nirman	□ 3000 /Month
5	28-12-2017	Uma Divvela	Kalakar	□ 2000 /Month
6	20-12-2017	SWETHA Pitta	Wooplr Technologies Private Limited	Performance Based
7	18-12-2017	Uma Divvela	Unmaad IIM Bangalore	Performance Based
8	11-12-2017	LAKSHMI Lavanya	SimSam	□ 5000-10000 /Month
9	25-11-2017	Kiranmai Challa	AP Janmabhoomi	Performance Based
10	25-11-2017	SANAPATHI LAVANYA	AP Janmabhoomi	Performance Based
11	25-11-2017	Madhushalini Mantha	AP Janmabhoomiive)	Performance Based
12	30-09-2017	Bhavana Ayyankala	Creation Cradle	Performance Based
13	08-09-2017	Lohitha Chatti	LearnIn	□ 5000-10000 /Month
14	27-10-2019	Asi Kavya Reddy	INDIA Redefined	Performance Based
15	06-03-2019	Mounika Pentakota	Versada Technologies Private Limited	□ 5000 /Month
16	20-04-2018	Kovvuri Lalitha	Youth Empowerment Foundation	Performance Based
17	28-03-2018	Likhita Polamarasetti	INDIA Redefined	Performance Based
18	25-03-2018	Kukkadapu Pratyusha	INDIA Redefined	Performance Based
19	24-03-2018	Shushma Sree	GetInHours	□ 50 /500 Products
20	23-02-2018	Srivalli Malla	E-Summit IIT Roorkee	Performance Based

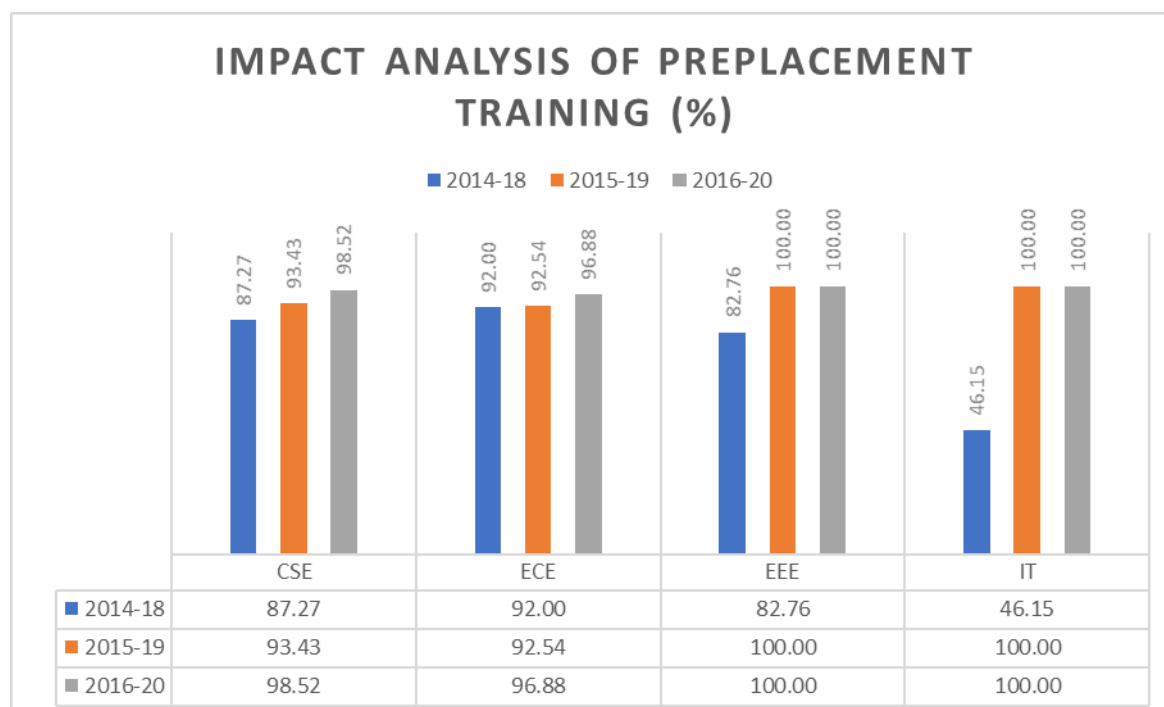
21	08-02-2018	Srivalli Malla	Aparoksha , IIIT Allahabad	Performance Based
22	12-01-2018	Likhita Polamarasetti	WhizJuniors	□ 3000 /Month
23	06-12-2017	Koribilli Sravani	AP Janmabhoomi	Performance Based
24	25-11-2017	Likhita Polamarasetti	AP Janmabhoomi	Performance Based
25	25-11-2017	Dokala Anusha	AP Janmabhoomi	Performance Based
26	25-11-2017	Vysali Pinnamaraju	AP Janmabhoomi	Performance Based
27	25-11-2017	M Ratna Sahithi	AP Janmabhoomi	Performance Based
28	01-08-2017	Srivalli Malla	Digital Web Analytics And Optimization	□ 3000 /Month
29	26-08-2019	Sindhu Mallidi	TECHNOVIT 2019, VIT CHENNAI	Performance Based
30	25-08-2019	V Kavya Kanaka Mahalakshmi	INDIA Redefined	Performance Based
31	25-08-2019	Tummapala Jaya	INDIA Redefined	Performance Based
32	25-08-2019	Parapati Neelaveni	INDIA Redefined	Performance Based
33	24-08-2019	Nemani Subha Sri	TECHNOVIT 2019, VIT CHENNAI	Performance Based
34	24-08-2019	Tummapala Jaya	TECHNOVIT 2019, VIT CHENNAI	Performance Based
35	23-08-2019	V Kavya Kanaka Mahalakshmi	TECHNOVIT 2019, VIT CHENNAI	Performance Based
36	23-08-2019	Parapati Neelaveni	TECHNOVIT 2019, VIT CHENNAI	Performance Based
37	23-08-2019	Mattaparathi Samyuktha	TECHNOVIT 2019, VIT CHENNAI	Performance Based
38	22-08-2019	Vineetha Lankada	INDIA Redefined	Performance Based
39	04-07-2019	Mattaparathi Samyuktha	LUDIFU	□ 20000-30000 /Month
40	22-06-2019	Mattaparathi Samyuktha	INDIA Redefined	Performance Based
41	15-03-2019	Lalitha Gunisetty	IDBI Federal Life Insurance Company Limited	□ 10000-15000 /Month
42	15-03-2019	Deepika Ejji	Toise Tech Products (OPC) Private Limited	□ 9000 /Month
43	15-03-2019	Deepika Ejji	Entreesphere	□ 2500 /Month
44	12-03-2019	Deepika Ejji	Bit Brothers	□ 5000-10000 /Month
45	10-02-2019	Kandregula Bhagyasri	Tryst, IIT Delhi	Performance Based
46	22-01-2019	Nadikoppula Divya	Tryst, IIT Delhi	Performance Based
47	14-01-2019	Nadikoppula Divya	E Cell, FMS Delhi	Performance Based
48	27-11-2018	Nadikoppula Divya	United Nations Volunteer	Performance Based
49	17-11-2018	Nadikoppula Divya	INDIA Redefined	Performance Based
50	26-07-2018	Balireddy Shyne	HappyShappy.com	Performance Based
51	23-07-2018	Nadikoppula Divya	E-Cell, IIT Bombay	Performance Based
52	11-06-2018	Priyanka Bobbadi	Creation Cradle	Performance Based
53	10-04-2018	Priyanka Bobbadi	FeHype	Performance Based

Effectiveness & Impact Analysis Pre-Placement Training:

Effectiveness and impact analysis of our pre-placement training was illustrated in below figure B.9.5.1 which show the continuous improvement in the last three academic year among all the programs. Percentage of students got placed who received Preplacement training was given in detail in the Table B.9.5.8.

Table B.9.5.8: Effectiveness of the Pre-Placement Training:

S No	Batch	Branch	Total Strength	Students Registered	Students Placed	%
2	2014-18	CSE	170	110	96	87.27
		ECE	175	100	92	92.00
		EEE	62	29	24	82.76
		IT	15	13	6	46.15
3	2015-19	CSE	183	137	128	93.43
		ECE	186	67	62	92.54
		EEE	85	33	33	100.00
		IT	47	29	29	100.00
4	2016-20	CSE	186	135	133	98.52
		ECE	195	96	93	96.88
		EEE	118	62	62	100.00
		IT	51	28	28	100.00



9.5.D. Placement Process & Support

Placement Process & Support at Vignan's Institute of Engineering For Women was lead by the Training & Placement Committee as stated in Table 9.5.5. In the beginning of the Placement Academic year, an invitation brochure with the prospects of our institution will be sent to different organizations meeting the standards of our students inviting to test, analyse and recruit our students. Placement support is inclusive of the TPC committee provided with dedicated seminar hall for preplacement talks, board room for panel discussions, 3 interview panels with a provision for another 4 panels with restructuring for TR & HR interviews. Successive procedure of **Placement Process and Support** is as follows:

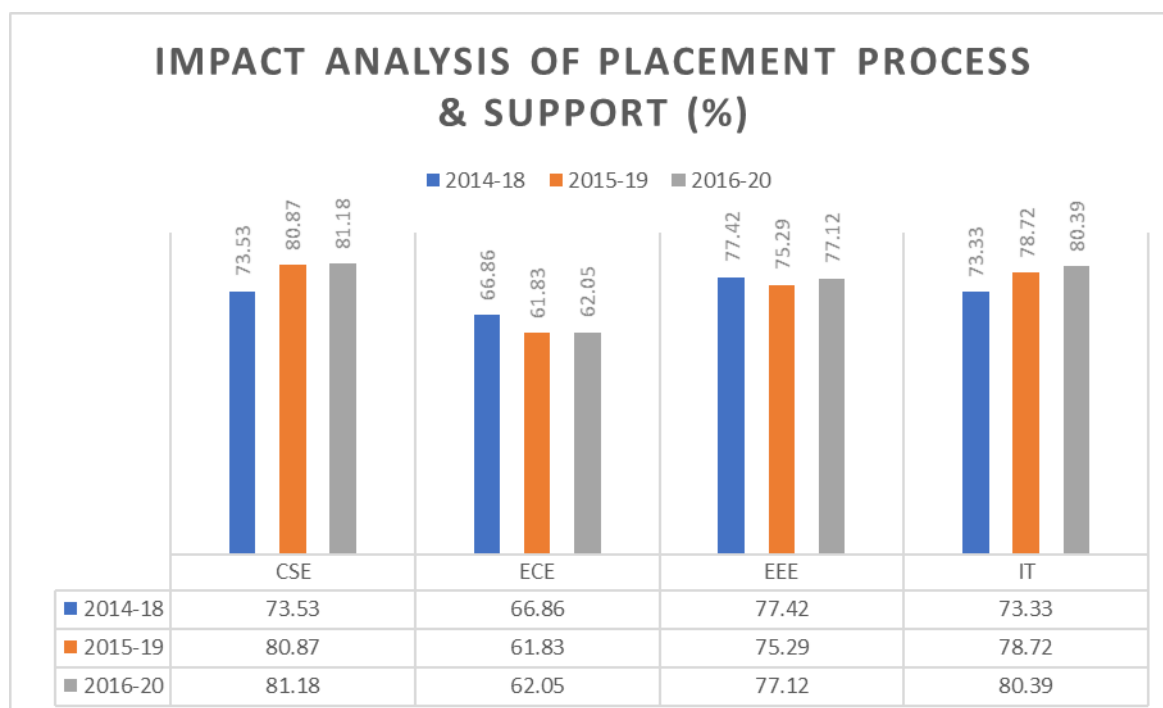
1. Inviting selective organizations/companies through institute prospects brochure.
2. Collecting the Job Descriptions of the organizations/companies to ensure the prerequisites of our students trained.
3. If any deficiencies or extra skills required will be asserted and forwarded to Principal through TPO for further approval of conduct.
4. Ensuring the students undergone preplacement training meet the JD requirements.
5. Upon the campus hiring request received by the company, the same will be concerned the Principal and TP Cell Committee for further approval date of conduct of campus hiring with reference to step 4 & 5.
6. Schedule date/date's will informed to students through TP Cell for preparing themselves in prior for the campus hiring.
7. Ensuring the eligible students have all the documents verified by the respective member of TPC Committee at least 24 hours prior to the hiring process.
8. Conduct of the campus drive with all the amenities at our institution.
9. If the requirement of the company/organization is beyond the number of eligible students at our campus we are inviting in and around campuses students to participate in the campus hiring with social responsibility.
10. Feedback will be taken against the performance of our students for further improvement in the preplacement training process.
11. Post hiring process, the list of selected students will be sent to Program coordinators through principal for further filing of offer letters/confirmation as proof of placement.

Effectiveness & Impact Analysis of Placement Process & Support:

The effectiveness of the Placement Process & Support system designed and adopted at VIEW was very effective over last three academic years and clearly illustrated in the table 9.5.9.

Table B.9.5.9 Effectiveness of Placement Process & Support:

S No	Batch	Branch	Total Strength	Final Placements	% Placed
1	2014-18	CSE	170	125	73.53
		ECE	175	117	66.86
		EEE	62	48	77.42
		IT	15	11	73.33
2	2015-19	CSE	183	148	80.87
		ECE	186	115	61.83
		EEE	85	64	75.29
		IT	47	37	78.72
3	2016-20	CSE	186	151	81.18
		ECE	195	121	62.05
		EEE	118	91	77.12
		IT	51	41	80.39
Overall			1473	1069	72.57

Impact Analysis of Placement Process & Support:

For the batch of 2015-2019 the core streams/programs has slight drop in number of students placed because of the recession in core streams and however for the software streams/programs CSE & IT over the last three academic years there is a continuous improvement in number of students placed.

9.6. Entrepreneurship Cell (5)

(The institution may describe the facility, its management and its effectiveness in encouraging entrepreneurship and incubation) (Success stories for each of the assessment years are to be mentioned)

The Entrepreneurship Development cell in Vignan's Institute of Engineering for Women was established in the year 2012 under the supervision of the Department of Management Studies. The head of the Entrepreneurship Development cell is Dr. S Ramesh, HOD-MBA and a team of dynamic faculty coordinators from various departments together form a strong team in encouraging entrepreneurship. The goal of EDC is to assist the students, faculty and budding entrepreneurs within the college with start-ups or existing business in regards to the management of finances, marketing, product development and commercialization. The students are provided with the latest inputs about the industry, the dynamic changes happening around to make them understand the employability options and opportunities to help them create better opportunities.

The ED Cell functions on the following goals:

- To create an environment for self-employment, promote innovation and Entrepreneurship development through various programs
- To introduce the concept of Entrepreneurship as a part of the curriculum
- To promote employment opportunities
- Intellectual Property Rights/Management
- Help with Presentation Skills and Business Etiquettes
- Comprehensive Business Training Programs

9.6.1 Entrepreneurship Development Cell Committee

Table 9.6.1: Members of the Entrepreneurship Development Cell Committee

S.No	Name	Designation	Position
1.	Dr. J. Sudhakar	Principal	Chairman
2.	Dr. S. Ramesh	HOD-MBA	Head-Secretary
3.	Dr. K. Vijay Kumar	HOD-CSE	Member
4.	Dr. K.Durga Shyam Prasad	HOD-EEE	Member
5.	Mr. Ch.Ramesh	In charge HOD-ECE	Member
6.	Mr. V. Ananda Babu	Associate Professor-ME	Member

9.6.2 Entrepreneurship Initiatives

The initiatives of the ED cell focuses on the development of primarily the students as well as the faculty therefore the programs are conducted as per the interests of the students either higher studies or placement assistance and training or entrepreneurship. The faculty who are interested in entrepreneurship or specialized in marketing are encouraged to attend various Faculty development programs, workshops and seminars in order to develop their skills and fulfill their interests.

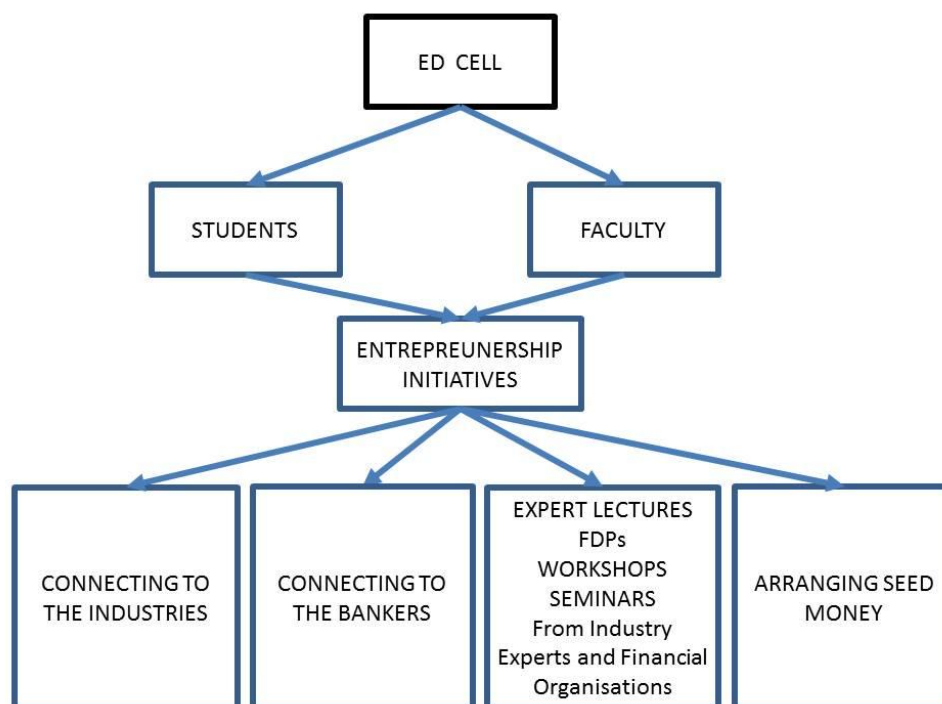


Figure B.9.6.1: ED Cell Structure

Connecting to the Industries

- Industry exposure is provided to the students and faculty on a regular basis
- The students are connected to the industries through interactive programs and career guidance.
- The students are encouraged to visit industries and learn about the advanced technology.
- MOUs with industries permit the students to take up industrial training and get hands on experience.

Connecting to the bankers

- The students are connected to the financial organisations through interactive sessions from experts.

- The information on loan approvals with agency systems support is given and the students are motivated.

Guest lectures from financial institutions

- Guest lectures from banking sectors like SBI, even MSME coordinators have been conducted and delivered lectures on funding.
- The guest lectures are conducted on a frequent basis.
- The lectures guide the students and faculty on how to approach various organisations for financial help.
- The experts guide the students in managing the finances while initiating a new startup idea.

Guest lectures from industry experts

- We regularly and very frequently invite experts from industry to deliver their practical experiences and examples to students
- Each and every department of our college organizes and invite guest lectures from industry on various occasions
- The industrial lectures are a source of information for providing details on the various start up ideas.
- Experts from industries share their experience on the various hurdles that come during a startup and how to overcome them.

Table B.9.6.2: Entrepreneurship Activities during the tenure 2017-2020

S.No	Date	Event	Resource Persons	Members Attended
1	02.08.2018 to 06.08.2018	5-Day Entrepreneurship Development Program in collaboration with Vignan University	Dr. D. Bhattacharya, VIT Mr. G. Nageswaran Director MSME Mr. B Kalyan Vardhan, Senior coordinator MSME Mr. K Satish,CEO 9 Solutions	3 rd and Final Year Students of all Branches
2	26.11.2019	Entrepreneur Development Program in coordination with Software Technology Parks of India	Mr. P. Dubey, Joint Director STPI Mrs M. Lakshmi, CEO ,PATRA Mr. R.L. Narayana, President ITAIP	3 rd and Final Year Students of all Branches

			Mrs. P Neeraja, HR IEMEG	
3	10.02.2020 to 22-02- 2020	Two Week National Level Faculty Development Program sponsored by DST and Organised by National Institute for Small and Medium Enterprises	Dr. P Satish Dr. P.S. Ravindra Mrs. Padmaja Dr. Ch. Govinda Rao	Faculty of all branches

9.6.3 Entrepreneurship Development Cell facilities:

Table B.9.6.3: Facilities for ED Cell

S.No	Description	Number
1	Computers	2
2	Printers	2
3	LCD Projectors	2
4	White Board	1
5	Seminar Hall	1

9.6.4 Effectiveness of Entrepreneurship Development Cell

Entrepreneurship Development Cell has conducted listed events to motivate, guide and develop students to create their own ventures. Such startups and outcomes of ED Cell were listed below in table B.9.6.4.

Table B.9.6.4: List of Entrepreneurs in the tenure 2017-2020

S No.	Name of the Student	Branch	Type of Business	Name of the Company and Place
1.	P.Sravani & K.Mani Harika	EEE	Startup	A prototype on Women Safety using Alarm buzzer system using GPS, Visakhapatnam
2.	Lakshmi Durga	ECE	Dance School	Dance Academy, Visakhapatnam
3	A Alekhya and G Keerthi	IT	Dance Academy	Dance Academy
4	T. Bindu Sai	CSE	Freelancer Business	Bindu Health and Wellness Centre, Visakhapatnam
5	Majji Swetha	EEE	Start-up	Key Chain Hangers with 3D Printer
6	Ponnada Srikavya	EEE	Start-up	Designed Slates with Multi-CNC machine.
7	Pasem Harshitha	CSE	Start-up App	V-Aahar

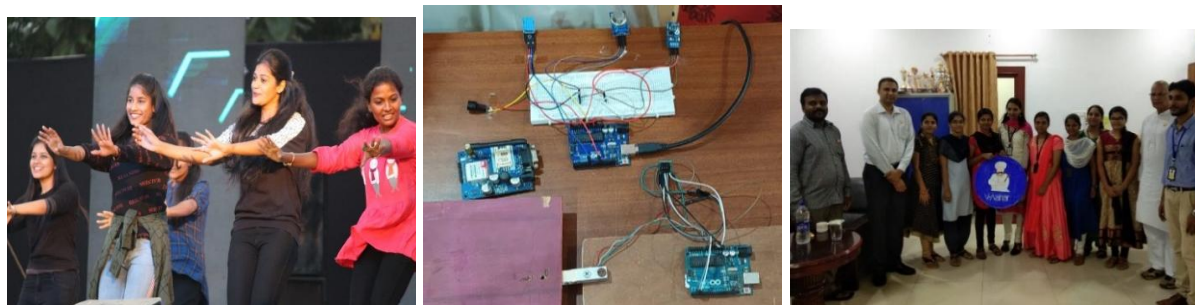


Figure B.9.6.2: Various Entrepreneurs

9.7. Co-curricular and Extra-curricular Activities (10)

(The institution may specify the co-curricular and extra-curricular activities) (Quantify activities such as NCC, NSS, etc.)

9.7. Co-curricular and Extra-curricular Activities (10):

As per our vision, institute constantly believes to produce not only the knowledgeable students but professionals of all round personality by providing various co-curricular and extracurricular activities. We believe that it helps not only getting placements but also helps them to grow their leadership qualities.

Co-curricular activities are attempted alongside with academic studies. Most commonly, outside the normal classrooms co-curricular activities are performed and they augment academic curriculum and lend a hand for learning by doing. These activities help students to enhance their problem-solving, critical thinking, reasoning, creative thinking, communication, and collaborative abilities. Involvement in any co-curricular activities helps students in emotional development, social skill development, and overall personality development.

Students who involve themselves in extra-curricular activities learn how to commit in a specific thing they get involved in. Extracurricular activities are supremely important in a student's life. Students who engage in extracurricular activities meet new individuals and can enlarge their sphere which is also advantageous in finding better career opportunities. Skills like collaboration, time management, activity management, group leading and many more additional abilities can be enhanced. Students who participate in sports and other group activities possess better leadership skills and learn how to grow relations with each other.

- A. Availability of sports and cultural facilities (3)
- B. NCC, NSS and other clubs (3)
- C. Annual student's activities (4)

Procedure for looking of girl health at the time of admission:

It is astonishing to note 70% of the girls are having deficiency of blood in physical body which in turns hampers their learning abilities for which we have taken measures like student was asked to run 1 km at playground and provided ground nuts with jaggary in order to improve the iron percentage in blood thereby it improves strength to the muscle and also asked them to participate in co-curricular activities.

Table B.9.7.a: List of Indoor and Outdoor game facilities available in the Campus.

Sl.NO	Name Of The Sport Facility	QUANTITY	Place of Availability
1	Throw Ball Nets	6	PD ROOM
2	Throw BALLS	10	
3	Volley Ball Net	4	
4	Volley Balls	7	
5	Volley Ball Antenna	1 (Pair)	
6	Ball Badminton Nets	2	
7	Ball Badminton Rockets	7	
8	Shuttle Nets	5	
9	Shuttle Rockets	30	
10	Shuttle Barrels	5	
11	Tenni-Koit Nets	4	
12	Tenni-Koits	7	
13	Carrom Boards	9	
14	Carrom Board Coins	15 (Sets)	
15	Carrom Board Powder	2	
16	Strikers Box	1	
17	Chess Boards	9	
18	Chess Board Coins	10 (Sets)	
19	Cricket Bats	2	
20	Cricket Stumps	2 (Pairs)	
21	Cricket Balls	7	
22	Kho-Kho Poles	2 (Sets)	
23	Shot-Put	3	
24	Discuss	2	
25	Javelin Throw	1	
26	Skipping Ropes	10	
27	Weighing Machine	Old 1 and New 1	
28	Foot Ball	1	
29	Stop Watch	2	
30	Air Pump	1	
31	Measuring Tap	1	
32	Marking Ropes	3	
33	Table Tennis Board	1	
34	Table Tennis Balls	4 Boxes	
35	Table Tennis Net	1	

36	Table Tennis Rockets	4(Pairs)	
37	Ground Roller	1	

AVAILABLE LIST OF COURTS

S.No	List Of The Courts	Quantity
1	Throw Ball	2
2	Volley Ball	2
3	Kho-Kho	1
4	Shuttle	2
5	Tenni-Koit	1
6	Kabaddi	1
7	Cricket Pitch	1
8	200mts Track	1

Table B.9.7.b: List of NCC, NSS and other clubs conducted in the campus

S No	Name of the Event	Date	Students Attended/Participated	Guests	Outcome	Relevance of PO
FOR ACADEMIC YEAR 2019-20						
1	Passport Mela	12 th December, 2019	832	Regional Passport Officer NLP Chowdary	Most of the Engineering students have been issued passports for their further education in abroad.	PO6
2	Donations to AIDS effected child patients	3 rd December, 2019	60	---	Distributed fruits and provisions to the AIDS effected children at AIDS home	PO7
3	Essay writing competition on "Indian Constitution- Current challenges and Future"	26 th November, 2019	80	----	Essay writing competition on the constitution related topic, is held on the occasion of National Constitution day	PO1, PO6
4	Say no to Plastic	30 th September, 2019	65	----	Created awareness in Amrutapuram Village against plastic usage and distributed cloth bags	PO6
5	Awareness Rally on Mahatma Gandhi Quotes on	15 th August, 2019		-----	Created awareness in public on Mahatma Gandhi's preaching's or quotes by a rally at Sheela Nagar	PO8

	Independence Day					
6	Awareness Program on "Cyber Crime"	8 th August, 2019	150	Joint Commissioner of Police Shri K. Prabhakar Garu	Created awareness on cyber crime	PO1, PO2
7	150 th Birth day Celebrations of "Mahatma Gandhi"	31 st July, 2019	30	----	Essay writing competition conducted on "Mahatma Gandhi's Life"	PO7, PO12
8	Poster presentation and essay writing competition and craft exhibition on "Recycling the waste"	19 th July, 2019	50	----	Conducted poster presentation and essay writing competition and crafts exhibition to students	PO12, PO10
9	Awareness program on "Bank loans"	10 th July, 2019	60	ICICI Bank Manager Hemanth Kumar, Kurmannapalem	Created awareness on education loan, gold loan, Visa loan etc.,	PO7
10	International Day of Yoga (IDY)	21 st June, 2019	80	Nagesh Kumar, Yoga trainer, Anakapalle	Demonstrated different yoga postures to the students	PO9
11	Blood donation camp "World blood donor's day"	14 th June, 2019	150	Sanjeevani blood bank, Gajuwaka	More than 150 students donated blood	PO6
12	"World Environment day"	5 th June, 2019	30	---	Planted a tree per head in and out of the campus by students	PO8
13	Sharing of Joy	20 th January, 2019	30	Sister Vandana, Nirmala Sadan, Gnanapuram	Interaction of SPHOORTI orphanage, Gajuwaka, children with the old age home adults of NIRMALA SADAN, Gnanapuram on the new year eve.	PO9
14	Swatch Survekshan	5 th January, 2019	200	President, Junior chamber International, Waltair	To encourage large scale citizen participation, ensure sustainability of initiatives taken towards garbage free and open defecation free cities and create awareness amongst all sections of society about the importance of working together towards making towns and cities a better place to live in.	PO9, PO8
15	Awareness Program on "Personal	14 th March, 2020	160	Hindustan Unilever Manager	Explained students how to be clean and how to maintain the personal	PO7, PO9

	Hygiene”			Mrs. Krishna Kumari	health with proper care and precautions	
16	Stand for the Nation	14 th February, 2020	200	--	Paid a great Tribute to Indian Soldiers died in Pulwama Attack, 2019	PO8, PO9
17	Awareness program on ‘Consumer Rights and Human Rights’	7 th February, 2020	200	Consumer forum Judge Mrs. P. Surya Bhaskaram and State Secretary Human Rights Council members MVS Murthy, M. Syam Prasad	Created Awareness in students on human rights and consumer rights i.e. how to avoid consumer frauds and how to put a case in consumer forum etc.,	PO8, PO10
FOR ACADEMIC YEAR 2018-19						
18	Blood Donation Camp on ‘World Blood donors day’	14 th June, 2018	121	JCI President Dr. J Siva Satyanarayanan	Created awareness on blood donation and collected 121 units of blood from the staff and students	PO7, PO8, PO9
19	Plantation on ‘World Environmental day’	5 th June, 2018	84	Social activist Mr.	Awareness on environmental issues and pledged against plastic usage	PO7
20	Social enterprise “R3 Project”	4 th April, 2018	124	Akshya Patra Foundation Secretary D. Jitaamitra Dasa	Awareness on Reduce, Reuse and Recycle of old books and papers into new books	PO9
21	LLR (Learners License Registration) Mela	15 th February, 2018	250	Senior Motor Vehicle Inspector Mr. Butchi Raju	Issued temporary driving license	PO9
FOR ACADEMIC YEAR 2017-18						
22	Inspirational talk	28 th October, 2017	164	Dr. Yandamuri Veerendranath	Living a Healthy and Balanced Life : Beat Stress	PO8
23	Vigilance Awareness Week & speech on “Role of youth in building healthy society”	16 th October, 2017	148	vigilance officers of Rashtriya Ispat Nigam Ltd., (RINL) Mr. Rajesh Kumar, Mrs. Dainy Cheriyan	Elocution competition on “My Vision- Corruption Free India”	PO8, PO10
24	Eco Ganesha	24 th August, 2017	251	Vaisakhi Team	Importance of using Eco friendly Ganesha Idols	PO9
25	Potential	12 th	155	Lovyo Foods	Golden future with	PO9,

	Ways to Golden future by CII, YI organizations	August, 2017		Chairman Lakshmanan Krishnamurthy		
26	Registrations in Electoral Roll	6 th July, 2017	210	-----	Voters registration and its importance	PO9
27	Health camp for faculty	1 st July, 2017	140	OMNI RK Hospitals, Visakhapatnam	General Health Checkups and tips to healthy lifestyle	PO9
28	General Medical Checkup	1 st July, 2017	180	OMNI RK Hospitals Gynecologist Ms. M.N. Pallavi	A talk on “What a woman should know”	PO9
29	International Yoga Day Celebrations	21 st June, 2017	120	Patanjali Yoga Centre trainer B. Devi	Various forms of Yogasanas and their Significance	PO9
30	Motivational Seminar	14 th March, 2017	289	Dr. Yandamuri Veerendranath	Interaction with the students and motivation towards general awareness	PO8, PO9
31	Awareness Program on ‘Mahila Rakshana Chattalu’	21 st February, 2017	167	Chief Guest Senior Civil Judge Naga Sundar, Visakhapatnam	Created awareness by explaining the proper acts on violence on women	PO9, PO10
32	Guest Lecture	17 th February, 2017	193	Programmin g Director, Sameer Electronics, B. Subba Rao, Visakhapatnam	Development of leadership qualities from student level	PO8
33	Awareness Program on Road Safety Measures	23 th January, 2017	258	Regional Transport Officer I. Siva Prasad, Visakhapatnam	Addressed all the students and advised to follow the safety measures while driving	PO9
34	Motivational Speech	24 th March, 2017	175	VSEZ Development Officer, Sobhana KS Rao, Visakhapatnam	Potential development with communication skills	PO9

Co-curricular Activities:

Under co-curricular activities -Engineers day, Mathematics day, Education day, and Teachers day, professional society activities under SAE, ISTE and annual day. Along with the above-mentioned events, various co-curricular activities like debate and

discussion, Quiz, paper presentations, seminars and group discussion sessions, Industrial visits, workshops, Co-Curricular Club Activities, Project Expo, Online Courses (MOOCs) are conducted.

- Each and every department has organized seminars, workshops, technical events such as Tech Fest to enhance communication skills in students.
- All departments conducted guest lecturers to gain more knowledge on the subject.
- Every year institutional level fests are conducted to enhance technical and nontechnical skills of the students. Here they conduct PPTs, poster presentations, quizzes, seminars, sports (indoor and outdoor games), etc.

Table B.9.7: Glimpse of events organized in view for the 2017-18,2018-19, 2019-20.

FOR ACEDEMIC YEAR 2019-20		
S No	NAME OF THE EVENT	DATE
1	Workshop on skill first job follows by Mr.suresh Kumar mobility solution architect and head consultant -Wipro	29-01-2019
2	College level throw ball tournament	09-02-2019
3	A seminar on best practices in research by Dr. ajith kumar panda	15-02-2019
4	Awareness program on ambedkar overseas vidyanidhi and NTR videshi vidya	14-02-2019
5	Yuvatarang 2k19	16&17 -02-2019
6	National science day celebrations competitions	28-02-2019
7	Workshop on hour to avail passport	1-03-2019
8	International women's day –ceo ,head operations-hotel p l grand Visakhapatnam, assistant professor-gitam college, one lady doctor	08-03-2019
9	Awareness program on cyber crime assistant commissioner of police crime k.prabhakar babu zone-2 vskp	08-03-2019
10	Unnath bharath abhiyan rural development scheme	
11	Awareness sessions on postal life insurance	13-03-2019
12	Alumni-2k19	22-06-2019
13	World blood donation camp	14-06-2019
14	International yoga day	21-06-2019
15	Essay writing competition on the occasion of 125th anniversary of swami Vivekananda Chicago addressed	4-07-2019
16	Awareness program on environmental protection with IRDA integrated rural development authority	18-07-2019
17	IRDA integrated rural development authority-poster presentation	18-07-2019
18	Seminar environment sustainability	18-07-2019
19	Interactive session of faculty with ap medtech zone	2-08-2019
20	National sports day	29-08-2019
21	Engineers day	15-09-2019
22	Seminar on “positive thinking “by sri.b.k.mohan singal	7-09-2019
23	Essay writing competition on the occasion of 150th birth anniversary of mahatma Gandhi	2-10-2019

24	Workshop on “women entrepreneurship-IT as enabler-Digital India”	25-11-2019
25		
26	Placement success meet	7-12-2019
27	Yuvatarang 2k20	11&12-01-2020
28	Awareness program on “human rights in association with human right council”	07-02-2020
29	Google Hash Code 2020-Techkruthi club	20-02-2020
30	Awareness program on Tier-2 NBA Accreditation by Dr.Shik Rafi Ahemand	03-03-2020
31	Technical fest-2k20(Techritz)	6-03-2020 7-03-2020
FOR ACEDEMIC YEAR 2018-2019		
1	Graduation Day	01-06-2018
2	Yuvatarang 2k18	06-06-2018 07-06-2018
3	Alumni Meet	01-07-2018
4	Throw ball tournament(Srividya)	
5	Learners licence by Ap Transport Department	02-12-2018
6	National Science Day Celebrations	28-02-2018
7	Open house Exhibition display	
8	Essay Writing on has technology made the world smaller or bigger	
9	Institute of Engineers, India college level committee	
10	APSSDC-MSDQE,GOI-National skill Competition	28-02-2018
11	R3 Project reduce recycle and reuse(by Akshayaptra)	28-02-2018
12	International Women’s day guest lecture on “gynic issue among women’s” by Dr.Geetha vandhana	03-07-2018
13	Electron Zonal level Competition	03-8-2018
14	International women’s day celebration	03-10-2018
15	Formation of Cm’s skill excellence center	28-03-2018
16	Workshop on cyber security systems by Apita	13-04-2018
17	APSSDC FDP	05-07-2018
18	World Blood Donation day By ICI	14-06-2018
19	Learner license mela	30-07-2018
20	English language Club launch	07-04-2018
21	Seminar On outcome Based education	17-07-2018
22	Engineers day celebrations	15-09-2018
23	IUCEE Cluster	
24	FDP on NBA Accreditation procedure,NITTR	12-11-2018 To 16-11-2018
25	Vizag Navy marathon	18-11-2018
26	Conference on transforming education conference for Humanity	15-11-2018 to 17-11-2018
27	Vignan picnic	02-12-2018
28	APSSDC Awareness on game development for 12 days	12-12-2018
FOR ACEDEMIC YEAR 2017-2018		
1	Yuvtarang 2K17	07-01-2017 08-01-2017
2	Positive thinking-Pathway to success ASDKPAL.COM	24-01-2017
3	Interactive sessions on Tax Benefits of Demat Account	25-01-2017
4	Dr.J.Sudhakar Major project	01-03-2017

5	Motivational Seminar by Sri Venugopal, Visakhapatnam Awardee	07-03-2017
6	International Womens day-SAC, VIEW	08-03-2017
7	Earth Hour-SAC, VIEW	24-03-2017
8	International Yoga Day	21-06-2017
9	Free Health Camp	29-06-2017
10	Speacial Drive For Electoral poll for the first time voter	05-07-2017
11	Seminar On preparedness for NAAC	08-07-2017
12	Seminar on “manifest your dreams” by MS.Manedna mishra, senior system engineer, Infosys limited	16-08-2017
13	National sports day	29-08-2017
14	Seminar On “Every end has new beginning”- A Light by MS.Madhuri Sunkara, JBM	26-08-2017
15	Workshop on “Transformative Youth and Engineering Education Towards a Sustainable Future.	30-08-2017 to 01-09-2017
16	VISTA-2K17	14-09-2017
17	Elecution Competition on “My Vision-Corruption free India”	17-10-2017
18	A Master class acts as platform to have best motivation for all budding engineers	28-10-2017
19	Seminar on “NAAC-SRR-A case study” by KCB Rao	10-11-2017
20	FDP on “One week on Industrial Design and Deliver System” in Association with national Institute Of Technical teachers training and research, Chennai	13-11-2017 to 18-11-2017
21	Workshop on “Employability skills” by Keerthi Sagar Naik, HR-DXE Technologies	24-11-2017
22	Students Interactive Sessions with HR-InfoTech Association	25-11-2017
23	An Awareness Program on legal rights of women	27-11-2017
24	Round table faculty interaction program for future scope	23-12-2017

Table 9.7.C: Details of the co-curricular activities

WORKSHOPS FOR ACADEMIC YEAR 2019-20					
S No	NAME OF THE WORKSHOP	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1	MSTP workshop	20-08-19 to 28-02-20	60	By APSSDC	CSE
2	Android Biotics & Android Based Robotics.	24-12-19 & 25-12-2019	98	Mr. Deepak Mourya, Mr. Jayesh Sharma	
3	Cyber security and ethical hacking	21-06-19 to 15-06-19	2	GITAM	
4	Workshop on Machine learning using python	13-05-19 to 07-06-19	1	JNTU HYDERABAD	
5	Web Development using python	19-08-2019 to 26-08-2019	1	VIIT	
6	Workshop on ethical hacking and cyber Security.	07-02-2019 to 08-02-2019	1	ANITS, VISAKHAPATNAM	
7	international	06-12-2019	1	VIIT	

	workshop on AI and soft computing	TO 08-12-2019			
8	Techno philia Solutions under Microsoft Associate on IOT	02-03-2019 and 03-03-2019	1	IIT Hyderabad.	
9	Web development by Engineers hub	20-12-2019 and 21-12-2019	1	Andhra University, Vizag	
10	Mobile Application development by Engineers hub at Andhra University.	22-12-2019 and 23-12-2019	1	Andhra university, Vizag.	
11	INTERNET OF THINGS	20-07-2019 to 21-07-2019	1	Indian Institute of Technology(IIT), Hyderabad	
12	Internet of things	02-03-2019 to 03-03-2019	1	Indian Institute of Technology(IIT), Hyderabad	
13	Ethical Hacking and Cyber Security	07-02-2019 to 08-02-2019	1	ANITS	
14	MOBILE APPLICATION DEVELOPMENT WITH ANDROID	11-12-2019 to 12-12-2019	1	VIZAG	
15	CYBER SECURITY AND ETHICAL HACKING.	28-09-2019 to 29-09-2019	1	GITAM	
16	INTERNET OF THINGS	20-07-2019 to 21-07-2019	1	IIT HYD	
17	Block Chain Technology	04-01-2019 to 07-01-2019	1	GMRIT University	
18	Artificial Intelligence and Soft Computing	06-12-2018 to 07-12-2018	1	VIIT	
19	ETHICAL HACKING By Techobyte.	05-01-2019 to 06-01-2019	1	IIT Hyderabad	
20	Cloud Computing	25-08-2019 to 26-08-2019	1	BITS	
21	ETHICAL HACKING By Techobyte.	05-01-2019 to 06-01-2019	2	IIT Hyderabad	
22	Workshop On Developing Server less Applications	19-01-2019	2	SYMBIOSIS TECHNOLOGIES RUSHIKONDA	
23	DATA SCIENCE WORKSHOP	25-02-2019 TO 26-02-2019	2	JNTU VIZIANAGARAM	CSE
24	4G/5G LYTE	15-02-2019 TO 16-02-2019	1	VIIT	
25	Udacity, Nano Degree Program for Android Developer	18-01-2019 to 22-01-2019	7	Udacity	

26	Web Technologies Using Python	19-08-19 to 28-08-19	198	Mr.M.Prasanna Raju &Mr.M.V.Gopi	
27	Cyber security and Ethical hacking	09-09-2019 to 10-09-2019	100	Mr. Manish Yadav	
28	Database Design And Programming With Sql (FDP)	21-10-2019 to 25-10-2019	35	Mr.V.T. LingeswaraRao	
29	Problem Solving Skills using C	03.09.2019 – 07.09.2019	54	APSSDC	IT
30	Game Development using Blue box	17.03.2020 – 19.03.2020	54	APSSDC	IT
31	Problem Solving using Python	18.03.2020 – 20.03.2020	54	APSSDC	IT
32	Machine Learning	27.05.2020 – 29.05.2020	99	Brain-o-Vision	
33	Mobile App. Development	12.08.2019	07	Student Solution Body	IT
34	Raspberry Pi	25.08.2019	02	HMI Services	
35	Starts for Entrepreneurs	4/4/2019	100	Smt.Sai Lakshmi	MBA
36	Women Empowerment IT as enabler: Digital India	26/11/19	250	Mr.M.P.Dubey Mr.R.L.Narayana Smt.Lakshmi Dr.K.Suseela	MBA
37.	Grid Connected Power system and its Applications	28.8.2019	100	Mr.Ajay R, NTPC	EEE
38.	Soft Computing Techniques	17-12-2019	80	Dr.Salma U	EEE
WORKSHOPS FOR ACADEMIC YEAR 2018-19					
SL.NO	NAME OF THE WORKSHOP	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1	Google Android Fundamentals Phase - 2	21-09-2018 to 23-09-2018	74	Ms.Hema Mr.G.Srikanth	
2	Android Development Certification (APSSDC+UDEMY)	08-05-2018 to 14-05-2018	21	Ms.Hema Mr.G.Srikanth	
3	Android Development Certification (APSSDC+UDEMY)	11-08-2018 to 16-08-2018	69	Ms.Hema Mr.G.Srikanth	CSE
4	IOT Certification (coursera + APSSDC)	08-05-2018 to 14-05-2018	10	Ms.Hema Mr.G.Srikanth	
5	Gamification With AR & VR – Build box	26-12-2018 daily 2 hours 2 weeks	23	Ms.Hema Mr.G.Srikanth	

6	SCALE	26-07-2018 to 28-07-2018	47	Shreya adabala,sanketDhadke,rafae shaik, Hashmitha Rani	CSE
7	Workshop on Web Development using React Native	20-12-2018 to 23-12-2018	1	Andhra University Platinum Jubilee Guest House	
8	Workshop on CII Partnership SUMMIT 2018	24-02-2018 to 26-01-2018	1	APIIC Ground, Harbor Park, Visakhapatnam	
9	Workshop on Cyber Security & Malware Analysis	17-09-2018 to 18-09-2018	1	Coastal Institute of Technology & Management	
10	Workshop on 4G/5G Workshop	14-09-2018 to 5-09-2018	2	Vignan's Institute of Information Technology	
11	Workshop on Mobile Application Development	22-12-2018 to 23-12-2018	5	Andhra University (Platinum Jubilee House Seminar Hall)	
12	Workshop on Web Application Development	20-12-2018 to 21-12-2018	3	Andhra University (Platinum Jubilee House Seminar Hall)	
13	Robotics Workshop	21-02-2018 to 22-02-2018	1	VIIT	
14	Workshop on Block chain	02-01-2018 to 04-01-2018	1	Rajam	
15	Cloud computing with Amazon web services.	13-08-2018 to 14-08-2018	2	Baba institute of technology and sciences	
16	IOT	15-11-2018 to 16-11-2018	1	Mumbai	
17	Cloud computing	08-12-2018	1	VIIT	
18	Workshop On Artificial Intelligence	17-02-2018 TO 18-02-2018	1	CISCO NETWORKING ACADEMY	
19	Web Application Development Workshop	20-12-2018 to 21-12-2018	13	AU	

20	Mobile Application Development Workshop	22-12-2018 to 23-12-2018	22	AU	CSE
21	4G/5G Workshop Workshop	14-09-2018 to 15-09-2018	16	VIIT	
22	. Robotics Workshop	21-02-2018 to 22-02-2018	1	VIIT	
23	Artificial intelligence and soft computing Workshop	6-12-2018 to 8-12-2018	5	VIIT	
24	“Women In Leadership”	3/11/18	150	Ms.Azizthayaba Ms.Ektha Singh Ms.Indu Madhavi	MBA
25.	IoT based power system components protection	28.8.2018	120	Prof. AndrzejRucinski University of New Hampshire, USA, Mr. Naresh Kumar Oruganti, Founder & CEO of Symbiosis Technologies & Mr. M P Dubey, Joint	EEE
26.	Basic of Distribute transmission system	28-12-2018	135	Sri.S.Sanjay, Deputy Executive Engineer ,AP Transco	EEE
27.	Ethical hacking workshop	01-01-2018	3	IIT MADRAS	ECE
28	IOT WORKSHOP	25-01-2018	1	AICTE	ECE
WORKSHOPS FOR ACADEMIC YEAR 2017-18					
SL.N O	NAME OF THE WORKSHOP	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTME NT
1.	Google Android Fundamentals Phase - 1	07-12-2017 to 09-12-2017	75	Ms.Hema Mr.G.Srikanth	CSE
2.	BOOTSTRAP	21-07-2017 to 23-07-2017	56	Brain – O – Vision, Hyderabad	
3.	AP Cloud Mean Stack And Cloud Developer	27-11-2017 to 29-112017	58	AP Cloud Team, Miracle Software Solutions, Visakhapatnam	

4.	Deep Learning Using Python(FDP)	13.11.2017 to 19.11.2017		Mr. V. SrinadhRao	
5.	IOT WORKSHOP	14-09-2017 to 15-09-2017	1	Vignan's Institute Of Information Technology	
6.	“Recent Trends On Financial Management”	5/12/17	60	Mr.Ankit Jain M.Katyayani S.Lalitha	MBA

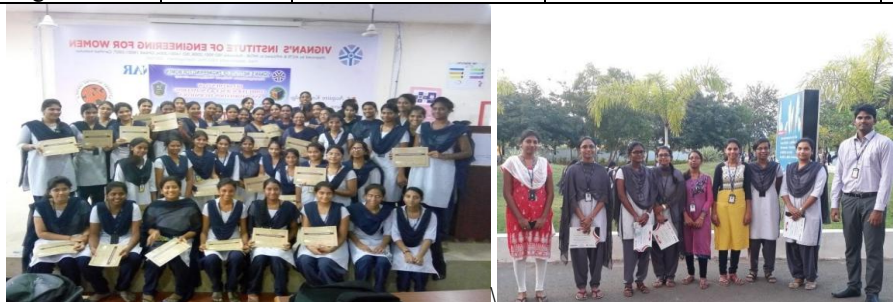


Figure: HERE PRESENTED APCLCLOUD WORKSHOP PICTURES



FIG: HERE PRESENTED BOOTCAMP WORKSHOP PICTURES



Fig: Here Presented Android Workshop Pictures



Women In Leadership



Entrepreneurship Awareness Program



Women Empowerment IT as enabler: Digital India

7.	Multi Level Inverter and its applications	28.8.2017	110	The Institution of Engineers (INDIA) [IEI]
8.	Latest Developments and limitations of Indian Transmission Systems	28-12-2017	130	Sri.S.Narayan a Murthy, Superintendent Engineer, AP Transco
9.	PCB design workshop	30/06/2017 & 01/07/2017	10	Que engineering services
10.	Workshop on embedded	14-17 sep 2017	30	Vignan Vizag

	systems and IOT			
11.	embedded systems workshop	11-13 dec 2017	23	APSSDC

SEMINAR ORGANISED FOR ACADEMIC YEAR 2019-20					
S No	NAME OF THE SEMINAR	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1	Cyber Security(Seminar)	10-01-2019	70	By Mr.S.ChandraMouli at VIEW	CSE
2	Machine learning with R programming	10-01-2019	70	By Dr.A.Krishna Mohan at VIEW	
3	Recent Trends in Emerging Technologies	10-01-2019	60	By Dr.Ch.Jaya Suma at VIEW	
4	Seminar on Flutter Interact	23-12-2019		MIRACLE SOFTWARE SOLUTIONS	
5	Women empowerment by Nannapaneni raja kumari	10-08-2019	22	VIIT	
6	Motivational Talk	17.07.2019	51	Deccan Chronicle	IT
7.	Awareness Program on Cyber Security	07.08.2019	54	Andhra Pradesh Police Dept.	IT
8.	Abroad Studies	17.09.2019	15	NC at Fortune Inn	
9.	Motivational Speech	04.01.2020			
10.	Listen to Life	13.06.2019	02	JCI, Waltair	
11.	AISEC	21.06.2019	15	AISEC	
12	Financial Management initiatives in Financial Institutes	29/1/2020	60	K. Sambha Murthy	MBA



Financial Management initiatives in Financial Institutes

13.	Introduction to Smart Grid	18.12.2020	80	Sri.Manoj Kumar, Dy.General Manager, RINL-Visakhapatnam Steel Plant	EEE-
14.	Stem robots for Industrial education and Industrial robots for manufacturing automation	22-9-2019	100	Sudhir Reddy, Director, Jay Robotix Hyderabad, SudhirSanna, Professor and CEO Robotics and Automation	EEE

SEMINAR ORGANISED FOR ACADEMIC YEAR 2018-2019

S No	NAME OF THE SEMINAR	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1	Women empowerment by Nannapaneni raja kumari	10-08-2019	22	VIIT	CSE
2	Seminar on Artificial Intelligence and Soft Computing	06-12-2018	1	VIIT	CSE
3.	Cloud computing	08-12-2018	1	VIIT	CSE
4.	Women Empowerment Seminar	10-03-2018	3	VIIT	CSE
5.	Digital Transformation	22-9-2018	120	Mr.M.ChandraSekhar, Program Manager, TCS, Hyderabad	EEE
6.	“Skills First Jobs Follow”	28-12-2018 & 29-12-2018		Mr. Suresh Kumar Tankala, Mobility Solution Architect & Lead Consultant, Wipro	EEE
7.	Introduction of	29.12.2019	135	Sri.B.Durga Prasad,	EEE

	Power Systems			Associate Professor	
8.	Introduction of Power Systems	29.12.2019	135	Dr. Visakha	EEE
9.	Awareness On Women Health Care	8/3/2018	250	Dr.Getha Vandana MD	MBA



Fig. Awareness On Women Health Care

SEMINARS FOR ACADEMIC YEAR 2017-18

SL.NO	NAME OF THE SEMINAR	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1.	Seminar on CORE JAVA	27-09-2017	1	BDPS COACHING CENTER AT GAJUWAKA	CSE
2.	FACTS	30-8-2017	110	The Institution of Engineers (INDIA) [IEI]	EEE
3.	HVDC Transmission	22.02.2018	130	Dr.G.Saraswathi,Principal, University College of Engineering, JNTUK, Vizianagaram,	EEE
4.	Introduction of Robokart	22.02.2018		Dr.O.RamaMohanaRao, Chairman, IEI Vizag Local Center, Visakhapatnam	EEE

GUEST LECTURES FOR ACADEMIC YEAR 2019-20

S No	NAME OF THE WORKSHOP	DATE OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1.	Securities and Derivative Markets	17/8/19	150	P.Surya Teja BDO Karvy Pvt Ltd	MBA



Securities and Derivative Markets

2.	Control techniques for efficient D.C power management	21.9.2019	100	Prof. AmitPatro, IIT Kharagpur	EEE
3.	Introduction to Power Electronics	18-12-2020	80	Prof.SastryV. Vedula	EEE

GUEST LECTURES FOR ACADEMIC YEAR 2018-19

SL.NO	NAME OF THE WORKSHOP	DATE OF EVENT	NO OF PARTICIPANTS	RESOURCE PERSON OF THE EVENT	DEPARTMENT
1.	Electrical circuits & applications with Mat lab	21.9.2018	120	Dr.Sukumar Mishra, Professor from IIT Delhi	EEE
2.	Power generation Systems	29-12-2019	135	Sri.Rama Krishna Chebrolu, Additional General Manager, Hinduja Corporation Pvt Ltd	EEE

GUEST LECTURES FOR ACADEMIC YEAR 2017-18

SL.NO	NAME OF THE GUEST LECTURE	DATE OF EVENT	NO OF PARTICIPANTS	RESOURCE PERSON OF THE EVENT	DEPARTMENT
1	Importance of IoT in Marine Engineering(Guest Lecture)	11-01-2019	120	By Mr.SK.Dubey	CSE
2	Block Chain Technology and its Applications(Guest	26-12-2019.	105	By Mr. T. Siva Rama Krishna	CSE

	Lecture)				
3	Bridging The Gap Between The Students And Academia	26-12-2019.	87	By Mr. T. Suresh	CSE
4	Environmental Sustainability((Guest Lecture)	18-07-19	80	By Dr.D.Raja Kishore	CSE
5	Cyber security(Guest Lecture)	22-08-19	100	Mr.Manish Yadav	CSE
6	WAILS-2K17	25/8/2017	200	Smt.Madhuri	MBA
7	National Level Management Meet-PAGEANTRY-2K17	23/3/17	500	Smt.Shobha K S Rao IFS	MBA
8.	High voltage power system operation and instrument	29.8.2017	110	Sri.Manoj Kumar, Dy.General Manager, RINL-Visakhapatnam Steel Plant	EEE
9	Circuit Breakers & Relays	21-02-2018	130	Prof.I.Satyanarayana, Ex-Chairman, IEI Vizag Local Center, Visakhapatnam	EEE

OTHER EVENTS FOR ACADEMIC YEAR 2019-20

S No	NAME OF THE EVENT	DATE(S)OF EVENT	NO OF PARTICIPANTS	HOST OF THE EVENT	DEPARTMENT
1.	Burst the bug(Competition)	14-09-2019 to 15-09-2019	1	VIIT	CSE
2	ACM HACATHON	07-01-2019 to 09-01-2019	2	VIIT	
3	Paper Presentation in VISTA Tech Fest	2019	1	VIIT	
4	CODE BATTLE	21-09-2019	1	VIIT	
5	HACK AI on HEALTH by Medivally,world incubation hub	23-12-2019	1	AMTZ campus,AP,INDIA	
6	Think and Run	14-09-2019 to 15-09-2019	1	VIIT	
7	DECODER	14-09-2019 to	1	VIIT	

		15-09-2019			
INTERNSHIPS DURING ACADEMIC YEAR 2019-20					
SL.NO	NAME OF THE STUDENT	NAME OF THE EVENT	DATE OF THE EVENT	RESOURCE OF THE EVENT	DEPARTMENT
1.	KALAGA SAHITYA	Campus Ambassador	28-07-2019 to Present	Techfest IIT Bombay	CSE
2.		Campus Ambassador	04-08-2019 to Present	Abhuday IIT Bombay	CSE
3.		Campus Ambassador	29-10-2019 to Present	BITS PILANI Goa	CSE
4.	KALAGA SAHITYA	Campus Ambassador	03-01/2019 to Present	Coding Ninjas	CSE
		Web development	10-12-2019 to Present	Kalakar	CSE
5	KALEPU SREEJA	Artificial intelligence	15-07-2019 to 30-08-2019	HMI robo coupler engineering services	CSE
6	KAMMILI TANUJA	Artificial Intelligence	10-05-2019 to 10-06-2019	HMI robo coupler engineering services	CSE
7	KARAKA JYOSHNA	App Development	20-05-2019 to 20-06-2019	HMI robo coupler engineering services	CSE
8	KOLA LAVANYA	Web Application Development.	17-05-2019 to 06-06-2019	Atom Software Solutions	CSE
9.	KOVELA HEMA SRI	Artificial Intelligence	10-05-2019 to 12-06-2019	HMI Robo Coupler and Engineering services	CSE
10	KUNDRAPU DIVYA	Android development	15-05-2019 to 15-06-2019	Robot coupler and HMI	
11	LANKA SRUTHI	Campus Ambassador			
12	Vurukuti.Mounica	Cyber security and ethical hacking	08-05-2019 to 02-06-2019	Tocmoc solutions	
13	VELAGA.DEVI LAKSHMI RAJESWARI	Cyber security and ethical hacking	One month- 25-05-2019 to 25-06- 2019	Tocmoc solutions	
14	SAPPA SANDHYARANI	Mobile Application Development React native (Android IOS)	10-06-2019 to 10-07-2019	Engineers Hub	

15	SANAPATHI SRAVANI	Python	10-05-2019 to 10-06-2019	Engineering Gaints Robocoupler techno	
16	SAI RAKSHITHA PULAGALA	1.Artificial intelligence 2. Robotics and automation	1.13-05-2019 to 31-05-2019 2. 12-12-2019 to19-12-2019	1.smart bridge collaborated with IBM 2. Elite techno gropus	
17	RAMADALAI KEERTHI	Cyber Security And Ethical Hacking	20 days – 25- 05-2019 to 15- 06-2019	TOCMOC SOLUTIONS	
18	PUSAPATI REVATHI	IOT	15-11-2019 to 22-11-2019	Appleton Innovations	
19	PETAKAMSE TTY SRI JYOTHI MEGHANA	Artificial Intelligence With Python & IBM Watson	13-05-2019 to 31-05-2019	Smart Bridge in Collaboration With IBM	
20	PENTAKOTA VENKATA SATYA LIKHITHA	Power Utility - New Service Connection Module	15-05-2019 to 12-06-2019	FLUENTGRID LIMITED (Formerly Phoenix IT Solutions Ltd.)	
21	PAMULA GAYATHRI	Artificial intelligence by hmi Services	15-05-2019 to 31-05-2019	HMI services 37 17NM1A05C2 PARICHARL A LAHARI 15-05-2019 to 12-06-2019 Power Utility	
22	PALEM SUSHMA	WEB DEVELOPMENT	01-06-2019 to 13-07-2019	INTERNSHALA	
23	NUPUR DAS	1.Campu s Ambassodor2.Web development	1.07-07-2019 to 07-12-2019 2.10-12-2019 to PRESENT	1. IIT BOMBAY 2. KALAKAR	
24	NUKALA SRUTHII	1. E- cell lucknow2. Intellect Browser's consortium3.indian road safety campaign	1.04-01-2020 to 04-03-2020 2.10-01-2020 to 10-03-2020 3.18-09-2019 to 18-02-2020	1.IIM Lucknow 2.NIT 3.IRSC- Indian road safety campaign	
25	MOJJADA UMA MAHESWARI	Data Science using Python	15-05-2019 to 30-06-2019	HMI Engineering Services Robo Coupler Solutions	
26.	G. Uma	Internship	19.08.2019	MAQ,HYDERABAD	
27	WAILS-2K19	12/12/2019	200	Ms.Neeraja Hari	MBA
28	National Level Management Meet-	4/4/2019	500	Sri.KVT Ramesh	MBA

PAGEANTRY-2K19



National Level Management Meet-PAGEANTRY-2K19

OTHER EVENTS ORGANISED FOR ACADEMIC YEAR 2018-19

SL.NO	NAME OF THE EVENT	DATE OF EVENT	NO OF PARTICIPANTS	Resource Person OF THE EVENT	DEPARTMENT
1	CODE BATTLE	07-12-2018	4	VIIT	CSE
2	CODE WREK	14-09-2018	4	VIIT	
3	Think and Run	15-09-2018	4	VIIT	
4	HOUR OF CODE, CODE BATTLE, HACKARENA	2.14-09-2018 TO 15-09-2018 3. 06-12-2018 TO 08-12-2018			
5	BURST THE BUG	14-09-2018	37	VIIT	
6	CODE AVENGERS	14-09-2018	8	VIIT	
7	WAILS-2K18	14/3/2018	150	M.Gopi	MBA

OTHER EVENTS FOR ACADEMIC YEAR 2017-18

SL.NO	NAME OF THE EVENT	DATE OF EVENT	NO OF PARTICIPANTS	RESOURCE PERSON OF THE EVENT	DEPARTMENT
1	Paper Presentation	14-09-2017 to 15-09-2017	1	Visakhapatnam	CSE
2	Internship on C#.NET	01-05-2017 to 28-05-2017	1	Sims E-Tech	
3.	Internship on Web designing	29-05-2017 to 29-07-2017	1	Silicon info systems	
5	PAPER PRESENTATION	09-142017	1	VIIT	
6.	Code Wrek	14-09-2017 to 15-09-2017	3	VIIT	
7.	Quiz	14-09-2017	7	VIIT	

(COMPETITION0

I) Extra-Curricular activities:

Sports, volunteer work, summer activities, club and organization, annual days, fresher's, associations, technical fests, cultural activities, Rangoli, games (indoor and outdoor) etc.

Table: List of Extra-Curricular activities organized

FOR ACADEMIC YEAR 2019-20						
S No	STUDENT NAME	DATE(S) OF THE EVENT	NAME OF THE EVENT	POSITION HELD/PARTICIPATION	CONDUCTED BY	BRANCH
1	NeeliKoti Siva Sai Priyanka	14-09-2019 to 15-09-2019	Burst the bug	Participation	VIIT	CSE
2	A.LAKSHMI	07-01-2019 to 09-01-2019	ACM HACATHON	Participation	VIIT	CSE
3	A.LAKSHMI	21-09-2019	CODE BATTLE	Participated	VIIT	CSE
4	BASANA HARSHINI	14-09-2019 to 15-09-2019	think and run	Participated	VIIT	CSE
5	BASANA HARSHINI	26-12-2019 to 08-12-2019	ACM hackathon	Participated	VIIT	CSE
6	GEDELA ANANDA BHAVANI	14-09-2019 to 15-09-2019	DECODER	Participated	VIIT	CSE
7	JONNAKUTI SAI HARSHITHA	2019	Paper Presentation in VISTA Tech Fest	First Prize	VIIT	CSE
8	Nannapaneni Sai Sandhya	23-12-2019	HACK AI on HEALTH by Medially, world incubation hub	4th prize	AMTZ campus, AP,INDIA	CSE
9.	College	21-06-2019	TheInternational Yoga Day	Participated	VIEW Campus	IT
10.	2 ND ,3 RD ,4 TH IT STUDENTS	25-08-2019	Eco-Rally on "Save the Drop" for Conservation of Ground water	Participated	VIEW	IT
11.	2 ND ,3 RD ,4 TH IT STUDENTS	05-09-2019	"Teachers Day".	Participated	View	IT
12	K.Vidyalatha and	March 2019	ECLORE 2k19	First Prize	JNTU K	MBA

	P.Mounika		(HR Event)			
13	P.Kavya and M.Sri Lakshmi	March 2019	ECLORE 2k19 (Finance Event)	Second Prize	JNTU K	MBA
14	Ms. Shalini	29 th February 2019	PRABANDHAN (Cultural event)	First prize	BITS	MBA



FOR ACADEMIC YEAR 2018-19						
SL. NO	STUDENT NAME	DATE(S) OF THE COMPETITION	NAME OF THE COMPETITION	POSITION HELD/PARTICIPATION	NAME OF THE INSTITUTION	
1.	Balusucharishma nagasaisarada	15-02-201 to 17-02-2018	Running Badminton	Participated	VIIT	
2	Chilakapalli Sai Likhita	15-02-201 to 17-02-2018	Running Badminton	Participated	VIIT	
3.	PULIDINDI KRISHNA PRIYA	14-09-18 to 15-09-18	Scrap and Crap (VISTA-2K18)	2nd prize	VIIT	
4.	Vishnumolakala Vijaya Lakshmi	06-01-2018 to 07-01-2018	Badminton	participated	VIIT	
5.	CH.PRAVALLIKA	07-08-2018	MISS DIVA	participated	VIZAG	
6.	Vishnumolakala Vijaya Lakshmi	06-01-2018 to 07-01-2018	Badminton	participated	VIIT	
7.	CH.PRAVALLIKA	07-08-2018	MISS DIVA	participated	Vizag	
8.	GAVVA RANI	01-03-2018	ATHLETICS - RUNNING (400M)	participated	VIIT	

9.	Ms.Geetha	March 2018	Quiz	First Prize	Avanthi Group of Institutions	
10	Ms.Sri letha	March 2018	Photography	First Prize	Gitam University	
11	B.Jayasri	February 2018	Business Plan	Second Prize	GIET	
12	K.Vinayasri	November 2018	HR Event	Second Prize	VIIT	



FOR ACADEMIC YEAR 2017-18

SL. NO	NAME OF THE STUDENT	DATE(S) OF THE COMPETITION	NAME OF THE COMPETITION	POSITION HELD/PARTICIPATION	NAME OF THE INSTITUTION	
1	CH.Alekya E.Deepika K.Caturya K.S.L.Prasanna K.Bhavana	14-09-2017 to 15-09-2017	Best from waste Devil's hand	participation	VISTA(VIIT)	CSE
2	K.RAGA DEEPIKA K.DIVYA SREE R.SATHVIKA M.KASTURI	14-09-2017	DEVILS HAND	participation	VIIT	CSE
3	C.SAI RAKSHITHA G.PRASHIPTA K.KATYAYINI	01-09-2017	MINI MILLITIA	participation	VIIT	CSE
4	G.NITHISHA	01-09-2017	TREASURE HUNT	participation	VIIT	CSE
5	Ms. R. Gayatri & P. Mounika	March 2017	Srujana Visakha Fest 2K17(Quiz)	First Prize	Vishaka Technical Campus	MBA
6	Ms.A.Hema and Ms.S.Deepthi	February 2017	Paper Presentation	First Prize	Avanthi Group of	MBA

					Institutions	
7	N.Mounika	March 2017	Srujana Visakha Fest 2K17	Second prize	Vishaka Technical Campus	MBA
8	K.Sravani	April 2017	PRABANDHAN (Finance event)	Second Prize	BITS	MBA

Sport Events:

JNTUK INTER UNIVERSITY AND ALL INDIA INTER UNIVERSITY SELECTED PLAYERS LIST			
S.No.	Name of the event	All India inter university , Year, Venue	No. of students participated/Selected
1.	KHO-KHO	Mysore university, Mysore from 2nd to 10th oct 2017	3
2.	KHO-KHO	Mangalore University Mangalagangothri from 14th to 17th oct 2018	3
3.	NET BALL	Tamilnadu college of physical education from 25th to 28th Feb 2019	1
4.	CRICKET	Sri Venkateswara University ,Tirupati from 25th to 28th Dec 2019	1 TEAM
5.	VOLLEY BALL	SRM University Chennai from 6th to 10th Dec 2019	1 TEAM
6.	TABLE-TENNIS	K.L.University Guntur from 11th to 14th Dec 2019	1
7.	NET BALL	ANNAMALAI UNIVERSITY chidambaram 13th to 16th Feb 2020	2

Sl.no	Name of the Event	Academic year	Venue	No of Participants
1.	Throw ball	2020	View(Yuvtarang)	19
2.	Kho-kho	2020	View(Yuvtarang)	12
3.	Running(100mts,400mts)	2020	View(Yuvtarang)	2
4.	Throw ball	2020	Vignan Mahotsav	13
5.	Running(100mts,400mts)	2020	Vignan Mahotsav	4
6.	Throw ball	2019	View(Yuvtarang)	42
7.	TENNI-KOIT SINGLES	2019	View(Yuvtarang)	2
8.	Chess	2019	View(Yuvtarang)	2
9.	Running(100mts,200mts)	2019	View(Yuvtarang)	5
10.	SHOT-PUT	2019	View(Yuvtarang)	1
11.	Throw ball	2018	Vignan University	26



12.	Relay 4x100 mts	2018	Vignan University	4
13.	Kabaddi	2018	Vignan University	14
14.	Running(100MTS)	2018	Vignan University	3
15.	Running(200MTS)	2018	Vignan University	3
16.	Running(400MTS)	2018	Vignan University	3
17.	Running(1500 mts)	2018	Vignan University	1
18.	Relay 4x100 mts	2018	Vignan University	4
19.	Kho-kho	2018	Vignan University	10



20.	Throw ball	2017	View(Yuvtarang)	9
21.	Kho-kho	2017	View(Yuvtarang)	10
22.	TENNI-KOIT	2017	View(Yuvtarang)	1

Student Support Systems :: Attainments Evaluation

Cumulatively for all the modules in student support systems the attainments were set and evaluated for PO's, Mission of the Institute and Vision of the Institute as follows:

Table B.9.1. Course/Module vs PO Matrix of courses in Student Support Systems:

S No	Facility	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
1	Self-Learning	Web-based Learning	3	3	3	2	2					2		3	
		Professional Bodies/Clubs	3	3	3	3	3	3	3	3	3	3	3	3	3
		Seminars & Workshops	3	3	3	3	3	3	3	3	3	3	3	3	3
		Industrial Visits							3	3	3	3	3	3	3
		Certification Courses	3	3	3	3	3								
		Guest Lectures	3	3	2	2	1								
		MOOC's	3	3	3	2	2						1		
2	Pre-Placement Training	CRT	3	3	3	3	3	3	3	3	3	3	3	3	
		CST	3	3	3	3	3	3	3	3	3	3	3	3	
		Professional Internships	3	3	3	3	3	3	3	3	3	3	3	3	3
3	Entrepreneurship and incubation	Startups	3	3	3	3	3	3	3	3	3	3	3	3	
		Product Developments	3	3	3	3	3	3	3	3	3	3	3	3	3
4	Cocurricular activities	TECHKRITHI CLUB	3	3	3	3	3	3	3	3	3	3	3	3	3
		Academic clubs	3	3	3	3	3	3	3	3	3	3	3	3	3
		Activity clubs	3	3	3	3	3	3	3	3	3	3	3	3	3
		Shristi club	3	3	3	3	3	3	3	3	3	3	3	3	3
		NAVITAS club	3	3	3	3	3	3	3	3	3	3	3	3	3
5	Extra-Curricular Activities	Rythms club								1	2	3	2	2	
		Health club						3	3	2	2	1			
		Sports club	1	1	1	1	2	1	2	3	2	3	2	2	
		Eco-club						3	3	3	2	1	2	3	
		SAMSKRITHI CLUB						3		3	1	1			
		Socio Club						3	3	3	2	1	1		
Average Attainment			2.88	2.88	2.82	2.71	2.71	2.89	2.94	2.84	2.63	2.48	2.71	2.88	

Table B.9.2: Course/Module vs PO Attainments of courses in Student Support Systems:

S No	Facility	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
1	Self-Learning	Web-based Learning	2.79	2.79	2.79	1.86	1.86	0	0	0	0	1.86	0	2.79	
		Professional Bodies/Clubs	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
		Seminars & Workshops	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
		Industrial Visits	0	0	0	0	0	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59
		Certification Courses	2.81	2.81	2.81	2.81	2.81	0	0	0	0	0	0	0	0
		Guest Lectures	2.54	2.54	1.7	1.7	0.85	0	0	0	0	0	0	0	0
		MOOC's	2.64	2.64	2.64	1.76	1.76	0	0	0	0	0.88	0	0	0
2	Pre-Placement Training	CRT	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	2.97	
		CST	3	3	3	3	3	3	3	3	3	3	3	3	
		Professional Internships	3	3	3	3	3	3	3	3	3	3	3	3	
3	Entrepreneurship and incubation	Startups	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	
		Product Developments	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
4	Cocurricular activities	TECHKRITHI CLUB	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	
		Academic clubs	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	2.78	
		Activity clubs	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	
		Shristi club	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	
		NAVITAS club	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	2.69	
5	Extra-Curricular Activities	Rythms club	0	0	0	0	0	0	0	0.82	1.64	2.47	1.64	1.64	
		Health club	0	0	0	0	0	2.68	2.68	1.78	1.78	0.89	0	0	
		Sports club	0.78	0.78	0.78	0.78	1.57	0.78	1.57	2.35	1.57	2.35	1.57	1.57	
		Eco-club	0	0	0	0	0	2.68	2.68	2.68	1.79	0.89	1.79	2.68	
		SAMSKRITHI CLUB	0	0	0	0	0	2.72	0	2.72	0.91	0.91	0	0	
		Socio Club	0	0	0	0	0	2.51	2.51	2.51	1.68	0.84	0.84	0	
Student Support Systems			2.68	2.68	2.63	2.52	2.52	2.66	2.7	2.6	2.41	2.27	2.49	2.66	
% Attainment			92.8	92.8	93	93.1	93	92.1	91.9	91.5	91.8	91.5	92.1	92.2	

Table B.9.3: Course/Module vs Institute Mission & Institute Vision Matrix of courses in Student Support Systems:

S No	Facility	Course	M1. To empower women engineers through innovative teaching learning practices.	M2. To encourage higher education and research with well-equipped laboratories.	M3. To promote entrepreneurship through creativity and innovation.	M4. To promote environmental sustainability and inculcate ethical, emotional and social consciousness.	Vision: To be a leading institution of women empowerment producing internationally accepted professionals with psychological strength, emotional balance and ethical values.
1	Self-Learning	Web-based Learning	3				3
		Professional Bodies/Clubs	3	3		1	3
		Seminars & Workshops	3			1	3
		Industrial Visits	3	3		2	3
		Certification Courses	3				3
		Guest Lectures	3				3
		MOOC's	3				3
2	Pre-Placement Training	CRT	3			1	3
		CST	3			1	3
		Professional Internships	3	3	1	3	3
3	Entrepreneurship and incubation	Startups	3	3	3	3	3
		Product Developments	3	3	3	3	3
4	Cocurricular activities	TECHKRITHI CLUB	3	3	2	3	3
		Academic clubs	3	3	2	3	3
		Activity clubs	3	3	1	3	3
		Shristi club	3	3	2	3	3
		NAVITAS club	3	3	2	3	3
5	Extra-Curricular Activities	Rythms club				2	2
		Health club				3	1
		Sports club				2	1
		Eco-club				3	1
		SAMSKRITHI CLUB				1	1
		Socio Club				3	1

Student Support Systems	3	3	2	2.32	2.52
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Table B.9.4: Course/Module vs Institute Mission & Institute Vision Attainments of courses in Student Support Systems:

S No	Facility	Course	M1. To empower women engineers through innovative teaching learning practices.	M2. To encourage higher education and research with well-equipped laboratories.	M3. To promote entrepreneurship through creativity and innovation.	M4. To promote environmental sustainability and inculcate ethical, emotional and social consciousness.	Vision: To be a leading institution of women empowerment producing internationally accepted professionals with psychological strength, emotional balance and ethical values.
1	Self-Learning	Web-based Learning	2.79	0.00	0.00	0.00	2.79
		Professional Bodies/Clubs	2.68	2.68	0.00	0.89	2.68
		Seminars & Workshops	2.62	0.00	0.00	0.87	2.62
		Industrial Visits	2.59	2.59	0.00	1.73	2.59
		Certification Courses	2.81	0.00	0.00	0.00	2.81
		Guest Lectures	2.54	0.00	0.00	0.00	2.54
		MOOC's	2.64	0.00	0.00	0.00	2.64
2	Pre-Placement Training	CRT	2.97	0.00	0.00	0.99	2.97
		CST	3.00	0.00	0.00	1.00	3.00
		Professional Internships	3.00	3.00	1.00	3.00	3.00
3	Entrepreneurship and incubation	Startups	2.70	2.70	2.70	2.70	2.70
		Product Developments	2.85	2.85	2.85	2.85	2.85
4	Cocurricular activities	TECHKRITHI CLUB	2.81	2.81	1.88	2.81	2.81
		Academic clubs	2.78	2.78	1.85	2.78	2.78
		Activity clubs	2.91	2.91	0.97	2.91	2.91
		Shristi club	2.91	2.91	1.94	2.91	2.91
		NAVITAS club	2.69	2.69	1.80	2.69	2.69

5	Extra-Curricular Activities	Rythms club	0.00	0.00	0.00	1.64	1.64
		Health club	0.00	0.00	0.00	2.68	0.89
		Sports club	0.00	0.00	0.00	1.57	0.78
		Eco-club	0.00	0.00	0.00	2.68	0.89
		SAMSKRITHI CLUB	0.00	0.00	0.00	0.91	0.91
		Socio Club	0.00	0.00	0.00	2.51	0.84
Student Support Systems			2.78	2.79	1.87	2.11	2.32
% Attainment			92.8	93.1	93.6	91.2	91.8

Criterion 10	Governance, Institutional Support and Financial Resources	120 M
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10.1. ORGANIZATION, GOVERNANCE AND TRANSPARENCY (40)

10.1.1. State the Vision and Mission of the Institute (5)

(Vision statement typically indicates aspirations and Mission statement states the broad approach to achieve aspirations)

VISION OF THE INSTITUTE

To be a leading institution of women empowerment producing internationally accepted professionals with psychological strength, emotional balance and ethical values.

MISSION OF THE INSTITUTE

M1: To empower women engineers through innovative teaching learning practices.

M2: To encourage higher education and research with well-equipped laboratories.

M3: To promote entrepreneurship through creativity and innovation.

M4: To promote environmental sustainability and inculcate ethical, emotional and social consciousness.

Appropriateness/Relevance of the Statements:

There has been an emerging need in the local society for providing an exclusive time and space for girls in technical education. Addressing this socio and economic concerns of the society, The Institute is established with total women empowerment as its chief motto. The aim is to provide competent women technical power keeping the demands of the industry along with providing a robust economic boost to the family in the form of a technically educated and trained woman professional. Apart from these aims the college has kept its vision on simultaneously equipping the girl students physically fit, psychologically strong to face the challenges in the society.

The activities are planned in such a way that the girl gets transformed into a competent and complete woman with technical expertise, self-reliance, psychological strength, emotional balance, ethical values and social consciousness. Setting highest ethical standards at all aspects of college activity the girl is imbued with right kind of moral attitude. Overall, the Vision and Mission statements are to transform the girl into a complete woman through the comprehensive cycle of change at the Institute.

10.1.2. Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Procedures, Recruitment and Promotional Policies (10)

(List the governing, senate, and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; and attendance therein, in a tabular form. A few sample minutes of the meetings and action-taken reports should be annexed. The published rules including service rules, policies and procedures; year of publication shall be listed. Also state the extent of awareness among the employees/students)

10.1.2 (A) GOVERNING BODY

The institution has a well defined and structured governance system headed by the governing body which is an apex committee that oversees the overall development and continuous growth of the institution in lines with the established vision. The Governing body is comprised of 15 eminent people from industry and academia to bring in the necessary balance. The term of the members, except the ex-officio member, shall be three years.

Functions of Governing Body:

1. To monitor the academic, student, faculty development and other related activities of the college.
2. To approve the recommendations of the Staff Selection Committee.
3. To consider for implementation the important communications, policy decisions received from the University, Government, AICTE, etc.
4. To consider the recommendations of the Planning and Monitoring board of the college from implementation.
5. To prepare and approve the annual budget of the college.

Frequency of Meeting and Quorum:

The Governing Council shall meet at least twice a year. The quorum for the meeting shall be 2/3 of the total members of the Governing Council.

Composition of the Governing Body:**Table 10.1 Composition of the Governing Body**

Sl. No.	Name of the Person	Designation	Category	Nature of Appointment
1	Dr V.Bhujanga Rao, ISRO Chair Professor, National Institute of Advances Studies, IISc Campus, Bangalore. Former DG-DRDO-New Delhi. Former Director-NSTL Vizag	Chairman	Trust/Management	Trust/ Management as per the constitution of By-Laws with the chairman or president or Director as the chair person (5 Members)
2	Dr. L. Rathaiah President & Correspondent, Lavu Educational Society, Vignan Group	Member	Trust/Management	
3	Padma Bhushan Dr. Y Lakshmi Prasad Former M.P, Director-Indian Culture Centre, Consulate General of India, Canada	Member	Trust/Management	
4	Sri N.Srikanth Executive Director, Vignan Group of Educational Institutions, Visakhapatnam	Member	Trust/Management	
5	Dr.Archana Sharma Outstanding Scientist Head, PP & EMD, BARC, Mumbai.	Member	Trust/Management	
6	Dr. P. V. G. D. Prasad Reddy Former Registrar, Professor, Department of Computer Science & Systems Engineering, Andhra University, Visakhapatnam	Member	Academician	Neighboring University
7	Dr. B.Subba Rao Programe Director, SAMEER-Centre for Electromagnetic Environmental Effects, Ministry of E&IT, Visakhapatnam	Member	Industrialist	Nominated by Management
8	Mr.Venkata Rayulu Bonam Delivery Project Executive IBM India (P) Ltd. Hyderabad	Member	Industrialist	Nominated by Management

9	Dr.Rishi Verma Scientist-G, PP & EMD, PEB-1, Bhabha Atomic Research Centre (BARC), Gandivanipalem, Atchutapuram (V), Visakhapatnam.	Member	Industrialist	Nominated by Management
10	Mr.Suresh Kumar Tankala Lead Consultant, Wipro Limited, Visakhapatnam	Member	Industrialist	Nominated by Management
11	Smt.P.Aruna Kumari Asst. Professor, Dept. of Computer Science & Engineering UCE, JNTUK, Vizianagaram	Member	University (JNTUK) Nominee	Nominated by the University
12	Mr. Bala Murugan South Regional Officer, AICTE	Member	AICTE Nominee	Nominated by the AICTE
13	Mr.B.K.Surya Prakash Principal, Govt. Polytechnic College, Anakapalli, VSKP	Member	State Government Nominee	Nominated by the State Government
14	Dr.J.Sudhakar Principal & Professor, Dept. of ECE, VIEW, Visakhapatnam	Member Secretary	Principal	Ex-officio
15	Prof.A.Sesha Rao Sr. Professor, Department of CSE, VIEW, Visakhapatnam	Member	Faculty Representative	Nominated by the Principal

Details of Governing Council Meetings

Academic Year	No. of Meetings Conducted	Date of Meeting held	No. of Members attended
2017-18	2	06.06.2017	12
		22.12.2017	11
2018-19	2	06.09.2018	11
		13.04.2019	12
2019-20	1	12.11.2019	12
2019-20	1	03.04.2020	Cancelled due to Covid-19

Minutes of the meetings and action-taken reports:**Minutes of the 19th meeting of Board of Governors**

Vignan's Institute of Engineering for Women

Held on June 6, 2017 at 10.00 a.m. at Board Room, VIEW, Visakhapatnam

Members Present

1	Dr. L. Rathaiah	Vice-Chairman
2	Padma Bhushan Sri.Dr. Y Lakshmi Prasad	Member
3	Sri K Pavan Krishna	Member
4	Dr. V. Vizia Saradhi	Member
5	Sri.Venkata Rayulu Bonam	Member
6	Prof. P. V. G. D. Prasad Reddy	Member
7	Mr.Srikanth Nandigam	Member
8	Dr. B.Subba Rao	Member
9	Dr. G.Madhavi	Member
10	Mr.B.K.Surya Prakash	Member
11	Dr.S.M.Murali Krishna, I/c Principal	Member Secretary
12	Prof.A.Sesha Rao	Member

The following members have requested for leave of absence expressed their inability to attend meeting.

1. Dr.CD Malleswar
2. Sri.R.Bala Marugan

At the outset Dr.L.Rathaiah, Vice-Chairman welcomed all the members of Governing Council to the Meeting. He expressed confidence in getting the cooperation and support from other members of the Governing Body in effective discharge of his duties. He gave the opening remarks and spoke about important developments that took place in the College, construction of new academic block, New Canteen, placement record, overall results of the college and appreciate the faculty members for their efforts in achieving the excellent results in UG and PG courses.

The Vice-Chairman requested **I/c Principal** to present the agenda notes for discussion. I/c. Principal welcomed Sri.B.K.Surya Prakash, who has been recently nominated by the State Government as Govt. nominee to the Governing Body.

The following items are discussed and the corresponding resolutions are adopted:

Item-1 Confirmation of the minutes of the earlier meeting held on 05.03.2016

The minutes of the meeting of the Governing Body held on 05.03.2016 were circulated to all the members for their comments. As there were no comments, it was declared that the minutes were confirmed.

Resolution No. VIEW/GBM/4/2017/1

The Governing Body resolved to approve the minutes of the meeting held on 5th of March, 2016.

Item-2 Report by the Principal on the progress of the College during the Academic Year 2016-17

Principal gave a Power point presentation on various activities of the college since the last Governing Body meeting. Copy of the same was perused by the members and approved.

Resolution No. VIEW/GBM/4/2017/2.1

The Governing Body resolved to express its satisfaction upon the admissions into B.Tech., and M.B.A. for the academic year 2016-17 under the prevailing conditions, and suggested to take necessary steps for improvement of admissions in M.Tech.

Resolution No. VIEW/GBM/4/2017/2.2

The Governing Body reviewed the results of UG and PG programmes and expressed its happiness over the performance.

Resolution No. VIEW/GBM/4/2017/2.3

The Governing Body noted and placed on record its happiness about the University First Place in JNTUK first year results with 71.15 per cent. The Governing Body is pleased to note that 94 per cent of 365 students are achieved first class with distinction.

Resolution No. VIEW/GBM/4/2017/2.4

The Governing Body is pleased to note that 273 out of 315 eligible students are placed as on date in different organizations during the academic year 2016-17. The Governing Body noted with great satisfaction over the performance of two students excelled in Microsoft with annual package of 9.78Lakhs and one student excelled in Juspay with annual package of 12Lakhs.

Resolution No. VIEW/GBM/4/2017/2.5

The Governing Body is overwhelmed with happiness for achieving 3 Prathibha Awards from JNTUK which were presented in the academic year 2016-17 for the achievement of the academic year 2015-16

Resolution No. VIEW/GBM/4/2017/2.6

The Governing Body recognized the efforts of the faculty in getting research projects worth Rs.32.58 lakhs from Science and Engineering Research Board (SERB), Department of Science and Technology (DST) and expressed happiness over the progressive mind-set of the faculty.

Resolution No. VIEW/GBM/4/2017/2.7

The Governing Body noted with pleasure that 4 faculty are awarded Ph.D. It is also noted that 7 faculty members submitted their Ph.D. theses and 18 faculty members pursuing Ph.D. The governing Body congratulated their effort and promised continued support to faculty in such efforts.

Resolution No. VIEW/GBM/4/2017/2.8

The Governing Body while expressing its satisfaction about the publications by the faculty suggested the administration to encourage the faculty for more publications in reputed journals and conferences.

Resolution No. VIEW/GBM/4/2017/2.9

- I. The Governing Body complimented the staff for conducting Training Programmes, Workshops etc. for faculty and students.
- II. The Governing Body noted that nearly 30 faculty of the College attended short-term courses, training programmes, workshops, etc. organized by other Institutions which include IITs/NITs/IITs.

Resolution No. VIEW/GBM/4/2017/2.10

The Governing Body expressed its happiness about revision of pay structure of faculty as per the recommendations of 6th Pay Commission of AICTE.

Resolution No. VIEW/GBM/4/2017/2.11

The governing Body expressed its satisfaction that the students are actively participating in co-curricular, sports, social, ethical, cultural and other activities. Also expressed their happiness for achieving first place in JNTUK Central Zone Kho-Kho completion.

Resolution No. VIEW/GBM/4/2017/2.12

The Governing Body was elated to know that a number of distinguished personalities visited the College and made delightful comments about the College.

Item-3 Ratification of selected faculty and approval for fresh recruitment.

A report on faculty selections made and requirement of faculty for the academic year 2016-17 is circulated to the members of the Governing Body. After perusal of the report by the members, the following resolutions are made:

Resolution No. VIEW/GBM/4/2017/3.1

i. The Governing Body noted with satisfaction that the services of 84 existing faculty are ratified, 5 faculty are selected for higher position and 12 new faculty are selected through the interviews conducted by JNTU-Kakinda.

ii. The Governing Body resolved to convey it's thanks to the JNT University-Kakinada for arranging faculty selections/ratification of services of existing faculty

Resolution No. VIEW/GBM/4/2017/3.2

The Governing Body noted that 18 new faculty joined during this period through University selections and College level selections.

Resolution No. VIEW/GBM/4/2017/3.3

The Governing Body authorized the Chairman, Governing Body to recruit the additional faculty required.

Item-4 Income and expenditure status for the financial year 2016-17

The Principal sought permission from the members of the Governing Body to circulate the income and expenditure for the financial year 2016-17 later as the accounts are to be finalized.

Resolution No. VIEW/GBM/4/2017/4.1

The Governing Body resolved to permit the Principal to circulate the income and expenditure under autonomous status for the financial year 2016-17 later as the accounts are to be finalized.

Item-5 Budget for the financial year 2017-18

The proposed budget for the financial year 2017-18 as prepared by the Finance Committee is circulated to the members.

Resolution No. VIEW/GBM/4/2017/5.1

The Governing Body approved the proposed budget for the Academic year 2017-18 as prepared by the Finance Committee.

Item-6 Proposals for the Approval of Governing Body**Resolution No. VIEW/GBM/4/2017/6.1**

The Governing Body resolved to approved the proposal of NAAC Accreditation application process followed by permanent affiliation and 2(f) and 12(b) and suggested to to take necessary steps to apply for NAAC Accreditation.

Resolution No. VIEW/GBM/4/2017/6.2

The Governing Body resolved to approved the proposal of Recruitment of Staff with Ph.D to maintain at least two doctorates in each Department.

Resolution No. VIEW/GBM/4/2017/6.3

Approval is accorded for Introduction of Merit Scholarship Scheme to meritorious students of outstanding performance.

Resolution No. VIEW/GBM/4/2017/6.4

The Governing Body approved the proposal of Implementation of R&D policy To create a conducive platform for encouraging the faculty to undertake cutting-edge research and to produce quality output.

Resolution No. VIEW/GBM/4/2017/6.5

Approval is accorded for adding the following amendments in Leave Policy from the academic year 2017-18 to all permanent employees.

- a) Medical leaves
- b) Paternity leaves
- c) Special casual leave

Resolution No. VIEW/GBM/4/2017/6.6

The Governing Body approved the proposal of the following infrastructure additions for the academic year 2017-18 and approved the required funds for:

- a) Renovations to Seminar Hall
- b) Completion of Construction of a Canteen building
- c) Construction of Third floor C-Block or separate Block for I B.Tech
- d) Construction of Open Auditorium with sponsorship

Resolution No. VIEW/GBM/4/2017/6.7

Approval is accorded to Organise International Conference on “**Mathematical Applications in Computing and Statistics**” by department of Basic Science and Humanities in the academic year 2017-18 and approved the required funds.

Resolution No. VIEW/GBM/4/2017/6.8

Approval is accorded to finance committee, non-statutory committees i.e. Planning and Evaluation Committee (PEC), Grievance appeal Committee (GAC), Examination Committee (EC), Admission Committee (AC), Library Committee (LC), Student Welfare Committee (SWC), Extra-curricular Activities Committee (ECAC), Academic Audit Committee (AAC) and other committees i.e. College Management Committee (CMC), Policy Perceptive Committee (PPC), College Development Committee (CDC), PG-Committee (PGC), UG Committee (UGC), Department Development Committee (DDC), Hostel Management Committee (HMC), Anti-Ragging Committee (ARC), Purchase Committee (PC), Research Committee (RC), Training & Placement Committee (T&PC), Faculty Recruitment Committee (FRC) and Women Protection/Empowerment Committee (WPEC).

Minutes of the 20th meeting of Board of Governors

Vignan's Institute of Engineering for Women

Held on **December 22, 2017** at 10.00 a.m. at Board Room, VIEW, Visakhapatnam

Members Present

1	Dr. L. Rathaiah	Vice-Chairman
2	Padma Bhushan Sri.Dr. Y Lakshmi Prasad	Member
3	Sri K Pavan Krishna	Member
4	Sri.Venkata Rayulu Bonam	Member
5	Prof. P. V. G. D. Prasad Reddy	Member
6	Mr.Srikanth Nandigam	Member
7	Dr. B.Subba Rao	Member
8	Dr. G.Madhavi	Member
9	Mr.B.K.Surya Prakash	Member
10	Dr.J.Sudhakar	Member Secretary
11	Prof.A.Sesha Rao	Member

The following members have requested for leave of absence expressed their inability to attend meeting.

1. Dr.C.D.Malleswar
2. Sri.R.Bala Murugan

At the outset Dr.L.Rathaiah, Vice-Chairman welcomed all the members of Governing Council to the Meeting. He expressed confidence in getting the cooperation and support from other members of the Governing Body in effective discharge of his duties.

The Vice-Chairman requested **Principal** to present the agenda notes for discussion. Principal welcomed all the members of Governing Council to the Meeting and convey his gratitude for attending the meeting.

The following items are discussed and the corresponding resolutions are adopted:

Item-1 Confirmation of the minutes of the earlier meeting held on 06.06.2017

The minutes of the meeting of the Governing Body held on 06.06.2017 were circulated to all the members for their comments. As there were no comments, it was declared that the minutes were confirmed.

Item-2 Report by the Principal on the progress of the College during the Academic Year 2017-18 (Upto I Semester)

Resolution No. VIEW/GBM/4/2017(2)/2.1

The Governing Body resolved to express its satisfaction upon the admissions into B.Tech., and M.B.A. for the academic year 2017-18 under the prevailing conditions, and suggested to take necessary steps for improvement of admissions in M.Tech.

Resolution No. VIEW/GBM/4/2017(2)/2.2

The Governing body complimented about the admission for the academic year 2017-18 recorded as 80.3% of total intake where as in the academic year 2016-17 it was 78.9%.

Resolution No. VIEW/GBM/4/2017(2)/2.3

The Governing body appreciated for achieving 97.24% in B.Tech IV Year for the academic year 2016-17.

Resolution No. VIEW/GBM/4/2017(2)/2.4

The Governing Body recognized the efforts of the faculty for publishing more than 40 papers in reputed journals, out of which more than 20 papers are Scopus cited & H-indexed.

Resolution No. VIEW/GBM/4/2017(2)/2.5

The Governing Body expressed its happiness about revision of pay structure and increments to staff as per the recommendations of 6th Pay Commission of AICTE.

Resolution No. VIEW/GBM/4/2017/2.6

The governing Body expressed its satisfaction that the students are actively participating in co-curricular, sports, social, ethical, cultural and other activities.

Item-3 Ratification of selected faculty and approval for fresh recruitment.

Resolution No. VIEW/GBM/4/2017(2)/3.1

The Governing Body is overwhelmed with happiness for about 71% of faculty were ratified by JNTUK till date.

Resolution No. VIEW/GBM/4/2017/3.2

The Governing Body resolved to convey its thanks to the JNT University-Kakinada for arranging faculty selections/ratification of services of existing faculty

Item-4 Proposals for the Approval of Governing Body

Resolution No. VIEW/GBM/4/2017(2)/4.1

The Governing Body resolved to approved the proposal of NAAC Accreditation application process and suggested to to take necessary steps to apply for NAAC Accreditation.

Resolution No. VIEW/GBM/4/2017(2)/4.2

Approval is accorded for Introduction of Means Scholarship Scheme to Below Poverty Line (BPL) students to give financial support.

Resolution No. VIEW/GBM/4/2017(2)/4.3

The Governing Body approved the proposal of the following infrastructure additions for the academic year 2017-18 and approved the required funds for:

- e) Renovations to Seminar Hall
- f) Completion of Construction of a Canteen building
- g) Construction of fourth floor for additional class rooms for B.Tech & M.B.A
- h) Construction of Open Auditorium with sponsorship

Resolution No. VIEW/GBM/4/2017/4.4

Approval is accorded to plan for construction of women hostel in Campus and arch at main road, Portico at main entrance.

Resolution No. VIEW/GBM/4/2017/4.5

4.5.1 Approval is accorded for applying 2(f) and 12(b) status through an indemnity bond and it is resolved that every amount of grant that will be given by the commission to the college shall when received by the college solely be used for the benefit and purposes of the college in accordance with the terms and conditions of the grant and not for any other purpose or any other institution.

4.5.2 The Institute shall furnish to the commission the balance sheet of the Institution every year along with the annual audited accounts of the college.

4.5.2 The institute shall fulfil any other terms and condition laid down in indemnity bond.

Resolution No. VIEW/GBM/4/2017/4.6

Approved is accorded to recruit Doctoral staff in accordance with the increase in student intake in ECE & CSE.

Resolution No. VIEW/GBM/4/2017/4.7

Approval is accorded to implement Medical Leaves, Paternity Leaves and Special Casual Leaves and R&D incentives as per the R&D policy.

Minutes of the 21st meeting of Board of Governors

Vignan's Institute of Engineering for Women

Held on September 6, 2018 at 10.00 a.m. at Board Room, VIEW, Visakhapatnam

Members Present

1	Dr. CD Malleswar	Chairman
2	Dr. L. Rathaiah	Vice-Chairman
3	Sri K Pavan Krishna	Member
4	Sri.Venkata Rayulu Bonam	Member
5	Prof. P. V. G. D. Prasad Reddy	Member
6	Mr.Srikanth Nandigam	Member
7	Dr. B.Subba Rao	Member
8	Smt.P.Aruna Kumari	Member
9	Mr.B.K.Surya Prakash	Member
10	Dr.J.Sudhakar	Member Secretary

11	Prof.A.Sesha Rao	Member
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The following members have requested for leave of absence expressed their inability to attend meeting.

Sl.No	Name of the person	Designation
1.	Padma Bhushan Sri.Dr.Y.L.Prasad	Member
2.	Sr.R.Bala Murugan	Member
3.	Dr.V.Vizia Saradhi	Member

The meeting was initiated with the welcome note by Chairman of Governing Body of VIEW, Dr CD Malleswar. He expressed confidence in getting the cooperation and support from other members of the Governing Body in effective discharge of his duties. He gave the opening remarks by introducing new JNTUK nominee Smt.P.Aruna Kumari, Asst. Professor, Dept. of CSE, UCE, JNTUK, Vizianagaram and spoke about important developments that took place in the College, placement record, overall results of the college and appreciate the faculty members for their efforts in achieving the excellent results in UG and PG courses.

The Chairman requested Principal **Dr.J.Sudhakar** to present the agenda notes for discussion.

Principal welcomed **Smt.P.Aruna Kumari**, who has been recently nominated by the JNT University, Kakinada as University nominee to the Governing Body.

The following items are discussed and the corresponding resolutions are adopted:

Item-1 Confirmation of the minutes of the earlier meeting held on 22.12.2017

The minutes of the meeting of the Governing Body held on 22.12.2017 were circulated to all the members for their comments. As there were no comments, it was declared that the minutes were confirmed.

Resolution No. VIEW/GBM/4/2018/1

The Governing Body resolved to approve the minutes of the meeting held on 22nd December 2017. Governing Body recommended the institute in the previous meeting to undertake the following:

2. Apply for NAAC Accreditation followed by permanent affiliation and 2(f) and 12(b)
3. Recruitment of Staff with Ph.D
4. Approved to Introduce of Means Scholarship Scheme and release notification in the month of January 2018.
5. Information and Communication Technology (ICT) Class Rooms
5. Approved for Renovations to Seminar Hall, Completion of Construction of a Canteen building and Construction of Fourth floor C-Block or separate Block for I B.Tech
6. Approved to Change the transformer and conversation from LT to HT with 400KVA

Item-2 Report by the Principal on the progress of the College during the Academic Year 2017-18

Principal gave a Power point presentation on various activities of the college since the last Governing Body meeting. Copy of the same was perused by the members and approved.

Resolution No. VIEW/GBM/4/2018/2.1

The Governing Body resolved to express its satisfaction upon the admissions into B.Tech., and M.B.A. for the academic year 2017-18 under the prevailing conditions, and suggested to take necessary steps for improvement of admissions in M.Tech.

Resolution No. VIEW/GBM/4/2018/2.2

The Governing Body reviewed the results of UG and PG programmes and expressed its happiness over the performance.

Resolution No. VIEW/GBM/4/2018/2.3

The Governing Body noted and placed on record its happiness about the University First Place in JNTUK first year results with 78.54 per cent.

Resolution No. VIEW/GBM/4/2018/2.4

The Governing Body is pleased to note that 144 out of 266 eligible students are placed as on date in different organizations during the academic year 2017-18.

Resolution No. VIEW/GBM/4/2018/2.5

The Governing Body noted with pleasure that 3 faculty are awarded Ph.D. It is also noted that 4 faculty members submitted their Ph.D. theses and 15 faculty members pursuing Ph.D. The governing Body congratulated their effort and promised continued support to faculty in such efforts.

Resolution No. VIEW/GBM/4/2017/2.6

The Governing Body while expressing its satisfaction about the publications by the faculty suggested the administration to encourage the faculty for more publications in reputed journals and conferences.

Resolution No. VIEW/GBM/4/2018/2.7

The governing Body expressed its satisfaction that the students are actively participating in co-curricular, sports, social, ethical, cultural and other activities. Also expressed their happiness for achieving first place in JNTUK Central Zone Kho-Kho and third place in volleyball completion.

Item-3 Ratification of selected faculty and approval for fresh recruitment.

A report on faculty selections made and requirement of faculty for the academic year 2017-18 is circulated to the members of the Governing Body. After perusal of the report by the members, the following resolutions are made:

Resolution No. VIEW/GBM/4/2018/3.1

- i. The Governing Body noted with satisfaction that the services of 91 existing faculty are ratified 10 new faculty are selected through the interviews conducted by JNTU-Kakinda.
- ii. The Governing Body resolved to convey it's thanks to the JNT University-Kakinada for arranging faculty selections/ratification of services of existing faculty

Resolution No. VIEW/GBM/4/2018/3.2

The Governing Body noted that 10 new faculty joined during this period through University selections and College level selections.

Resolution No. VIEW/GBM/4/2018/3.3

The Governing Body authorized the Chairman, Governing Body to recruit the additional faculty required.

Item-4 Income and expenditure status for the financial year 2017-18

The Principal sought permission from the members of the Governing Body to circulate the income and expenditure for the financial year 2017-18 later as the accounts are to be finalized.

Resolution No. VIEW/GBM/4/2017/4.1

The Governing Body resolved to permit the Principal to circulate the income and expenditure under autonomous status for the financial year 2017-18 later as the accounts are to be finalized.

Item-5 Budget for the financial year 2018-19

The proposed budget for the financial year 2018-19 as prepared by the Finance Committee is circulated to the members.

Resolution No. VIEW/GBM/4/2017/5.1

The Governing Body approved the proposed budget for the Academic year 2018-19 as prepared by the Finance Committee.

Item-6 Proposals for the Approval of Governing Body

Resolution No. VIEW/GBM/4/2018/6.1

The Governing Body resolved to approved the proposal of NAAC Accreditation application process followed by permanent affiliation and 2(f) and 12(b) and suggested to to take necessary steps to apply for NAAC Accreditation.

Resolution No. VIEW/GBM/4/2018/6.2

The Governing Body resolved to approved the proposal of Recruitment of Professors with Ph.D in CSE, ECE & EEE Departments to maintain at least One Professor in each Department as per guidelines of JNTUK.

Resolution No. VIEW/GBM/4/2018/6.3

Approval is accorded for Introduction of Means Scholarship Scheme to economically backward student.

Resolution No. VIEW/GBM/4/2018/6.4

The Governing Body approved the proposal of the following infrastructure additions for the academic year 2018-19 and approved the required funds for:

- i) Renovations to Seminar Hall
- j) Construction of Fourth Floor to establish additional Class rooms for B.Tech and MBA for the next academic year.
- k) Construction of Open Auditorium with sponsorship

Resolution No. VIEW/GBM/4/2018/6.5

Approval is accorded to construct separate hostel block for women's in VIEW campus to overcome the accommodation problems in present Hostel.

Resolution No. VIEW/GBM/4/2018/6.6

Approval is accorded to construct Arch at main road near to STBL Projects and Portico at main entrance to overcome the problems in rainy season.

Resolution No. VIEW/GBM/4/2018/6.7

Approval is accorded to construct Two & Four wheeler parking shed in VIEW campus as per the request raised by the students and staff.

Minutes of the 22nd meeting of Board of Governors

Vignan's Institute of Engineering for Women

Held on April 13, 2019 at 10.00 a.m. at Board Room, VIEW, Visakhapatnam

Members Present

1	Dr. CD Malleswar	Chairman
2	Sri K Pavan Krishna	Member
3	Sri.Venkata Rayulu Bonam	Member
4	Prof. P. V. G. D. Prasad Reddy	Member
5	Dr. B.Subba Rao	Member
6	Smt.P.Aruna Kumari	Member
7	Dr. V. Vizia Saradhi	Member
8	Dr.J.Sudhakar	Member Secretary
9	Prof.A.Sesha Rao	Member

The following members have requested for leave of absence expressed their inability to attend meeting.

1. Dr.L.Rathaiah
2. Padma Bhushan Sri Dr.Y.Lakshmi Prasad
3. Sri.R.Bala Murugan
4. Mr.B.K.Surya Prakash

The meeting was initiated with the welcome note by Chairman of Governing Body of VIEW, Dr CD Malleswar. He gave the opening remarks and spoke about important developments that took place in the College, placement record, overall results of the college and appreciate the faculty members for their efforts in achieving the excellent results in UG and PG courses.

The Chairman requested Principal **Dr.J. Sudhakar** to present the agenda notes for discussion. The following items are discussed and the corresponding resolutions are adopted:

Item-1 Confirmation of the minutes of the earlier meeting held on 06.09.2018

The minutes of the meeting of the Governing Body held on 06.09.2018 were circulated to all the members for their comments. As there were no comments, it was declared that the minutes were confirmed.

Resolution No. VIEW/GBM/4/2018-19(2)/1

The Governing Body resolved to approve the minutes of the meeting held on 6th September 2018. Governing Body recommended the institute in the previous meeting to undertake the following:

1. Apply for NBA Accreditation followed by permanent affiliation & 2(f) and 12(b)
2. Recruitment of Professors
3. Exclusive computer lab for JNTUK Online exams (80 systems)
4. Infrastructure additions proposed:
 - a) Renovations to Seminar Hall
 - b) Construction of fourth floor or Separate Block for 1st B.Tech & MBA.
 - c) Construction of Open Auditorium with sponsorship
5. Separate Hostel Block in the campus
6. Arch at the main road (STBL) & Portico at main entrance
7. Two & Four wheeler parking shed

Item-2 Report by the Principal on the progress of the College during the Academic Year 2018-19 (Upto I Semester)

Principal gave a Power point presentation on various activities of the college since the last Governing Body meeting. Copy of the same was perused by the members and approved.

Resolution No. VIEW/GBM/4/2018-19(2)/2.1

The Governing Body resolved to express its satisfaction upon the admissions into B.Tech., and M.B.A. for the academic year 2018-19 under the prevailing conditions, and suggested to take necessary steps for improvement of admissions in M.Tech.

Resolution No. VIEW/GBM/4/2018-19 (2)/2.2

The Governing Body reviewed the results of UG and PG programmes and expressed its happiness over the performance in the first semester of the academic year 2018-19

Resolution No. VIEW/GBM/4/2018-19 (2)/2.3

The Governing Body noted and placed on record its happiness about the University First Place in JNTUK first year results with 80.79 per cent in the first semester results of the academic year 2018-19.

Resolution No. VIEW/GBM/4/2018-19 (2)/2.4

The Governing Body is pleased to note that 286 out of 296 eligible students are placed as on date in different organizations during the academic year 2018-19.

Resolution No. VIEW/GBM/4/2018-19 (2)/2.5

The Governing Body while expressing its satisfaction about the publications by the faculty suggested the administration to encourage the faculty for more publications in reputed journals and conferences.

Resolution No. VIEW/GBM/4/2018-19(2)/2.6

The governing Body expressed its satisfaction that the students are actively participating in co-curricular, sports, social, ethical, cultural and other activities. Also expressed their happiness for achieving first place in JNTUK Central Zone Kho-Kho and third place in volleyball completion.

Item-3 Ratification of selected faculty and approval for fresh recruitment.**Resolution No. VIEW/GBM/4/2018-19(2)/3.1**

The Governing Body is overwhelmed with happiness for about 66.41% of faculty was ratified by JNTUK till date.

Resolution No. VIEW/GBM/4/2018-19(2)/3.2

The Governing Body resolved to convey thanks to the JNT University-Kakinada for arranging faculty selections/ratification of services of existing faculty

Item-4 Income and expenditure status for the financial year 2018-19

The Principal sought permission from the members of the Governing Body to circulate the income and expenditure for the financial year 2018-19 later as the accounts are to be finalized.

Resolution No. VIEW/GBM/4/2018-19(2)/4.1

The Governing Body resolved to permit the Principal to circulate the income and expenditure under autonomous status for the financial year 2018-19 later as the accounts are to be finalized.

Item-5 Budget for the financial year 2019-20

The proposed budget for the financial year 2019-20 as prepared by the Finance Committee is circulated to the members.

Resolution No. VIEW/GBM/4/2018-19(2)/5.1

The Governing Body approved the proposed budget for the Academic year 2019-20 as prepared by the Finance Committee.

Item-6 Proposals for the Approval of Governing Body**Resolution No. VIEW/GBM/4/2018-19(2)/6.1**

The Governing Body resolved to approved the proposal of NBA Accreditation application process followed by permanent affiliation and 2(f) and 12(b) and suggested to to take necessary steps to apply for NAAC Accreditation.

Resolution No. VIEW/GBM/4/2018-19(2)/6.2

The Governing Body suggested to promote internal faculty from the position of Associate Professor to Professor instead of recruiting Professors from external sources to maintain at least One Professor in each Department as per guidelines of JNTUK.

Resolution No. VIEW/GBM/4/2018-19(2)/6.3

Approval is accorded for setting up of New Computer Lab with 80 systems for JNTUK online examinations.

Resolution No. VIEW/GBM/4/2018-19(2)/6.4

The Governing Body approved the proposal of the following infrastructure additions for the academic year 2018-19 and approved the required funds for:

- l) Construction of Fourth Floor to establish additional Class rooms for B.Tech and MBA for the next academic year.
m) Construction of Open Auditorium with sponsorship

Resolution No. VIEW/GBM/4/2018-19(2)/6.5

Approval is accorded to construct separate hostel block for women's in VIEW campus to overcome the accommodation problems in present Hostel.

Resolution No. VIEW/GBM/4/2018-19(2)/6.6

Approval is accorded to establish main gate at security point along with security room and increase the security people.

Resolution No. VIEW/GBM/4/2018-19(2)/6.7

Approval is accorded to construct Two & Four wheeler parking shed in VIEW campus as per the request raised by the students and staff.

Minutes of the 23rd meeting of Board of Governors

Vignan's Institute of Engineering for Women

Held on November 12, 2019 at 10.00 a.m. at Board Room, VIEW, Visakhapatnam.

Members Presented

1	Dr. V.Bhujanga Rao	Chairman
2	Dr. L. Rathaiah	Vice-Chairman
3	Sri K Pavan Krishna	Member
4	Dr.Archana Sharma	Member
5	Sri.Venkata Rayulu Bonam	Member
6	Prof. P. V. G. D. Prasad Reddy	Member
7	Dr.Rishi Verma	Member
8	Dr. B.Subba Rao	Member
9	Smt.P.Aruna Kumari	Member
10	Mr.Suresh Kumar Tankala	Member
11	Dr.J.Sudhakar	Member Secretary
12	Prof.A.Sesha Rao	Member

The following members have requested for leave of absence expressed their inability to attend meeting.

S.No	Name of the Member	Designation
1.	Padma Bhushan Sri. Dr. Y Lakshmi Prasad	Member
2.	Sri. R.Bala Murugan	Member
3.	Mr.B.K.Surya Prakash	Member

The meeting was initiated with the welcome note by Vice-Chairman of Governing Body of VIEW, Dr.L.Rathaiah. He gave the opening remarks by introducing new Chairmna of Governing Body Dr. V.Bhujanga Rao and other new member Dr.Archana Sharma, Dr.Rishi Verma and Mr.Suresh Kumar Tankala. He expressed confidence in getting the cooperation and support from other members of the Governing Body for smooth function of the Institution.

The Chairman requested Principal **Dr.J.Sudhakar** to present the agenda notes for discussion.

Principal welcomed , Dr.Archana Sharma, Dr.Rishi Verma and Mr.Suresh Kumar Tankala who have been recently nominated for Governing Body of VIEW and presented about important developments that took place in the College, placement record, overall results of the college and appreciate the faculty members for their efforts in achieving the excellent results in UG and PG courses. The following items are discussed and the corresponding resolutions are adopted:

Item-1 Confirmation of the minutes of the earlier meeting held on 13.04.2019

The minutes of the meeting of the Governing Body held on 13.04.2019 were circulated to all the members for their comments. As there were no comments, it was declared that the minutes were confirmed.

Item-2 Report by the Principal on the progress of the College during the Academic Year 2018-19

Principal Dr.J.Sudhakar gave a Power point presentation on various activities of the college since the last Governing Body meeting. Copy of the same was perused by the members and approved.

Resolution No. VIEW/GBM/4/2019-20(1)/2.1

The Governing Body resolved to express its satisfaction upon the admissions into B.Tech., and M.B.A. for the academic year 2018-19 under the prevailing conditions, and suggested to take necessary steps for improvement of admissions in M.Tech.

Resolution No. VIEW/GBM/4/2019-20(1)/2.2

The Governing Body reviewed the results of UG and PG programmes and expressed its happiness over the performance.

Resolution No. VIEW/GBM/4/2019-20(1)/2.3

The Governing Body noted and placed on record its happiness about the University First Place in JNTUK first year results with 84.18 percent which is 5.64 percent more than the results of 2017-18 (78.54 per cent).

Resolution No. VIEW/GBM/4/2019-20(1)/2.4

The Governing Body is pleased to note that 193 out of 297 eligible students are placed as on date in different organizations during the academic year 2018-19.

Resolution No. VIEW/GBM/4/2019-20(1)/2.5

The Governing Body noted with pleasure that 4 faculty are awarded Ph.D. It is also noted that 5 faculty members submitted their Ph.D. theses and 15 faculty members pursuing Ph.D. The governing Body congratulated their effort and promised continued support to faculty in such efforts.

Resolution No. VIEW/GBM/4/2019-20(1)/2.6

The Governing Body while expressing its satisfaction about the publications by the faculty and suggested the management to encourage the faculty for more publications in reputed journals and conferences. Also advised to encourage students to pursue certification progrmes like NPTEL, Udacity, IoT, Fusion 360 etc.,

Resolution No. VIEW/GBM/4/2019-20(1)/2.7

The governing Body expressed its satisfaction that the students are actively participating in co-curricular, sports, social, ethical, cultural and other activities especially visit of ISRO, UBA activities, Activities of 150th Mahatma, Swatcha Sarveksha, Water conservation, National Sports Day.

Item-3 Ratification of selected faculty and approval for fresh recruitment.

A report on faculty selections made and requirement of faculty for the academic year 2018-19 is circulated to the members of the Governing Body. After perusal of the report by the members, the following resolutions are made:

Resolution No. VIEW/GBM/4/2019-20(1)/3.1

- i. The Governing Body noted with satisfaction that the services of 91 (81.25%) existing faculty are ratified 9 new faculty are selected through the interviews conducted by JNTU-Kakinda.
- ii. The Governing Body resolved to convey it's thanks to the JNT University-Kakinada for arranging faculty selections/ratification of services of existing faculty

Resolution No. VIEW/GBM/4/2019-20(1)/3.2

The Governing Body noted that 10 new faculty joined during this period through University selections and College level selections.

Resolution No. VIEW/GBM/4/2019-20(1)/3.3

The Governing Body authorized the Chairman, Governing Body to recruit the additional faculty required.

Item-4 Income and expenditure status for the financial year 2018-19

The Principal sought permission from the members of the Governing Body to circulate the income and expenditure for the financial year 2018-19 later as the accounts are to be finalized.

Resolution No. VIEW/GBM/4/2019-20(1)/4.1

The Governing Body resolved to permit the Principal to circulate the income and expenditure under autonomous status for the financial year 2018-19 later as the accounts are to be finalized.

Item-5 Budget for the financial year 2019-20

The proposed budget for the financial year 2019-20 as prepared by the Finance Committee is circulated to the members.

Resolution No. VIEW/GBM/4/2019-20(1)/5.1

The Governing Body approved the proposed budget for the Academic year 2019-20 as prepared by the Finance Committee.

Item-6 Proposals for the Approval of Governing Body

Resolution No. VIEW/GBM/4/2019-20(1)/6.1

The Governing Body resolved to approved the proposal to submit pre-qualified in the month of Mar-Apr 2020 followed by the submission of SAR in the month of May-June 2020.

Resolution No. VIEW/GBM/4/2019-20(1)/6.2

6.2.1 Approval is accorded for applying 2(f) and 12(b) status through an indemnity bond and it is resolved that every amount of grant that will be given by the commission to the college shall when received by the college solely be used for the benefit and purposes of the college in accordance with the terms and conditions of the grant and not for any other purpose or any other institution.

6.2.2 The Institute shall furnish to the commission the balance sheet of the Institution every year along with the annual audited accounts of the college.

6.2.3 The institute shall fulfil any other terms and condition laid down in indemnity bond.

Resolution No. VIEW/GBM/4/2019-20(1)/6.3

The Governing Body resolved to approved the proposal of Recruitment of Professors with Ph.D in CSE, ECE & EEE Departments to maintain at least One Professor in each Department as per guidelines of JNTUK.

Resolution No. VIEW/GBM/4/2019-20(1)/6.4

Approval is accorded for organizing International Conference by CSE, ECE, EEE & IT departments each during the academic year 2019-20.

Resolution No. VIEW/GBM/4/2019-20(1)/6.5

Approval is accorded for setting up of New Computer Lab with 100 systems for JNTUK online examinations.

Resolution No. VIEW/GBM/4/2019-20(1)/6.6

The Governing Body approved the proposal of the following infrastructure additions for the academic year 2019-20 and approved the required funds for:

- n) Interview panel rooms
- o) Seminar Hall in proposed forth floor
- p) Construction of Fourth Floor to establish additional Class rooms for B.Tech and MBA for the next academic year.
- q) Construction of Open Auditorium with sponsorship

Resolution No. VIEW/GBM/4/2019-20(1)/6.7

Approval is accorded to construct separate hostel block for women's in VIEW campus to overcome the accommodation problems in present Hostel.

Resolution No. VIEW/GBM/4/2019-20(1)/6.8

Approval is accorded to construct Two & Four-wheeler parking shed in VIEW campus as per the request raised by the students and staff.

Resolution No. VIEW/GBM/4/2019-20(1)/6.9

Approval is accorded to implement promotion policy to all regular teaching faculty who are seeking for the promotion from **Assistant Professor Scale to Associate Professor Scale** and advised to include in administrative manual of VIEW.

10.1.2(B) ADMINISTRATIVE SETUP

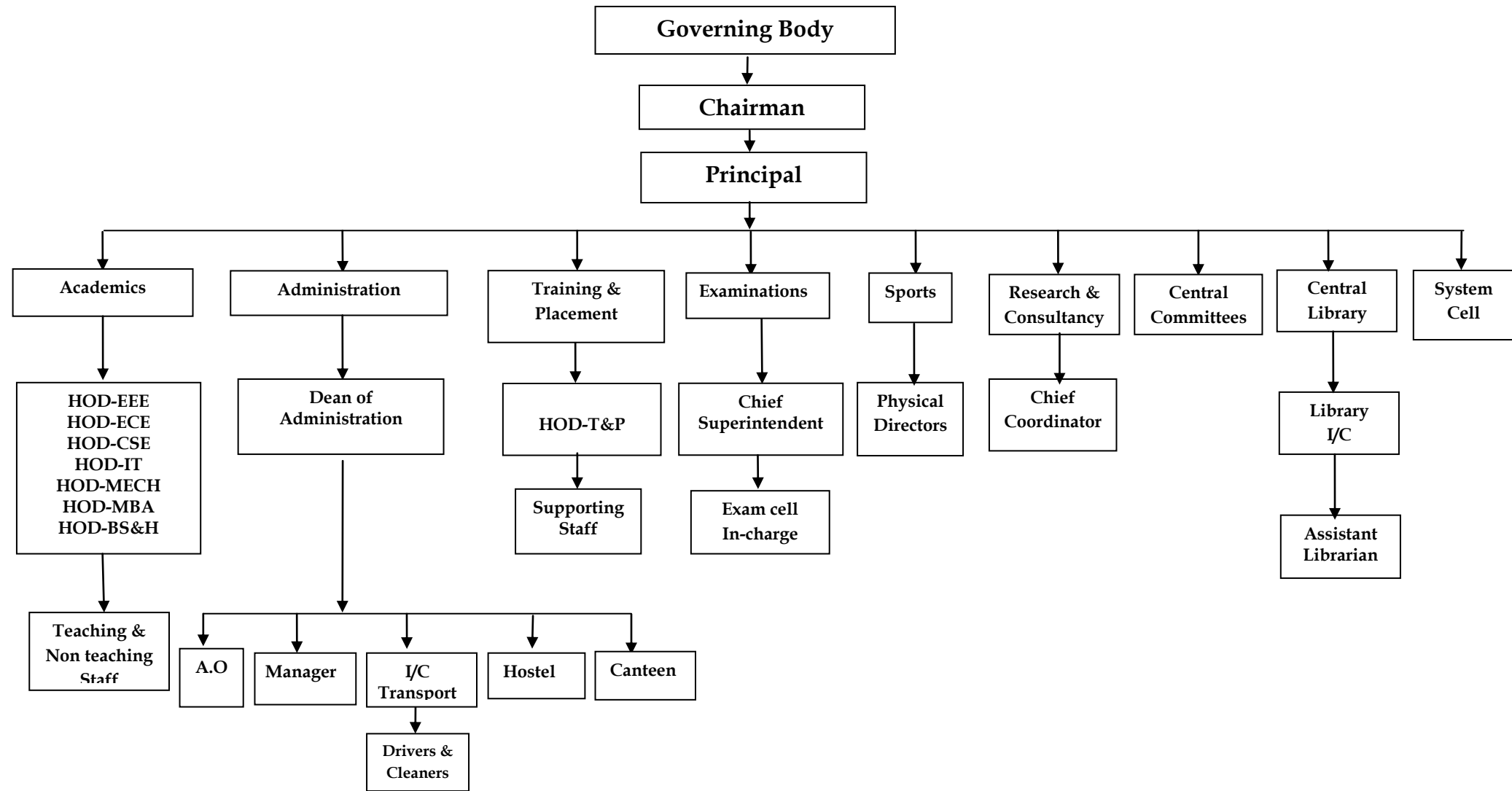
The Institute has a well marked administrative set up conforming to the norms of the AICTE and the UGC.

- ✓ The Principal wields the powers with regard to financial and to all the academic and administrative matters including the conduct of examinations.
- ✓ Each of the departments has a head of the department who, in turn, assigns various tasks to different members of faculty.
- ✓ For undertaking examination oriented tasks, Principal is the Chief superintendant of Examinations.
- ✓ As far as the administrative functions are concerned, the Dean of administration and the manager looks after the activities executed by clerical, programming, data entry and ministerial staff.
- ✓ The departments have their own respective department offices which function under the guidance of respective heads of departments.
- ✓ All the monetary transactions (both the receipts and payments) are processed through a nationalized bank.

✓ On the whole, the members of faculty and nonteaching staff of the college believe in the dignity of labour, and all the functions of the college are meticulously planned, properly coordinated and perfectly executed.

The structure of the institutional management is shown below:

VIGNAN'S INSTITUTE OF ENGINEERING FOR WOMEN: ORGANIZATIONAL STRUCTURE



10.1.2 (C) DUTIES AND RESPONSIBILITIES OF ADMINISTRATIVE AUTHORITIES**(i) Principal**

The Principal is the administrative head for all the activities of the Institution. He is responsible for implementation of all the policy decisions of the management with a view to achieve the set targets.

As the head of the Institution, the Principal is a leader who inspires the students and the staff and motivates them for cordial working atmosphere to make the institution excel well. The following are the important functions:

Academic:

1. The Principal shall make arrangements for planning the various courses to be offered and the preparation of course materials
2. The Principal shall supervise the course timetable, staff allocation, staff attendance and syllabus coverage.
3. He/She shall ensure the conduct of internal continuous assessment examinations at appropriate periods.
4. He/She shall monitor the student projects, progress and the University examinations (theory and practical).
5. He/She shall review the reports of the analysis of test marks of the students and arrange for special coaching etc for academically poor students.

General Administration and Finance:

1. The Principal shall convene the Governing council meeting at least once in every semester.
2. The Principal shall make recommendations regarding plans for the development of the institution in the years to come.
3. He shall help the creation of necessary infrastructure for a conducive atmosphere for education in the campus.
4. He shall ensure the appointment of qualified staff (both teaching and non -teaching)
5. All correspondences within the campus and to outside organizations and the University will be done through the Principal with the approval of the Chairman
6. The Principal shall convene the HODs meeting at least once in 15 days and maintain the Minutes book.

7. Principal is assisted by the Finance committee and purchase committee in financial administration.
8. The Principal or the officer delegated with such powers shall counter sign all kinds of scholarship bills in respect of students of the college.

Student Affairs:

1. The Principal shall plan for offering value-added courses, training and placement opportunities and educational tour to the students.
2. He shall provide avenues for co-curricular, extra-curricular activities, professional societies and counseling and guidance programmes to the students.
3. He shall arrange for the periodical monitoring of students attendance and their progress in studies and arrange for parent-teacher meetings as and when necessary.
4. He shall take appropriate action to ensure that the rules and regulations are strictly followed by the students.
5. The Management expects the Principal to be a coordinating point to ensure that all the policies of the management are implemented and promote the college as an excellent educational institution.

Research and Extension Activities:

1. The Principal shall encourage conducting of seminars and symposia and such research – oriented activities in the campus.
2. He shall encourage the staff to become members of professional bodies, carry out consultancy works, mini projects and other extension activities.

(ii) Head of the Department

An efficient Departmental head is a well disciplined and dedicated person with leadership qualities. He motivates the Students and Staff to perform their respective academic / administrative duties and responsibilities. His *duties* are as under:

1. Check the attendance register every week and sign after verification.
2. Preparation of (i) academic schedules and its implementation, (ii) academic time table, (iii) laboratory log books, manuals, registers, through the concerned faculty member.
3. Prepare the list of laboratory requirements as necessary and initiate procurement action to facilitate smooth conduction of the lab experiments.
4. Carryout the stock verification, maintenance of the lab and its equipment.

5. Recommend the leaves / permissions of the staff within the department only after ensuring the work adjustments and maintain the leave record.
6. Conduct regular staff meetings to monitor the progress and preserve the minutes of the meeting.
7. Students having shortage of attendance must be counseled and their parents are informed.
8. The overall distribution of the faculty work load should be unbiased.
9. Monitor the syllabus completion at regular interval and prepare fortnightly reports for submission to the Principal.
10. Conduct and maintain the record of the sessional and practical marks awarded is as per university regulations.
11. Participate in any additional activities entrusted by the Principal

(iii) Dean-Administration

The Dean of Administration is a person looking into all administrative matters prescribed by Principal/Management from time to time. His/Her duties are as under:

1. Overseeing all personnel matters involving academic and non academic employees including notification, recruiting, appointment, reappointment, termination and dismissal.
2. Maintain service records and supervise the process updating personal files of both teaching and Non-Teaching staff.
3. Co-ordinate to conduct Governing Body Meeting and Prepare the Governing Body Meeting Reports
4. Evaluation of teaching and non-teaching staff appraisals for annual Increments and placing in front of Management for Approval.
5. Implementation of AICTE Pay Scales to the Teaching Staff and revision of pay scales from time to time and maintenance of service registers, salary registers of both teaching and non-teaching staff.
6. Authorization of all office & administrative, operational expenses to make payment to suppliers/vendors.
7. Verification and Authorization for Financial Assistance to teachers to attend conferences, seminars, workshops in and outside India.
8. Evaluation of Means and Merit scholarships of students and Awards to Teaching and non teaching staff.

9. Looking into affiliated University (JNTU, Kakinada) related matters such as attending meetings, submitting reports and taking necessary actions on the affiliated University Notifications and circulars from time to time.
10. Guiding the staff to prepare reports pertaining to AFRC, NIRF, Facts Finding Committee (FFC) and AICTE.
11. Exercise such other duties, as prescribed by or assigned by the Management from time to time.

(iv) Training and Placement Officer

The training and placement officer are the coordinator of placement and training cell. One faculty member from each department nominated by the respective H.O.D is currently a member of the cell. The cell meets once in every month to finalize the plan of activities for II, III, and IV-year students to improve the employability of students, the cell submits the plan for the approval of the Principal and Management. The activities of this officer comprise of (i) Training (ii) Placement and (iii) Alumni.

Training

1. To create an awareness among the students about the requirements of various recruiting organizations.
2. To create awareness and train the students in communication skills.
3. To establish a “Centre for Career Guidance and Counseling” and to organize professional counseling by experts in career opportunities.

Placement

1. To maintain the data base of various companies / prospective recruiters and recruiting agencies and correspond with them.
2. To coordinate with the HOD's, Exam branch, and the Principal to procure a list of the eligible students for jobs, projects, further studies and desirous of becoming entrepreneurs and guide them in the respective areas.
3. To organize regular mock interviews and group discussions in association with the language faculty.
4. To intimate the students about the placement campaign in various major cities in the country.

5. To correspond with various prospective employers with respect to Project Works, Seminars, Industry Visits and Job recruitment
6. To gather the information about further studies of various universities and display the same for higher studies.

Alumni

1. To educate the present outgoing batch of students about the alumni association and its relevance for the betterment of the students after their graduation.
2. To coordinate the filling up of the alumni proforma by the outgoing students.
3. To maintain an alumni database and conduct an alumni get together at least once in a year.
4. To send greetings or letters of appreciation to the alumni.

(v) In-Charge- Examination

Examination in charge is the centre point for conducting a standard examination system in this Institution. His keen observation and proper supervision help to develop a standard assessment and evaluation system for an organization. His responsibilities include:

1. To coordinate the conduct of various examinations.
2. To inform the Principal regarding the scheduling, material requirement, procedures, invigilation status well in advance.
3. To coordinate with the administrative staff with regard to requirement of stationery, printing and other material required for the conduct of examinations.
4. To maintain total confidentiality and ethics in the conduct of the examinations.
5. To maintain all the records and information pertaining to the examinations.
6. To conduct regular results analysis with the help of administrative staff and inform the Principal.
7. To prepare a monthly, quarterly, half yearly and annual report and submit to the Principal.

(vi) Coordinator - Research & Development

A research and development (R&D) coordinator perform a number of highly important roles within an organization. They are responsible for research, planning, and implementing new programs and protocols into their company or organization and overseeing the development of new products. His duties and responsibilities include:

1. To constitute a project screening committee – to process any project selected by the Staff & Students.

2. To maintain a database of the research activities carried out by the Staff & students.
3. To liaise with the outside institutions of repute for carrying out research and consultancy activities.
4. To ensure and encourage development of in-house projects.
5. To help the students in selecting live projects in their respective areas.

(vii) Coordinator- Central Library

The coordinator duties and responsibilities consist of the following.

1. To inform all the users the rules and regulations of the Library in terms of issue, renewal, the Do's and the Don'ts in the Library.
2. To organize library audit once in every year
3. To coordinate among student and staff and understand the library needs and inform the library about this.
4. To organize various functions and activities such as library week, or to install clubs such as reading club essentially to develop a very interactive and vibrant reading and library usage culture among the student and staff.
5. To recommend the required volumes, titles of books, Journals, Magazines, News papers, Audio video CD's and infrastructure as per AICTE/ JNTU norms.
6. To check the correctness in the stock register/ Accession register and prepare a monthly, quarterly, half yearly and annual report and submit to the Principal.
8. To bring to the notice of the Principal any complaints / suggestions from the students / staff.

(viii) Coordinator- Games & Sports

The Sports Coordinator at VIEW has overall responsibility for the leadership of all institutional sports and works with other staff to ensure that a diverse, well-managed sports program is in place for students. His/her main duties are:

1. To ensure the availability sufficient quantity of sports equipment through purchase as and when required by following the establish purchase procedures.
2. To coordinate the maintenance of records of the purchase i.e. quotation, purchase order, bills and stock register.
3. Any issue deemed fit must be brought to the notice of the Principal.

10.1.2 (D) ACADEMIC AND ADMINISTRATIVE BODIES:

The following is the list of academic and administrative bodies constituted to work towards to betterment of all stakeholders of the Organization.

(a) Internal Quality Assurance Committee (IQAC)

Internal Quality Assurance Cell (IQAC) has been promoting measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.

Table 10.2 Composition of IQAC

Sl. No	Designation	Recommendation of IQAC	Name of office bearer
1.	Chairperson	Head of the Institution	Dr.J.Sudhakar –Principal, VIEW
2.	Senior Teacher	One of the senior faculty as the Coordinator of the IQAC	Dr.Akanksha Mishra, Associate Professor, EEE
3.	Admin. Representative	Few Senior Administrative Officers	Dr. P.S.Ravindra, Dean-Admin Mr.P.Chandra Sekhar Babu,
4.	Senior faculty representatives	Three to eight teachers	1. Dr.K.Vijaya Kumar, HOD-CSE 2. Dr.Ch.Ramesh Babu, HOD-ECE 3. Dr.K.Durga S Prasad, HOD-EEE 4. Dr.B.Prakash, HOD-IT 5. Dr.M.Nagendrababu, HOD-MECH 6. Dr.K.Chaitanya, HOD-BS&H 7. Dr.M.Pardha Saradhi, HOD-MBA
5.	Management representative	One member from the Management	Prof.A.Sesha Rao-Academic Director
6.	Local Society nominee	One/two nominees from local society, Students and Alumni	Mr.U.Chitti Babu, D.G.M (HR), Visakha Dairy
	Alumini nominee		Ms.Sarika Bora, Senior Systems Engineer, Infosys Limited
	Student nominee		Ms.Chandana Sravani, III ECE
7.	Employer Nominee	One/two nominees from Employers/Industrialist/Stakeholders	Dr.M.Nagendrababu, Head-T&P
	Industrialist nominees		Girish Tiwari, Manager, Vizag Steel Plant
	Stakeholder Nominee		Mr.P.V.Satyanarayana Raju, RINL, Visakhapatnam

Committee Frequency of Meetings: As and when necessary

The prime tasks of the QCC are as follows:

1. Development and application of quality benchmarks/parameters for various academic and administrative activities of the institution
2. Arrangement for feedback response from students, parents and other stakeholders on quality-related institutional processes
3. Documentation of the various programmes/activities leading to quality improvement.
4. Development and maintenance of institutional database through College Management System for the purpose of maintaining /enhancing the institutional quality.
5. Prepare a consolidated report of all the status, in terms of losses, obsolete equipment, items recommended for writing-off, disposal of waste, general fitness of all equipment and so on.
6. Ensure research work papers are adequately documented and audit evidence is sufficient.
7. Conduct periodic training workshops to promote awareness of internal controls and to discuss changes in policies that will impact the system.
8. To give adequate counseling and guidance to students in their personal / academic / professional fronts through the Counseling and Guidance cell.

b. Academic Planning and Advisory Committee

The college academic committee is formed with the Principal and Heads of the department. The function of APAC is to make recommendations to the management of the college and to the governing board with regard to academic and professional matters. APAC has been working for the quality enrichment and attainment of expected academic outcomes. The Academic Planning and Advisory Committee takes-up the following activities.

1. Monitor submission of Lesson Plans, Issue of Attendance Registers, List of students, Class Time-Tables consisting of Tutorial classes, Sports counseling hours, GATE, CRT, PDP Classes, remedial time tables, subject revision time-table counseling.
2. Frame the necessary academic structure so as to achieve the objectives of the college and supervise the day to day administration of the college.
4. Facilitate the events such as faculty and student induction programmes, workshops, seminars and symposium, cultural activities.
5. To review the academic and related activities of the college.
6. To formulate master plan for campus development, facilitating implementation of the provision of the perspective plan.

7. To draw new schemes of development for the college.
8. To plan for resource mobilization through industry interaction, consultancy and extramural funding.
9. To promote research and extension activities in the college campus.
10. To plan for sustaining the quality of education, quality improvement and accreditation of the college.

Committee Frequency of Meetings: Two time a year

Table 10.3 Composition of Academic Planning and Advisory Committee

Sl. No	Name of Committee Member	Designation	Position
1.	Dr.J.Sudhakar	Principal	Chairman
2.	Prof.A.Sesha Rao	Academic Director	Member
3.	Sri R.Sri Hari	Scientist-G, NSTL	External Member
4.	Dr.K.Vijaya Kumar	HoD-CSE	Member
5.	Dr.Ch.Ramesh Babu	HoD-ECE	Member
6.	Dr.K.Durga Syam Prasad	HoD-EEE	Member
7.	Dr.B.Prakash	HoD-IT	Member
8.	Dr.M.Nagendrababu	HoD-MECH	Member
9.	Dr.M.Pardha Saradhi	HoD-MBA	Member
10.	Dr.K.Chaitanya	HoD-BS&H	Member

c. Examination Committee

The Prime tasks of the Committee are as follows:

1. Lesioning with examination section of JNTUK regarding the conduct of examinations (UG &PG), Spot Valuation.
2. Identification of detained candidates and promoted candidates based on credits and attendance
3. Estimation of stationary requirements for conduction of examinations
4. Monitoring and conduction of University and Internal Examinations

Table 10.4 Composition of Examination Committee

Sl.No	Name of Committee Member	Designation	Position
1.	Dr.J.Sudhakar	Principal	Chief Superintendent
2.	Prof.A.Sesha Rao	Academic Director	Member
3.	Mr.A.Ganapathi Rao	Exam Cell in-charge	Member
4.	Mr. K. Chiranjeevi	Coordinator-UG	Member
5.	Mr.K.Santosh Kumar	Coordinator-PG	Member
6.	Dr.K.Vijaya Kumar	HoD-CSE	Member
7.	Dr.Ch.Ramesh Babu	HoD-ECE	Member
8.	Dr.K.DurgaSyamPrasad	HoD-EEE	Member

9.	Dr.B.Prakash	HoD-IT	Member
10.	Dr.M.Nagendrababu	HoD-MECH	Member
11.	Dr.M.Pardha Saradhi	HoD-MBA	Member
12.	Dr.K.Chaitanya	HoD-BS&H	Member

Committee Frequency of Meetings: Once after every examination session.

d. Training and Placement Committee

The Prime tasks of the Committee are as follows:

1. Provide campus drive placements for eligible students.
2. Develop the students with their behavioural skills, language and communication skills, in their four years of study and also counsel them for job opportunities in the country and abroad.
 1. Develop communication skills in students and improve the vocabulary and LSRW skills (Listening, Speaking, Reading & Writing), technical report writing and presentation skills.
 2. Prepare students for campus interviews, reasoning and aptitude tests.
 3. Maintain Alumni database and invite their valuable suggestions by conducting alumni meet regularly.

Table 10.5 Composition of Training and Placement Committee

Sl.No	Name of Committee Member	Designation	Position
1.	Dr.J.Sudhakar	Principal	Chairman
2.	Prof.A.Sesha Rao	Academic Director	Member
3.	Dr.K.Vijaya Kumar	HoD-CSE	Member
4.	Dr.Ch.Ramesh Babu	HoD-ECE	Member
5.	Dr.K.Durga Syam Prasad	HoD-EEE	Member
6.	Dr.B.Prakash	HoD-IT	Member
7.	Dr.M.Nagendrababu	HoD-MECH	Member
8.	Dr.M.Pardha Saradhi	HoD-MBA	Member
9.	Dr.K.Chaitanya	HoD-BS&H	Member
10.	Dr.K.V.Ramana Rao	Assistant Training Officer	Member
11.	Dr.M.Nagendrababu	Training and Placement Officer	Coordinator

Committee Frequency of Meetings: Once in a month

e. Library Committee

The LC is responsible to:

- 1) Prepare the list of text books/Journals to be purchased for the current academic year.
- 2) Prepare yearly budget for Library and send recommendations to management
- 3) Conduct at least two meetings at the beginning of every semester to review the performance of all library procedures.
- 4) Review and enhance digital library resources.
- 5) Guide the librarian in the overall functioning of the central library both qualitatively and quantitatively.

Table 10.6 Composition of Library Committee

Sl.No	Name of Committee Member	Designation	Position
1.	Dr.J.Sudhakar	Principal	Chairman
2.	Prof.A.Sesha Rao	Academic Director	Member
3.	Dr.K.Vijaya Kumar	HoD-CSE	Member
4.	Dr.Ch.Ramesh Babu	HoD-ECE	Member
5.	Dr.K.Durga Syam Prasad	HoD-EEE	Member
6.	Dr.B.Prakash	HoD-IT	Member
7.	Dr.M.Nagendrababu	HoD-MECH	Member
8.	Dr.M.Pardha Saradhi	HoD-MBA	Member
9.	Dr.K.Chaitanya	HoD-BS&H	Member
10.	Mrs.A.L.Vineela	Librarian	Member
11.	Mrs.Yamini Padmamala	Assistant Librarian	Member
12.	Dr.K.Kushal Kumar	Assoc.Professor-EEE	Coordinator

Committee Frequency of Meetings: Once in a Semester

f. Research and Development Committee

The R&DC is responsible to:

1. Review the proposals submitted by each department for R&D projects.
2. Guide the departments in submitting R&D proposals for funding agencies like AICTE/MHRD, DST, UGC, DRDO etc.,
3. Review the progress of R&D projects, if any
4. Conduct workshops, conferences, guest lectures on advanced research or emerging trends in industry needs.

Table 10.7 Composition of Research and Development Committee

Sl.No	Name of Committee Member	Designation	Position
1.	Dr.J.Sudhakar	Principal	Chairman
2.	Prof.A.Sesha Rao	Academic Director	Member

3.	Dr.K.Vijaya Kumar	HoD-CSE	Member
4.	Dr.Ch.Ramesh Babu	HoD-ECE	Member
5.	Dr.K.Durga Syam Prasad	HoD-EEE	Member
6.	Dr.B.Prakash	HoD-IT	Member
7.	Dr.M.Nagendrababu	HoD-MECH	Member
8.	Dr.M.Pardha Saradhi	HoD-MBA	Member
9.	Dr.K.Chaitanya	HoD-BS&H	Member
10.	Dr.M.Nagendrababu	Assoc.Professor- MECH	Coordinator

Committee Frequency of Meetings: Twice in a Semester

g. Other Statutory and Non-Statutory Committees

In addition to above committees, the college has other committees to ensure proper development and management of academic, financial and general administrative affairs. All the below mentioned committees comprise of internal officials and are constituted to operationalize decisions taken by the statutory committees and also to manage day to day operations.

Table 10.8 Composition of Other Statutory and Non-Statutory Committees

Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Admission Committee (AC)	Dr.J.Sudhakar	Principal	Chairman	a) Monitor admission procedures for students admitted under convener quota, management quota. b) Maintain admission register for all UG and PG students. c) Issue of code of conduct, academic rules & regulations, course structure & syllabus. d) Analyze admission trends and provide feedback/suggestions syllabus. e) Preparation & Submission of necessary documents to University & APSCHE. Frequency of Meeting: Once in a Year
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.N.Srikanth	Executive Director	Member	
4.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
5.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
6.		Dr.B.Prakash	HoD-IT	Member	
7.		Dr.M.Nagendrababu	HoD-MECH	Member	
8.		Dr.M.Pardha Saradhi	HoD-MBA	Member	
9.		Dr.K.Chaitanya	HoD-BS&H	Member	
10.		Mr.S.A.Ramakrishna Raju	A.O.	Member	
11.		Dr.K.Durga Syam Prasad	HoD-EEE	Coordinator	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Student Welfare Committee (SWC)	Dr.J.Sudhakar	Principal	Chairman	a) To provide the necessary information about various competitive examinations to the students. b) To provide information about various careers available in the competitive world. c) To organize various career development seminars and workshops. d) To invite experts from various companies to interact with students. Frequency of Meeting: Twice in a Semester
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.G.Lakshmana	Asst.Prof-ECE	Member	
4.		Mrs.R.Pravallika	Asst.Prof -CSE	Member	
5.		Mr.K.Vamsi	Asst.Prof -EEE	Member	
6.		Mrs.S.Kalyani	Assoc.Prof -IT	Member	
7.		Mrs.K.Vahini	Asst.Prof -MECH	Member	
8.		Mrs.A.Venkata Lakshmi	Asst.Prof -MBA	Member	
9.		Mr.B.Nagabhushan Rao	Asst.Prof -BS&H	Member	
10.		Mrs.T.Sandhya Kumari	Assoc.Prof -ECE	Coordinator	

Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Extra-curricular Activities Committee (ECAC)	Dr.J.Sudhakar	Principal	Chairman	a) Plan and conduct National level/state level student seminars, workshop, live model exhibitions, sports, games and cultural events. b) Prepare a budget estimate for the conduct of various co-curricular and extracurricular activities. c) Select students to be deputed for co-curricular and extra-curricular activities outside the college. Frequency of Meeting: Twice in a Semester
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
4.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
5.		Dr.K.Durga Syam Prasad	HoD-EEE	Member	
6.		Dr.B.Prakash	HoD-IT	Member	
7.		Dr.M.Nagendrababu	HoD-MECH	Member	
8.		Dr.M.Pardha Saradhi	HoD-MBA	Member	
9.		Dr.K.Chaitanya	HoD-BS&H	Member	
10.		Ms.M.Hema V. Lakshmi	Physical Director	Member	
11.		Department Association Members		Member (s)	
12.		Dr.K.Kushal Kumar	Assoc.Prof.-EEE	Coordinator	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	College Development Committee (CDC)	Dr.J.Sudhakar	Principal	Chairman	a) Receive budgetary requirements consolidated by the Principal which are submitted by various HODs. b) Recommend proposals for infrastructural improvement periodically. c) Recommend APAC the new courses to be started. d) Initiate Programs for conduction GATE, CRT, PDP classes, Soft Skills Training, Certification Courses, Bridge Courses, Add-on Courses for the students. e) Act as a link between APAC and college administration. Frequency of Meeting: Once in aYear
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.N.Srikanth	Executive Director	Member	
4.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
5.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
6.		Dr.K.Durga Syam Prasad	HoD-EEE	Member	
7.		Dr.B.Prakash	HoD-IT	Member	
8.		Dr.M.Nagendrababu	HoD-MECH	Member	
9.		Dr.M.Pardha Saradhi	HoD-MBA	Member	
10.		Dr.K.Chaitanya	HoD-BS&H	Member	
11.		Dr.P.S.Ravindra	Dean-Admin	Member	

Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Purchase Committee (PC)	Dr.J.Sudhakar	Principal	Chairman	a) Accept and review the purchase proposals/quotations received from different departments. b) Conduct the negotiations with suppliers for the best quality & price. c) Make recommendations to the Management for placing the purchase orders. Frequency of Meeting: Twice in a Semester
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.N.Srikanth	Executive Director	Member	
4.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
5.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
6.		Dr.K.Durga Syam Prasad	HoD-EEE	Member	
7.		Dr.B.Prakash	HoD-IT	Member	
8.		Dr.M.Nagendrababu	HoD-MECH	Member	
9.		Dr.M.Pardha Saradhi	HoD-MBA	Member	
10.		Dr.K.Chaitanya	HoD-BS&H	Member	
11.		Lab In-charge of Concerned Department		Member	
12.		Sr.Faculty of Concern Department		Member	
13.		Dr.P.S.Ravindra	Dean-Admin	Coordinator	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Faculty Recruitment Committee (FRC)	Dr.J.Sudhakar	Principal	Chairman	a) Recruit teaching and non-teaching faculty as per the requirement in each discipline fulfilling the cadre ratio of AICTE by following 3-tier procedures (written test/Interview, Teaching Demo and HR skills). b) Define the roles and responsibilities for all positions. c) Analyze recruitment trends and provide feedback to APAC Frequency of Meeting: Once in a Semester
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.N.Srikanth	Executive Director	Member	
4.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
5.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
6.		Dr.K.Durga Syam Prasad	HoD-EEE	Member	
7.		Dr.B.Prakash	HoD-IT	Member	
8.		Dr.M.Nagendrababu	HoD-MECH	Member	
9.		Dr.M.Pardha Saradhi	HoD-MBA	Member	
10.		Dr.K.Chaitanya	HoD-BS&H	Member	
11.		Internal Examiner of the concerned Department		Member	
12.		External subject expert		Member	
13.		Dr.P.S.Ravindra	Dean-Admin	Coordinator	

Sl. No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Alumni Committee	Dr.J.Sudhakar	Principal	President	a) To post updates regarding activities of college in social networks. b) Contact students to know about their designations, and their employers. c) To arrange guest lectures by the alumni to make the students understand the requirements of the corporate companies. d) Gather the information of passed out students pursuing higher degrees. Frequency of Meeting: Once in Year
2.		Prof.A.Sesha Rao	Academic Director	Advisor	
3.		Mrs.T.Sandhya Kumari	Assoc.Prof-ECE	Vice President	
4.		Dr. Dominic Souri	Assoc.Prof-BS&H	Joint Secretary	
5.		Dr. S Ramesh	Assoc.Prof-MBA	Treasurer	
6.		Sr.Faculty from Each Department		Executive Member	
7.		Dr.Ch.Ramesh Babu	HOD-ECE	Secretary	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	N.S.S. Committee	Dr.J.Sudhakar	Principal	Chairman	a) To plan and execute N.S.S. Programmes for the year. b) To conduct Special N.S.S. camp and to submit the audited statement of accounts at the end of the year. c) To distribute the work for the NSS volunteers for maintenance of cleanliness in and around the College. d) To take care of campus beautification and gardening. e) To maintain the records of the activities conducted and submit the same to the IQAC, JNTUK. Frequency of Meeting: As and when necessary
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mrs.M.Dhana L.Bhavani	Asst.Prof-ECE	Member	
4.		Mr.D.Rajendra Dev	Asst.Prof -CSE	Member	
5.		Mrs.T.Sushma	Asst.Prof -EEE	Member	
6.		Mr.S.Sagar	Asst.Prof -IT	Member	
7.		Mrs.P.Prasanna Kumari	Asst.Prof -MECH	Member	
8.		Mrs.T.Suguna	Asst.Prof -MBA	Member	
9.		Dr.K.P.Suhasini	Assoc.Professor-BS&H	Programme Officer	

Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Scholarship Committee	Dr.J.Sudhakar	Principal	Chairman	a) To make the students aware of the various schemes / assistance / scholarships available for students. b) To scrutinize scholarship forms of the students and ensure to submit / process the same on time to the respective Department. c) To maintain the records and submit the same to the IQAC Committee. Frequency of Meeting: Once in Year
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
4.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
5.		Dr.K.Durga Syam Prasad	HoD-EEE	Member	
6.		Dr.B.Prakash	HoD-IT	Member	
7.		Dr.M.Nagendrababu	HoD-MECH	Member	
8.		Dr.M.Pardha Saradhi	HoD-MBA	Member	
9.		Dr.K.Chaitanya	HoD-BS&H	Member	
10.		Mr.K.Rajendra Prasad	Asst.Prof-ECE	Member	
11.		Mr.P.Mohan Ganesh	Asst.Prof-IT	Member	
12.		Mr.S.A.Ramakrishna Raju	A.O.	Member	
13.		Dr.P.S.Ravindra	Dean-Admin	Coordinator	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Institute Newsletter Committee	Dr.J.Sudhakar	Principal	Chairman	a) To assess the editorial quality of the content to be published which includes programs of the college, information regarding the events organized in the college under various committees. b) To collect the information from staff and students relevant for publication under various headings. c) To get the magazine printed by the end of every quarter in and distribute the same to students and staff Frequency of Meeting: Once in every quarter
		Prof.A.Sesha Rao	Academic Director	Member	
2.		Dr.P.Sudhakar	Assoc.Prof-ECE	Member	
3.		Mrs.Rahimunnisa Shaik	Asst.Prof -CSE	Member	
4.		Mr.K.Vamsi	Asst.Prof -EEE	Member	
5.		Mr.B.Ajay Kumar	Asst.Prof -IT	Member	
6.		Mr.S.V.Satya Prasad	Asst.Prof -MECH	Member	
7.		Mrs.A.Venkata Lakshmi	Asst.Prof -MBA	Member	
8.		Mr. B.Nagabhusana Rao	Asst.Prof -BS&H	Member	
9.		Mr. S.K.Chaitanya Ch	Asst.Prof - BS&H	Editor	
10.	Dr.T.Radha Kriahna Murty	Professor-BS&H	Chief Editor		

Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Discipline Committee	Dr.J.Sudhakar	Principal	Chairman	a) To maintain and enforce strict discipline within the college campus. b) All the students should wear their ID Cards while they are in the campus and their respective class rooms. c) To monitor the movement of the students in the college. d) To ensure that students maintain complete silence in the library. e) To maintain proper discipline in the college canteen and student waiting room during the college working hours. Frequency of Meeting: As and when necessary
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Dr.K.V.Ramana Rao	Asst.Prof-ECE	Member	
4.		Dr.P.Vijaya Bharathi	Asst.Prof -CSE	Member	
5.		Mrs.K.Therissa	Assoc. Prof -EEE	Member	
6.		Mr. Ch.Ramasuri A N	Asst.Prof -IT	Member	
7.		Mr.V.Ananda Babu	Asst.Prof -MECH	Member	
8.		Mrs.M.Satyavathi	Asst.Prof -MBA	Member	
9.		Mr.S.Giri Babu	Asst.Prof -BS&H		
10.		Ms.M.Hema V. Lakshmi	Physical Director	Member	
11.		Dr.P.S.Ravindra	Dean-Admin	Member	
12.		Dr.K.Kushal Kumar	Assoc.Prof-EEE	Coordinator	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Website Maintenance Committee (WMC)	Dr.J.Sudhakar	Principal	Chairman	a) To administer data acquisition process, update and maintenance of the institute's website with regard to all activities related to Domain & Hosting. b) To collect information & data reports from various academic departments & internal bodies and timely updates c) To provide feedback and recommendations to the authority with regard to the website maintenance activities from time to time. Frequency of Meeting: As and when necessary
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.D.Tilak Raju	Asst.Prof-ECE	Member	
4.		Mrs.G.Sandhya	Asst.Prof -CSE	Member	
5.		Mr.K.V.Sri Ram Prasad	Asst.Prof -EEE	Member	
6.		Mr.Gandi Netaji	Asst.Prof -IT	Member	
7.		Mr.A.V.Pradeep	Asst.Prof -MECH	Member	
8.		Mrs.M.Sowjanya	Asst.Prof -MBA	Member	
9.		Mr. K.Ramesh	Asst.Prof -BS&H	Member	
10.		Dr.P.S.Ravindra	Dean-Admin	Member	
11.		Dr.B.Prakash	HoD-IT	Coordinator	

Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Entrepreneurship Development Committee (EDC)	Dr.J.Sudhakar	Principal	Chairman	a) To create an environment for self-employment, promote innovation and Entrepreneurship development through various programs b) To introduce the concept of Entrepreneurship as a part of the curriculum c) To promote employment opportunities. d) To provide a platform for interaction with entrepreneurs. e) To conduct skill industrial development training programs with updated technologies. Frequency of Meeting: Once in every semester
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Dr.K.Vijaya Kumar	HoD-CSE	Member	
4.		Dr.Ch.Ramesh Babu	HoD-ECE	Member	
5.		Dr.K.Durga Syam Prasad	HoD-EEE	Member	
6.		Dr.B.Prakash	HoD-IT	Member	
7.		Dr.M.Nagendrababu	HoD-MECH	Member	
8.		Mr.V. Ananda Babu	Assoc. Prof-MECH	Member	
9.		Mr.P.V.Sarat	Asst. Prof- EEE	Member	
10.		Mr.R.Ravi	Asst. Prof- CSE	Member	
11.		Mr.G.Lakshmana	Asst. Prof- ECE	Member	
12.		Dr.S.Ramesh	Assoc. Prof-MBA	Coordinator	
Sl.No	Committee Name	Name of Committee Members & Designation			Duties and Responsibilities
		Name of Faculty	Designation	Position	
1.	Industry Institute Interaction Committee (IIC)	Dr.J.Sudhakar	Principal	Chairman	a) To give industrial exposure to faculty members and students, thus enabling them to tune their knowledge to cope with the industrial culture. b) To assist the Departments in organizing workshops, conferences and symposia with joint participation of the industries. c) To organize industrial visits for Faculty members and students. d) To assist the Departments in establishing rapport with industries for taking up mini projects and projects. Frequency of Meeting: As and when necessary
2.		Prof.A.Sesha Rao	Academic Director	Member	
3.		Mr.D.Tilak Raju	Asst. Prof-ECE	Member	
4.		Mr.I.Raju	Asst.Prof -CSE	Member	
5.		Mr.K.Vamsi	Asst.Prof -EEE	Member	
6.		Mr.P.Mohan Ganesh	Asst.Prof -IT	Member	
7.		Mr.A.V.Pradeep	Asst.Prof -MECH	Member	
8.		Mrs.T.Suguna	Asst.Prof -MBA	Member	
9.		Dr.P.Sudhakar	Assistant P.O	Member	
10.		Dr.K.V.Ramana Rao	Assistant T.O	Member	
11.		Dr.M.Nagendrababu	HoD-T&P	Coordinator	

10.1.2 (E) Service Rules and Regulations

The Institute has a well-framed Human Resource Policies and Administrative Practices manual consisting *recruitment policies and procedures, duties and responsibilities, service rules and regulations and motivational incentives* which is revised from time to time. The last revision was done and published in October 2019 and displayed in institute website (<http://view.edu.in/admsrpp.php>). The following are the list of contents of the book.

Section	Name of the Content	Page No(s)
I	INTRODUCTION	1-11
	<i>1.1 About the Institution</i>	
	<i>1.2 Vision, Mission & Core Values</i>	
	<i>1.3 Quality Policy</i>	
	<i>1.4 Governing Body</i>	
	<i>1.5 Human Resource Management Policy</i>	
	<i>1.6 Extent of Application</i>	
II	HUMAN RESOURCE MANAGEMENT	12-28
	<i>2.1. Planning for Human Resources</i>	
	<i>2.2. Classification of Human Resource in VIEW</i>	
	<i>2.3. Recruitment Policy & Process</i>	
	<i>2.4 Salary, Welfare Measures/Allowances</i>	
III	DUTIES AND RESPONSIBILITIES	29-63
	<i>3.1 Duties and Responsibilities of Administrative Authorities</i>	
	<i>3.2 Duties and Responsibilities of Instructional/Teaching Staff</i>	
	<i>3.3 Duties and Responsibilities of Coordinators/In-Charges</i>	
	<i>3.4 Duties and Responsibilities of Various committees</i>	
	<i>3.5 Duties and Responsibilities of Non-Teaching Staff-Academics</i>	
	<i>3.6 Duties and Responsibilities of Supporting Staff-Academics</i>	
	<i>3.7 Duties and Responsibilities of Supporting Staff-Technical</i>	
	<i>3.8 Duties and Responsibilities of Supporting Staff-Administration</i>	
	<i>3.9 Duties and Responsibilities of Supporting Staff-Maintenance</i>	
	<i>3.10 Duties and Responsibilities of Supporting Staff-Transport</i>	
IV	SERVICE RULES AND REGULATIONS	64-76
	<i>4.1 Service Conditions</i>	
	<i>4.2 Custody of Certificates</i>	
	<i>4.3 Withdrawal of Original Certificates</i>	
	<i>4.4 Resignation</i>	
	<i>4.5 Termination</i>	
	<i>4.6 Service Certificate</i>	
	<i>4.7 Working Hours</i>	
	<i>4.8 Attendance</i>	
	<i>4.9 Meeting with Heads of Departments</i>	

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	<i>4.11 Faculty Meeting</i>	
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V	STAFF APPRAISAL POLICY	77-83
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	<i>7.3 Cash prizes for regular attendance and best performance</i>	
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	<i>7.5 Research Incentive Policy</i>	
VIII	EXIT POLICY	100-102
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	ANNEXURES	

The human recourse policies and administrative practices manual of the organization is published and kept for everyone's reference in College website. This allows for effective dissemination of the information to the concerned stakeholders. Few of the contents of hand book illustrated below.

A. Service Conditions

The employees in the institute are governed by the service rules and regulations stipulated hereunder.

- a) The employees at Vignan's Institute of Engineering for Women have been classified into two categories, namely Teaching and Non- Teaching.
- b) The teaching fraternity has an extraordinary role to play in the academic life of VIEW, merely as teachers, researchers, counselors, and contributors in various academic affairs.
- c) The Non-Teaching fraternity is responsible to support and enable the academics at the institution.
- d) VIEW has various Departments of Engineering, Sciences, and Humanities. Each of these faculties consists of various roles and run under the supervision of Principal.
- e) A person shall be deemed to have been appointed to the service when his appointment is made to a post in accordance with the existing AICTE norms.
- f) Initially the appointment of the selected candidate will be temporary and placed on probation for a period of two years, after which the performance of the appointee will be

reviewed to regularize the appointment. The period of probation can be extended by management in case of non- satisfactory performance

- g) If a person, having been appointed temporarily to a post is subsequently appointed regularly: he / she shall commence probation from the date of regular appointment.
- h) Any candidate appointed on temporary / ad- hoc basis, his / her services can be terminated without any notice and without giving any reason.
- i) The service conditions of the incumbent will be governed by the rules and regulations of the college issued from time to time.

(i) Custody of Certificates

The employee requires depositing the original certificates (SSC/ Intermediate / UG/ PG) (convocation) with the establishment section prior to or at the time of reporting duty, besides, the copies of experience certificate, relieving letter, salary certificate, PAN, Voter – ID and 4 passport size photographs require submitting.

(ii) Withdrawal of Original Certificates

- a. Withdrawal of educational certificates (all or part) for any purpose i.e. higher studies or any other purpose, a proof copy has to be enclosed along with the request letter.
- b. An undertaking letter should be submitted stating that she / he will return the certificates within the stipulated time or else salary will be held up for the concerned month till the submission of certificates.
- c. Those who are withdrawing certificates for higher studies should submit a copy of custodian within one week of date of issue of custodian.

(iii) Working Hours

- a. All employees are required to work for a minimum of 7 hours a day from Monday to Saturday.
- b. Working hours notified may be changed as per the requirement of the Institution from time to time and the employees shall comply accordingly.

(iv) Attendance

- a. All employees shall mark their attendance through biometrics and in respective Attendance Registers maintained in the office of the College.

- b. Employees reporting for duty more than 20 minutes late shall obtain permission from the Head of the Department / Principal. Without a formal permission they are deemed to be absent and will apply for leave.
- c. All employees are allowed to avail 2 hour permission in two days during a month. Exceed this liable to be treated as absent for the day.

(v) Meeting with Heads of Departments

Meeting with Heads of Departments is conducted once in a month to brief them about the latest developments in the college and also to get feedback from them regarding fulfillment of various targets set including the academic schedule. Minutes of the meeting shall be recorded and circulated among all the HOD's. Emergency meetings are organized whenever required.

(vi) Faculty Meeting

Total faculty meeting is conducted once in a semester. The agenda of the meeting is circulated among the faculty at least two days in advance to enable the participants to come prepared for a fruit full discussion without loss of time. The minutes of the meeting are recorded and circulated immediately after the meeting. Emergency meeting could be called for whenever required.

(vii) National & Festival Holidays

Institution will notify list of holidays at the beginning of calendar (year) as per the National and Festival Holidays Act.

B. Leave Policy

VIEW provides different kinds of leave to meet with the various eventualities of its employees. Availing of leave should be with proper notice so that the work of the organisation does not suffer. Leave shall not be claimed as a right. Leave sanctioning authorities have to use their discretion in sanctioning the leave so that the effect is minimum on the normal functioning of the college.

General Information:

- a) These rules shall be called the "Vignan's Institute of Engineering for Women, Leave Rules".
- c) A leave account shall be maintained for each employee in the appropriate form.
- d) Leave cannot be claimed as a matter of right. **The sanctioning authority has full discretion to refuse or revoke leave of any description when the exigencies of service so demand.**

- f) The sanctioning authority may recall an employee to duty before the expiry of his / her leave.
- g) Unauthorized absence from duty may be treated as misbehavior involving disciplinary action.
- h) For casual leaves, the HOD shall be the competent authority to grant leave to staff, the Principal shall be the competent authority to grant leave to all Heads. In the case of the Director and the Principal, the Secretary or the Chairman of the Governing Council will be the authority competent to sanction leave.

The following types of leaves are available for staff:

(i) Casual Leave:

- a) Every employee is eligible for 10 days of casual leave in a calendar year.
- b) Casual leave cannot be availed without obtaining prior approval. Sanction of casual leave shall be subject to work adjustment.
- c) The total period of absence on casual leave at a time, with or without combination of public holidays and compensatory casual leave shall not exceed 8 days.
- d) Casual leave can be combined with public holidays and compensatory casual leave, but not with any other kind of leave or vacation.
- e) Casual leave up to Two Days shall be sanctioned by the HOD subject to prior notice i.e. at least before one day.
- f) CL for more than Two Days shall be sanctioned by the HOD subject to prior intimation of at least one Week.
- g) Casual leave for more than Two Days where sufficient notice period of one week is not provided by the employee may only be sanctioned by the Principal under extraordinary situations subject to prior intimation of at least one day.
- h) Un-availed leave shall not be carried over to the next calendar year. It means that the casual leave may not be accumulated.
- i) In case of employees still serving the probation period, Casual Leave shall be sanctioned on pro-rata basis. It means that they shall be eligible for a maximum of one day of casual leave for every $1\frac{1}{3}$ month of completed service subjected to a maximum of 10 days in a calendar year. This condition shall not be applied to permanent employees.

j) Casual leaves for half day can be granted to an employee for the Forenoon or Afternoon session.

(ii) Earned Leave:

- a) All the permanent employees are eligible for 6 days of earned leave per every calendar year of completed service
- b) EL for a given calendar year shall be credited on the 1st of January of the following year provided that the staff should have completed **Two years** of uninterrupted service at VIEW by that time.
- c) Earned Leaves can be accumulated up to 120 days.
- d) Earned leave cannot be combined with casual leave or compensatory casual leave, but can be combined with pre-vacation and all other kinds of leaves. The maximum availability of earned leave utilization at a continuous stretch is 50% of overall ELs or 15 leaves whichever is less subject to a minimum of 3 ELs sanctioned by the HOD subject to prior intimation of at least one week. There should be a minimum 1-month gap between one slot to another slot for usage of ELs.
- e) However, if such maximum exceeds the available EL count, then the eligibility is the total available EL count.
- f) Accumulated leaves cannot be encashed at the time of working but can be encashed at the time of leaving the Institution.
- g) Principal is the authority to sanction earned leave to all faculty members.

(iii) Maternity Leave:

- a) All the women permanent employees are eligible for 120 days of paid maternity leave provided that they have completed probation service by the date of application.
- b) A woman permanent employee is eligible for maternity leave only twice in her entire service.
- c) Principal shall sanction maternity leave to all the women employees provided that the staff should apply with the prior notice of at least one Month.
- d) The salary for the period of maternity will be paid out in six equal installments after six months uninterrupted service from the date of rejoining. The employee should submit the Birth Certificate of the child at the time of rejoining.

e) No leave beyond the expiry of maternity leave will be granted. However, in exceptional cases where the female employee is not in a position to join duty immediately on expiry of maternity leave due to weakness or other illness, leave without pay not exceeding 30 days may be granted on production of medical certificate. Further leave beyond 30 days may be considered at the discretion of the GC/Committee.

(iv) Paternity Leave:

- a) All the men permanent employees are eligible for 7 days of paid paternity leave provided that they have completed probation service by the date of application.
- b) A man permanent employee is eligible for paternity leave only twice in his entire service.
- c) Paternity leave may be utilized only within a month of the date of birth of the child.
- d) Principal shall sanction paternity leave to men employees provided that the staff should apply with the prior notice of at least one Month.
- e) The salary for the period of paternity leave will be paid out after submitting the Birth Certificate of the child.

(v) Marriage Leave:

- a) All the Permanent employees are eligible for 15 days of marriage leave.
- b) Principal shall be the sanctioning authority to all the employees provided that the staff should apply with the prior notice of at least one Month.
- c) The salary for the period of marriage leave will be paid out after submitting the Marriage Certificate.

(vi) Academic Leave:

- a) All teaching staff members are eligible to attend two reputed conferences per year.
- b) Academic leave may be sanctioned for attending conferences, seminars and workshops etc. which help the faculty to achieve professional growth.
- c) Principal shall sanction academic leave to all the faculty members. However, the staff should submit necessary proofs such as the event invitation along with the application.
- d) All permanent staff members, who are at the verge of submitting their Ph.D thesis, may apply for one month of academic leave after pre-talk. However, such candidates should submit a proof of pre-talk proceedings for availing leave and proof of submission of thesis

within three months from the date of application of the leave failing which the academic leave will be deducted from all other eligible leaves.

e) The salary for the period of such doctorate thesis submission based academic leave will be paid out after submitting the proof of thesis submission.

(vii) On Duty:

a) On duty for spot valuation shall be sanctioned only twice in a semester or a Maximum of 15 days per year whichever is applicable.

b) On duty for any other Examination related works like observer, Lab external duties should not exceed 5 days in a year. If, exceeds 5 days the approval of HOD/Principal is mandatory.

c) In addition to the above, “on duty” for any works assigned by HOD/Principal/Management may be approved by Principal. However, the staff should submit necessary proof of evidence along with the invitation/work/assignment.

(viii) Emergency/Medical Leave:

a) Every permanent employee is eligible for 8 days of Emergency/Medical leave in a calendar year.

b) Un-availed medical leave shall not be carried over to the next calendar year. It means the Medical leave shall not be accumulated.

c) Medical leave cannot be claimed as a matter of right and sanction of Medical leave shall be subjected to severity of Health condition. That means prior approval/sanction is required or Evidences can be submitted within one week of reporting to the institute post the illness.

d) Medical leave up to One Day shall be sanctioned by the HOD/Principal after completion of all casual leaves.

e) Medical leave for More than One Day shall be sanctioned by the Principal only. However, the staff should intimate in-advance to the HOD & Principal wherever possible and also submit the necessary proof of evidences for medical illness within one week of reporting to the institute post the illness.

f) Medical leave for a period exceeding 8 days shall be approved at the sole discretion of the principal in consultation with the management.

(ix) Compensatory Casual Leave:

- a) All the employees are eligible for compensatory casual leave if they have approved “OTs”.
- b) The staff who has worked at least 6 continuous stretch or cumulative hours assigned/authorized by HOD/Principal/Management in holidays shall be sanctioned “OT”. The approved OT shall be compensated with CCL during the same calendar year.
- c) Principal is the sole approving authority for OTs in consultation/approval of the HOD

(x) Extra-ordinary Leave:

- a) Extra-ordinary leave may be granted to the employees on the recommendation of the Governing body on private affairs or academic affairs like short / long term assignments in India or abroad/Higher studies/Fellowship etc. They will not be entitled for any pay or allowance during this period.

(xi) Special Casual Leave:

- a) All permanent employees are eligible for special casual leave not exceeding 6 days for the purpose of undergoing Family Planning Operation. He/she is required to produce proof of having undergone the operation for regularizing the leave availed.
- b) Any humanitarian grounds issues such as miscarriage/loss of immediate family members may be also considered for special casual leave.
- c) Principal, in consultation of the management, shall be the sole authority to sanction Special Casual Leave.

(xii) Study Leave

- a) An employee may be granted study leave to enable him to undergo part time higher studies or course work or specialized training in a professional or technical subject and close connection with the branches of study relevant to the College and has bearing on the candidates’ area of specialization.
- b) Study Leave shall not be granted to one, whose absence will cause cadre-difficulties, besides dislocation in the regular work of the college.
- c) In case candidate pursues Ph.D. on part – time basis, study leave will be granted to fulfill the mandatory course work as stipulated by the University. The candidate may be given half pay during the study leave.
- d) An employee availing himself of study leave for pursuing higher studies, shall furnish a bond in the prescribed form and on stamped paper to serve the College on return to duty

they must serve in the College for a minimum period of one year. Otherwise, they have to pay double of salary received during the study leave.

e) They should make alternative arrangements for their theory and lab classes with prior approval. SL permission will be granted only if they make alternative arrangement for their classes, through a teacher handling subject for the same class.

(xiii) Summer Vacation:

a) Principal will be the competent authority to fix/suffix the summer vacation schedule in accordance with JNTUK schedule wherever applicable.

b) Each department has to maintain a skeletal staff to attend department works like invigilation duties, class work and other works assigned by HOD/Principal during the vacation as determined by the Principal.

c) Schedule of vacation for all the employees in a department is to be approved by the HOD.

d) By the time of declaring vacation, the staff should have at least 1 year of uninterrupted service at VIEW to avail summer vacation.

e) If any faculty attend spot valuation or engaged with any other examination related duties during the vacation, all those days will be included in summer vacation. No extra days will be allowed.

f) Vacation Eligibility criteria for Permanent Teaching staff:

One-week Vacation	The staff members who have ≥ 1 and < 2 years of service at Vignan Group.
Two-week Vacation	The staff members who have ≥ 2 and < 3 years of service at Vignan Group.
Four-week vacation	The staff members who have ≥ 3 years of service at Vignan Group.

(xiv) Other terms & conditions:

a) Permanent Employee: An employee is considered to be permanent on completion of one year of uninterrupted service in the institute.

b) Temporary employees are not eligible to avail any kind of extraordinary leaves except casual leaves, academic leaves and On-duty.

- c) The total number of staff availing “CL” of any department at any given point of time should not exceed $1/3^{\text{rd}}$ of the total staff of the same department at such instance.
- d) If any employee would like to leave the organization by giving one-month notice, they will not be allowed to avail any type of leave except available CL as per pro-rata. If they use extra leaves, loss of pay will be implemented. They can compensate the extra leaves by working extra days to avoid loss of pay. One-month notice can be exempted by the Principal if staff resigned at the end of semester/academic year.
- e) Employees are advised to contact HR department to know the leave record and then apply for leave.
- f) Prefixing and Sufficing of Holidays: The leave under these rules (except casual leave) may be either prefixed or suffixed or both by Sundays/holidays but the intervening Sundays /holidays shall be included in such leave.
- g) Over Staying after Leave: An employee who remains absent after the expiry of his/her originally granted or subsequently extended leave is not entitled to salary for the period of absence including sanctioned leave period.

C. Recruitment Policy & Process

(i) Objective

To have in place a competent staff selected on the principles and practices of equal opportunities with due representation to all sections of people represented by the organisation and with no discrimination on the basis of caste, creed, sex, race, or disability. All recruitment will be based on predetermined specific positions and competency.

(ii) General Criteria Governing Recruitment

- a. The minimum age for recruitment is 18 years. VIEW does not permit child labour in any of its establishments nor does it encourage child labour in any of its partner institutions.
- b. Age limit of up to 70 (Seventy) years for teaching staff and 65 (Sixty-Five) years for non-teaching staff is recommended. If service is required beyond the recommended age limit, it may be extended on an annual basis.
- c. VIEW reserves the right to do a background check on any person selected for employment.
- d. Persons selected for appointment should possess sound mental and physical health.

- e. Faculty Members are recruited based on the qualifications prescribed by AICTE Regulations, 2019 and subsequent amendments in these Regulations issued by AICTE from time to time.
- f. Non-teaching faculty/Administrative staff is recruited as per the state government's norms. At present the following criterion is being followed.

(iii) Internal Appointments

In order to avoid stagnation of the competent employees and encourage career growth, Management should develop mechanism for creating avenues for growth/promotion.

When a vacancy arises, internal appointment may be promoted as far as possible. But this is purely at the discretion of the E.D and Principal who may assess the situation objectively on the basis of the merits of the fresh requirements and actual staff position.

(iv) Advertisement

- a. The Dean of Administration will be responsible for initiating action such as advertising for the vacancy.
- b. For regular and contract posts, it is mandatory to advertise the vacancies in the newspaper or VIEW website (www.view.edu.in).
- c. There should be a minimum of 10 days between the date of publication of the advertisement and interview.

(v) Short listing

- a. All applications are scrutinized to ensure that they conform to the minimum requirements of the position.
- b. Persons given as reference in the application may be contacted to further refine the short list.
- c. For a single post, from the suitable applications received, an appropriate number will be called for the interview process.
- d. Intimation for interview is sent thereafter.

(vi) Assessment process

The assessment process for teaching staff recruitment shall have all of the following assessments:

Round-1: Written Test

Round-2 Technical Round (Demo in front of Panel Members)

Round-3: HR Round (With Executive Director)

[It is only for shortlisted candidates from the above rounds].

(vii) Interview Panel

The interview panel must meet in advance in order to prepare and agree questions, tests etc. to be asked to candidates and to ensure that similar questions and the same range of topics will be covered for each candidate for the same position.

For the test and interview – the appropriate panel must be constituted which should have subject specialists. The final interview panel will comprise of the appointing authority and subject specialists.

(viii) Proceedings of Interview

Detailed proceedings of the interview will be recorded by the Chairperson of the Interview Board and will be attested by the Interview Board Members.

(ix) The Offer Letter

Upon satisfactory performance of the candidate, the Offer Letter is sent to the selected candidate. Candidates should confirm their acceptance in writing. A regret letter might be sent to candidates not found suitable during the interview.

(x) Letter of Appointment

The selected candidate must bring the relieving order from the previous organisation before joining duty. An appointment letter duly signed by the Appointing Authority is issued to the candidate at the time of joining.

(xii) Joining Report

On joining, the candidate should give the joining report and signed by the Principal and forwarded to the Main Office.

D. Staff Appraisal Policy

(i) Purpose

In an effort to recognize and reward the performance of employees, it is the organization's philosophy that the principal component to enhance compensation shall be through annual increment based on performance evaluation by APAC.

(ii) Application of the Policy

- a. The policy applies to all teachers, including the Head of the Departments, employed by the Institution except those who have less than one-year service.
- b. All regular employees are eligible for yearly increment based on the results of their Performance Appraisal conducted annually.
- c. All employees will be informed in writing about their annual increments after the Performance Appraisal.

(iii) General Principles Underlying this Policy

The performance of staff assessed through **3 criteria** for the purpose of annual increment.

Criteria No.	Element of Criteria	Max. Score	% of Weightage
I	Academic Results & Feedback	4 Marks	40%
II	Research & Development	3 Marks	30%
III	Supplementary Activities	3 Marks	30%
Total		10 Marks	100%

Criterion -1 is mainly focused on the academic performance of staff which covers the teaching related activities, domain knowledge, semester results and students feed back in an academic year.

Criterion -2 is mainly considered the faculty output in Research and Development activities in an academic year. Based on cadre of faculty, the expected output of R&D shall be categorized. R & D activities includes Research papers published in scholarly journals, Book publications, research projects, consultancy projects, organizing and attending conferences/seminars, workshops and FDPs.

Criterion -3 covers curricular and extracurricular activities, counseling/mentoring of students, roles and contributions in Institutional Governance and administration, awards and achievements and Professional Development Activities.

The detailed evaluation procedure of each criterion is given in Institution manual.

(iv) Grant/Award of Annual Increments:

Increments shall be sanctioned by the Management as recommended by the Principal. The grant of number of increments is based on the score secured by the faculty out of the total score of 10.

Secured Score	Grade	No. of Increments
≥ 7.5	A+	3 (Three)

<7.5 & >=6.5	A	2 (Two)
<6.5 & >=5	B	1 (One)
<5	C	No Increment

(v) Special Allowance

a. Teaching Staff with a cadre of Assistant Professor secured <6.5 & >=5 marks (1 increment) and secured full marks in results as per Criteria-1 (3 out of 3), the faculty will be given a onetime special allowance of Rs.5,000/-

(vi) Termination/Serving Notice to Teaching Staff

a) If a teaching staff falls in 'B' grade in 2 continuous years, the Management/Principal have right to terminate or service one month notice to staff for termination due to lack of improvement in performance.

b) If a teaching staff falls in 'C' grade, the Management/Principal have right to terminate the faculty immediately or service one month notice to staff for termination. In special cases, the Principal shall allow an opportunity to improve the performance with in one academic year.

(vii) Letter of Annual Increment:

All employees will be informed in writing about their annual increments after the Performance Appraisal.

E. Staff Promotion Policy

Any progressive institution should make sufficient provision for the satisfactory promotion of personnel to higher positions. Opportunity for promotion to higher positions within an organisation gives personnel an opportunity to fully utilize their abilities and therefore serves as a basis for motivation.

General Principles underlying this Policy

- ✓ The promotion of an employee is purely based on the merit cum seniority basis and vacancy position in the concerned department.
- ✓ All promotions shall be subject to completion of minimum qualifying period and other requirements such as employee's current academic performance, their research work, number of publications, commitment of the staff to the improvement of the institution etc.
- ✓ Promotion shall not be influenced by the employee's race, religion or gender.

- ✓ The promotion from Assistant professor to Associate Professor and Associate Professor to Professor post are purely vacancy based.
- ✓ Promotion are considered by a Committee consisting of the following:
 - Principal of the college concerned
 - Principal of another college within the group
 - HoD of the Department concerned
 - One Senior Professor of the Department and college concerned
 - HoD/Two Senior Faculty of concern Department of another college within the group
- ✓ The Screening Committee will review the performance appraisal, academic performance and other capabilities of each candidate and personally interview the candidates.
- ✓ The Committee, based on the above factors, shall prepare a list of candidates recommended for promotion in the order of merit and submit for approval. The list will be placed before the Governing Council along with the Service Register of the individuals for approval. The approved candidates shall be promoted from the rank of Assistant Professor to Associate Professor or Associate Professor to Professor.
- ✓ Those who are promoted shall be placed in the pay scale applicable to that category.
- ✓ All decisions on promotions shall be taken up in the month of June-July every year. However, the revised pay will be implemented with effect from the date of acquired Doctorate Degree/Submission of Provisional Certificate in case of Associate Professor and date of next increment due in case of Professor.
- ✓ Filling up of any post's consequent to retirement, resignation, termination, cessation of employment, transfer, demotion, promotion etc. of permanent incumbent shall not be automatic and will be done at the discretion of the Chairman/CEO/Principal.
- ✓ For Non-Teaching staff, time-bound Grade Promotions as stipulated in the Pay Revision will be granted.

F. Welfare Facilities for Staff

(i) Provident Fund

VIEW is committed to comply with statutory provisions of Employees Provident Fund Deduction will be made from the salary of employees and will be deposited to the designated provident fund accounts along with the contribution of the organisation as per the provisions of

the said Act. Employees must comply with the statutory requirements like nomination and can avail of such ensuing benefits as prescribed by law.

(ii) Employees State Insurance (ESI)

For Non-teaching Technical and Admin Staff - Employees State Insurance benefit (ESI) is covered for those employees who are coming under the purview of the ESI Act, 1948. The ESI benefits are Medical benefit, Sickness benefit, Maternity benefit, Disablement benefit, Dependents benefit, funeral expenses and other benefits.

(iii) Group Medical Insurance

To provide employee welfare through basic assurance of healthcare to employees and help them to meet unforeseen personal expenses arising from medical emergency. All regular and contractual employees of the Institute, including probationers will be covered. Annual entitlement of Group Medical Insurance is Rs.5,00,000/- (Rupees Five Lakh only). This can be used only by the individual or by the family members covered under this policy.

(iv) Subsidized Transport Facility

The institute buses are running on “No profit – No loss” basis.

- All the staff members who are drawing a salary of less than Rs.15,000 will be provided a free transport facility.
- The staff who are drawing a salary of above Rs.15,000 but less than Rs.20,000 will be given 50 per cent concession in transport charges.
- The staff who are drawing a salary of above Rs.20,000 will be given 40 per cent concession in transport charges.
- The applicable bus fees will be deducted from the salary of faculty.

(v) Free boarding and Lodging

Free boarding and lodging for certain faculties, Staff holding students hostel coordinator/student hostel sports coordinator/Assistant Warden Post.

(vi) Free Tea / Coffee is provided to the Teaching, Non-Teaching and Administrative staff during both the sessions.

(vii) Non-Teaching staff, Maintenance Staff and the Drivers are given free gifts, sweets and cloths during Deepavali festival.

(viii) Travelling Allowance:

Travelling allowance is in the nature of reimbursement of reasonable expenses incurred by the employee while travelling and halting at an outstation on official duty. All journeys shall be authorized by the competent authority i.e. Principal and necessary approval shall be obtained prior to proceeding on an official tour.

The Principal may sanction TA advance subject to the maximum of 75% of the expected expenditure. The mode of travel applicable, the daily allowance payable and the rates of local conveyance and accommodation charges reimbursable to various categories of employees are as follows.

Mode of Travel:

- | | | |
|--------------------------------------|---|-------------------|
| 1. Director/Principal/Vice Principal | - | Airfare/First A/c |
| 2. Professor/HOD | - | Second A/c |
| 3. Associate Professor | - | Third A/c |
| 4. Assistant Professor | - | Sleeper |

Reservation charges, AC/Super fast surcharge, cancellation charges, bedroll charges are reimbursable. Normal service charges for booking of tickets by travel agent are admissible.

The institution may reserve and book to and fro air tickets through local travel agents. For rail and bus tickets, the person intending to travel may take necessary advance for booking such tickets.

(ix) Daily Allowance & Reimbursement of Accommodation

Cadre	Daily Allowance (Per day)	Reimbursement of Accommodation (Per day)
Director/Principal/ Vice Principal	Rs.500	Rs.2000
Professor/HOD/Associate Professor	Rs.300	Rs.1500
Assistant Professor	Rs.200	Rs.800

(x) Local Conveyance:

Local Conveyance is applicable to the faculty who wish to attend WS/Conference/ FDP or any other duty assigned by Principal within the limits of the city. Travelling Allowance, DA and accommodation not applicable.

Director/Principal/ Vice Principal	Professor/HOD/Associate Professor	Assistant Professor

Rs.1000 per day	Rs.500 per day	Rs.300 per day
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G. Motivational Initiative Polices

It is a natural thing that nobody acts without a purpose behind. Therefore, a hope for a reward is a powerful incentive to motivate employees. Besides monetary incentive, there are some other stimuli which can drive a person to better. This will include job satisfaction, job security, job promotion, and pride for accomplishment. Therefore, incentives really can sometimes work to accomplish the goals of a concern. Therefore, management is offering the following categories of incentives to motivate employees:

(i) Faculty Awards

The institute shall offer incentives in the form of Cash awards, Mementos, Certificates to staff. The policy of incentives and the eligibility conditions should be made known to all the concerned and all announcements in this regard will be made public. The following incentives shall be operative.

1. Pratibha Award:

“Academic Excellence Awards is a very commendable initiative”. It is very positive to have this common organization at VIEW at to award all-round efforts in academic excellence. Staff who makes an outstanding contribution to teaching & learning are awarded with “Pratibha (The Best Teacher) Award”. The award winners will be honored with a certificate and a cash award of Rs.5,000/- each.

Parameters considered for assessment:

- ✓ It will be rewarded subject wise i.e. the subject result during the academic year should be more than 5% of the last 3 years average result of the same subject (Or) the subject result must be 100% during the present academic year.
- ✓ Students feedback should be above 90%

2. Sastra Award:

To encourage and appreciate research, Sastra Awards are presented to VIEW faculty who make a mark in research publications and presentations. Faculty research work is honored with cash awards for their outstanding contributions.

3. Vishista Seva Award:

Employee's retention is one of the strengths of VIEW. All teaching and non teaching staff of VIEW who served the organization for about Ten years and more in Vignan Group are recognized for their service and are presented with Vishista Seva Award with a cash award of Rs.5000/-

4. Vijetha Award:

Faculty at VIEW are recognized and honored for their individual academic and related achievements in their respective domains. Vijetha awards are presented to those faculties who have achieved awarded and recognitions in State/University/ /National/International Level are presented with Vijetha Award.

(ii) Research Incentives

At Vignan's Institute of Engineering for Women, Research is an integral part of the academic activity carried within various undergraduate and postgraduate programs. These different activities and initiatives over the last one decade are consolidated to prepare this Policy of VIEW on Promotion of Research & Innovation, Consultancy & Extension Services.

1. Incentive for book publications

1. Full text book with single author : INR 20000
2. Full text book with two authors : INR 10000 each author
3. Full text book with multiple authors : INR 5000 each author
4. Chapter Contribution : INR 3000

Note: Published book or chapters or monographs must have 'VIEW' as the affiliation.

2. Incentive for Research Publication

If a research paper is published based on his/her work in hard copy or in electronic form in a refereed journal, he / she will pay an incentive as indicated below.

SCI Journal	10000
Un paid Scopus Journal	7,500

The publications will be considered only if they are indexed in Web of Science or in Scopus. If the paper is contributed by more than one author the incentive will be shared among the faculty

(iii) Incentives for Presentation of Research Papers in Conferences/Seminars in India

- ✓ The International/ National conference must be of repute (viz. IEEE, Springer/Wiley etc.) and the hosting Institutions must be of Institutes of repute-IITs/IISc/NITs/IITs/ Universities/ Deemed Universities etc.
- ✓ The paper/article must be published in any National/International Journal/Conference proceedings.
- ✓ The faculty would be allowed OD + Registration fees on actual basis or Rs. 5,000/- whichever is less.
- ✓ TA/DA will be paid as per the Institute norms.
- ✓ In case of joint authorship only one faculty can avail the facility.
- ✓ Each faculty can present research papers in Conferences of repute twice in an academic year with financial assistance (limited to Rs. 10,000/- only).
- ✓ Maximum number of ODs is limited to one week during lean period. Number of ODs during the academic period is subject to prior approval of Principal.
- ✓ Only Oral presentation of research papers is acceptable.

(iv) Incentives for Presentation of Research Papers in Conferences outside India/Abroad.

- ✓ The faculty has to approach AICTE (which provides 100% funding subject to meeting their norms) for Travel Grant or other Funding Agencies of Govt. of India.
- ✓ It has been observed that some of the proposal may not meet AICTE norms besides paucity of funds with them because of their All India Scope. Therefore, VIEW may also consider funding for International Conferences on case to case basis, subject to 60% to be paid by the candidate and 40 % by VIEW with the candidate having at least 5 years service in VIEW. Also, the candidate should register for Ph.D after coming as soon as possible.
- ✓ The staff who wish to apply for incentives for paper presentation in the International conferences abroad need to get approval from Chairman/CEO at least one Month in advance.

Note:

1. The Incentive under the category of Presentation of Research Papers in Conferences in India/Abroad (6.3 & 6.4) will be paid only after submission of duly filled application and attaching copies of evidence countersigned by the HOD and R&D Coordinator.

2. However the faculty can apply for travel advance to the maximum of 75% of the expected expenditure subject to approval of the Principal.

(v) Incentives for attending Workshops/FDPs

- ✓ The Workshops/Symposium/FDPs hosting Institutions must be Institutes of repute- IITs/IISc/NITs/IITs/IIM/Universities/Deemed Universities etc.
- ✓ The faculty would be allowed OD+ Registration fees on actual basis or Rs. 5,000/- whichever is less, when the Workshops/Symposium/FDPs have minimum of 3 days duration.
- ✓ The faculty would be allowed OD+ Registration fees on actual basis or Rs. 3,000/- whichever is less, when the Workshops/Symposium/FDPs have less than 3 days duration.
- ✓ TA/DA will be paid as per the Institute norms.
- ✓ Each faculty can attend Workshops/ Symposium /FDPs of repute twice in an academic year with financial assistance. However, financial assistance is limited to Rs. 10,000/- only.
- ✓ Maximum number of ODs is limited to one week during lean period. Number of ODs during the academic period is subject to prior approval of Principal.
- ✓ Minimum service clause is not applicable to attend conference/symposium/FDP
- ✓ Faculties going for attending FDPs outside need to disseminate knowledge / information by organizing faculty Development Program (FDP)/ Student Development Program (SDP)/ Student Workshop/ Summer etc for the benefit of Faculty and Students in their respective departments.
- ✓ The OD and Registration claim under Research Incentive Schemes (RIS) of VIEW must be made within a month in the prescribed form.

(vi) Incentive for Generation of Research Grants

- ✓ Faculty members are expected to submit proposals for research grants from funding agencies. It is quite likely, that these projects may involve modernization of laboratories, acquiring of equipment required specific to the research study or conducting of surveys etc.
- ✓ The incentive will be linked to the total amount of research grant sanctioned by the sponsoring agency. The incentive will be 20% of the research grant received from the funding agency.

- ✓ Since the amount being released in phases, the incentive(s) paid is also proportional to the amount received by the Institute.

(vii) Incentive for Consultancy work

To encourage genuine consultancy work from the faculty, VIEW announces a policy whereby the faculty can claim 100% of the amount charged under the consultancy work. This is subject to the following conditions:

- ✓ Faculty should be the sole in-charge of the consultancy work
- ✓ The said consultancy work should be undertaken post the approval of the principal and the agreement should be undertaken between VIEW and the concerned third party
- ✓ The payment for the consultancy work should be credited to VIEW which will further be passed on to the faculty.

(viii) Incentives for Professional Body Membership

- ✓ All faculty members on roll of VIEW having more than Five SCI/ SCOPUS research papers, acquiring membership for National and International professional societies are eligible for reimbursement of 50% of cost of membership registration fee subject to Maximum of Rs.10,000.
- ✓ Maximum of Rupees Ten Thousand (Rs. 10,000) will be paid for International society membership and Rupees Five Thousand (Rs. 5,000) for National society membership and Rupees Two Thousand (Rs. 2,000) for State Level Membership.
- ✓ Incentive claim under Research Incentive Schemes (RIS) of VIEW must be made within a month of registration with the professional bodies.

(ix) Incentives for Research Awards/Any recognition received by the faculty from reputed Professional Bodies and Agencies (For which Vignan has not provided any funding)

Awards Received from Agencies	International Level	National Level	State level	University Level
Incentive (INR)	10000	5000	2000	1000

(x) Incentive for Doctoral Research Guidance

Description	Supervisor	Co-Supervisor
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Incentive	10000	5000
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H. Staff Exit Policy

The purpose of this policy is to identify academic, organizational or human resource factors that have contributed to an employee's decision to leave the employment. This also helps to enable the management to identify any trends requiring attention or any opportunities for improving the management's ability to respond to employee issues. It enables the Institute to improve and continues to develop recruitment and retention strategies aimed at proper talent nurturing/management.

This policy covers the procedures to be adopted when any employee of the Institute leave employment for whatever reason.

Scope:

This policy applies in the case where in the employees who resign and get relived after serving or getting the notice period served.

Objectives of the Policy:

The purpose of conduction of the exit interview is to:

- a) Try and retain the employee by addressing his/her grievance and expectations
- b) Try and find out exact reasons for resignation and
- c) To suggest to Management remedial measures to reduce further attrition.

Voluntary Participation and Confidentiality

Employees are responsible for participating in the exit interview process on a voluntary basis. If an employee chooses to participate in an exit interview, he/she will be encouraged to be honest, candid, and contractive in their responses. The information received through Exit Interviews will be confidential. No specific information that could possibly be traced back to an ex-employee will be disseminated or discussed.

Exit by Resignation

- a) If any staff member wants to resign from the job, the concerned staff member shall give a minimum of one month / 30 days advance notice or as per the conditions specified in the appointment order about his / her intention of leaving job, only at the end of the academic year to the Principal in writing.

- b) In case, where the end of notice period falls during the course of a semester, he / she may be relieved only at the end of the semester.
- c) The un-availed leave at the credit of the staff member shall not be adjusted towards the notice period.
- d) In case if, he / she takes leave for a day, then the leave availed will be treated as on loss of pay with the cut in the salary for the day during the notice period.
- e) While getting relieved, files, materials and documents, etc., entrusted to him / her shall be handed over to the person nominated by the HOD under proper acknowledgement.
- f) The staff member can apply for his/her the relieving order from the Institution only after the submission of “No Dues Certificate” in the prescribed form along with a copy of handing over charge record in case if he/she happens to be in-charge of the laboratory.
- g) Any staff member may be relieved immediately if he / she gets a Government Job or the concerned individual’s spouse is transferred or he / she is getting married. But this is subject to the discretion of the management after assessing the merit of the request.
- h) The Principal reserves the right to waive – off / reduce the notice period.
- i) The Principal will arrange an Exit interview with the staff after the acceptance of his/her resignation with a view to obtain a candid feedback.

Exit by Termination

- a. The Institution may terminate the services of an employee under special circumstances, such as reduced workload, performance not satisfactory as seen from the feedback and report of HODs, or if found medically unfit, after giving one month notice or pay in lieu thereof.
- b. No such Notice shall be necessary, if the termination is as a result of proven misconduct after an enquiry conducted in accordance with the college Rules.

Procedure and Reporting of Policy:

1. A committee comprising of Academic Director, Principal and Dean of Administration should conduct the exit interview after the confirmed leaving date has been received by HR Department of any particular staff member.
2. The employee will be asked a standard set of question and given a chance to discuss additional information they feel would be beneficial for the Institute working.

3. Academic Director, Principal will fill the exit interview form in prescribed format (Annexure-II).
4. The information will be analyzed regularly by Human Resources Department to identify areas or determine trends that may need to be addressed. Periodically, human resources Department will share their analysis and recommendations with designated members of the Staff/Dean-Admin/Principal/Academic Director.
5. The analysis and review will include
 - Appropriate statistical information regarding the number and distribution of employee departures during the preceding year and her/his reasons for leaving;
 - An analysis and discussion of any trends or common themes which are suggested by the exit interview feedback.
 - A summary of any actions or interventions taken during the year on the basis of exit interview information.

Issue of Service Certificate:

Every permanent employee shall be entitled to a Service Certificate at the time of leaving the service of the Institution. Such Certificate shall be valid if it is issued and signed by the Principal.

10.1.3. DECENTRALIZATION IN WORKING AND GRIEVANCE REDRESSAL MECHANISM (10)

(List the names of the faculty members who have been delegated powers for taking administrative decisions. Mention details in respect of decentralization in working. Specify the mechanism and composition of grievance redressal cell including Anti Ragging Committee & Sexual Harassment Committee)

10.1.3 (A) Decentralization in working:

A core team of about 20 members owns and lead the major processes in the institute to see that all these processes are intact. The responsibilities of the decision makers are discussed in Table 10.9. In decentralization every member has freedom for their responsibilities, which helps in speedy completion of assigned tasks.

Table 10.9 List of faculty members who are administrators/decision

Sl. No	Name	Responsibility

1.	Prof.A.Sesha Rao	Academic Director
2.	Dr.J.Sudhakar	Principal
3.	Dr.P.S.Ravindra	Dean of Administration
4.	Dr.B.Prakash	Head of Department-Information Technology
5.	Dr.K.Vijaya Kumar	Head of Department-Computer Science & Engineering
6.	Dr.K.Durga Syam Prasad	Head of Department-Electrical & Electronics Engineering
7.	Dr.Ch.Ramesh babu	Head of Department-Electronics & Communication Engg.
8.	Dr.M.Nagendrababu	Head of Department-Mechanical Engineering
9.	Dr.K.Chaitanya	Head of Department-Basic Sciences & Humanities
10.	Dr.M.Pardha Saradhi	Head of Department-Master of Business Administration
11.	Mr.A.Ganapathi Rao	In-charge: Examinations
12.	Dr.Akanksha Mishra	Coordinator-IQAC
13.	Dr.M.Nagendrababu	In-charge- Training and Placements & Coordinator-R&D
14.	Mr.I.Raju	In-charge- System Cell
15.	Dr.S.Ramesh	In-charge- Entrepreneurship Development Cell
16.	Dr.K.Kushal Kumar	In-charge- Discipline Cell, Library & Physical Education
17.	Dr.K.Jyothsna	In-charge- Women Grievance & Anti-Sexual Harassment Cell
18.	Mrs.S.Kalyani	In-charge- Grievance and Redressal Cell (GRC)
19.	Mr.K.Suryanarayana Rao	In-charge- Anti Ragging Cell
20.	Mr.Y.Sai Krishna	Campus Manager

10.1.3 (B) Mechanism of Grievance Redressal Cell

The Institution has set up the following cells to address any grievance received from students and staff and recommends appropriate action to the authorities.

- (i) Grievance and Redressal Cell (GRC)
- (ii) Anti Ragging Cell (ARC)
- (iii) Women Grievance & Anti-Sexual Harassment Cell

(i) Grievances Redressal Cell (GRC)

As per All India Council for Technical Education Establishment of Mechanism for Grievance Redressal Regulations, 2012, F. No. 37-3/Legal/2012, dated 25.05.2012. Vignam's Institute of Engineering for Women is committed to providing a harmonious & fair learning environment.

Students and Staff have access to processes that allow for appeals, complaints and grievances that are to be resolved. Student and staff grievance resolution process seeks to facilitate their formal resolution of grievances as close as possible to the source of the aggrieved person's dissatisfaction, though there will be instances when either students may choose to lodge a formal appeal or a grievance needs to go to a higher authority for resolution.

The institute has the following mechanism to analyze the grievances.

1. Suggestion boxes are placed on all corridors in the Institute to lodge the feedback/complaint/suggestion of all stakeholders.
2. The committee should meet once in a month to investigate the complaints raised by students and staff, if any.
3. The duty of Grievance Redressal Cell is to provide a fair representation for all the concerned parties.
3. During the course of the investigation, the investigator will maintain careful notes of interviews with the aggrieved member and relevant witnesses.
4. In addition to the written statements and testimony of the student and the faculty member, the committee may collect and consider any information it deems relevant and hear from anyone it deems to have relevant information. Both the student and faculty member may suggest the names of persons with relevant information, but the committee makes the final decision about whom to interview.
5. The proceedings and the committee's deliberations will be confidential and not to be open to the public.
6. After investigation upon grievances received, the committee members prepare a report and forwarded to Principal for further action.
7. Thereafter, the principal on reviewing and understanding the level of the problem forwards the same to the management committee for necessary action.

Table 10.10 Composition of Grievances Redressal Cell

Sl.No	Name of the Staff	Designation	Role
1.	Dr.J.Sudhakar	Principal	Chairman
2.	Prof.A.Sesha Rao	Academic Director	Member

3.	Dr.K.Vijaya Kumar	HoD-CSE	Member
4.	Dr.Ch.Ramesh Babu	HoD-ECE	Member
5.	Dr.K.Durga Syam Prasad	HoD-EEE	Member
6.	Dr.B.Prakash	HoD-IT	Member
7.	Dr.M.Nagendrababu	HoD-MECH	Member
8.	Dr.M.Pardha Saradhi	HoD-MBA	Member
9.	Dr.K.Chaitanya	HoD-BS&H	Member
10.	Dr.T.Radhakrishna Murty	Professor-BS&H	Member
11.	Mrs.P.Vijaya Bharathi	Assoc. Professor-CSE	Member
12.	Mrs.T.Sandhya Kumari	Assoc. Professor-ECE	Member
13.	Dr.K.Jyothsna	Assoc. Professor-BS&H	Member
14.	Mrs. K. Therissa	Assoc. Professor-EEE	Member
15.	Mrs.S.Kalyani	Assoc. Professor-IT	I/c. Grievanc

Table 10.10 (A) Some of the actions taken by Grievance cell

Complaints	Actions
Students and faculty have complained that most of the buses are overcrowded	Seat allocation was introduced and additional buses were procured
Students and staff have complained against the old infrastructure in the washrooms	All the washrooms have been renovated with new flooring and plumbing.
Students and faculty requested for freezing water machines to have cool water in the campus	Four Freezing water machines have purchased and one in each floor
Students have complained against the medical kit in departments	Arranged separate medical kits in each department for students and staff.
Students have complained against the Shortage of beds in the rest rooms	Additional beds arranged in all rest rooms in the campus
Students have complained to Extend the CCTV Cameras in corridors in all floors	CCTV Cameras installed in all the four floors
Placing Trash Bins in Class room and wash rooms and surroundings of the campus	Trash bins are placed in all class rooms, wash rooms and other appropriate places in campus

(ii) Anti-ragging Cell:

As per All India Council for Technical Education notified Regulation for prevention and prohibition of ragging in AICTE approved Technical Institutions vide No. 37-3/ Legal/ AICTE/ 2009 dated 01.07.2009 Anti Ragging Cell established in the Institution to monitor, direct and oversee the functions and performance of the Anti-Ragging Squads in prevention and curbing of ragging in the institution.

Ragging Prevention at VIEW

- Anti-ragging squad is constituted as per AICTE guidelines.
- Names, telephone nos. of authorities have been put on web site. In case of any emergency student can contact the authority.
- Staff members do the necessary counselling from Time-to-time Sensitize.
- Surprise / Routine visits to hostel, College canteen, common room & other sensitive area by the committee members.

The committee comprises of following members.

Table 10.11 Composition of Anti-ragging Cell

Sl. No	Name	Designation	Position	Phone No.
1.	Dr.J.Sudhakar	Principal	Chairman	9133300346
2.	Mr.M.Joga Rao	Police Representative	S.I. Duvvada Police Station	9440796053
3.	Mr.M.S.V.Prasad	Representatives of Local Media	Field Officer	9959087088
4.	Dr.K.Durga Shyam Prasad	HoD-EEE	Faculty Representative	9550014738
5.	Mrs.Ch.R.S.Valli	Hostel Warden	Mgt. Represen.	9550299709
6.	Mr.Y.Sai Krishna	Campus Manager	Non-Teaching Staff	9133300354
7.	Sri.K.Bhaskara Rao	Parent Representative	Member	8977489200
8.	Sri.E.Eswara Rao,	Parent Representative	Member	8341169171
9.	Mr.K.Suryanarayana Rao	Asst.Prof, BS&H	Coordinator	9642352326
10.	Ms.K.Sri Rekha	III Year Class Representative	Student Member-CSE	9391197198
11.	Ms.K.Vinusha	III Year Class Representative	Student Member-ECE	9392449988
12.	Ms.K.Padmavathi	III Year Class Representative	Student Member- EEE	9515266516
13.	Ms.Bhagya Sri	III Year Class Representative	Student Member-IT	9493399749
14.	Ms.K.Surya Prabha	III Year Class Representative	Student Member-ME	9398429433
15.	Ms.Palli Bhargavi	II Year Class Representative	Student Member-MBA	9392462313

Table 10.12 Institute level Anti-Ragging Squads

Sl.No	Name	Designation	Position	Phone No.
1.	Mrs. Ch. Padma Vani	Assoc.Prof, ECE	Chair Person	9866194699
2.	Mrs.M.Mamatha Laxmi	Asst.Prof, CSE	Member	9246621037
3.	Ms.B. M. Pushpa Latha	Assoc.Prof, EEE	Member	9640782871
4.	Mr. A.V. Pradeep	Asst.Prof, ME	Member	9866317946
5.	Dr.K.Jyothsna	Asso.Prof, BS&H	Member	9063001918
6.	Dr. G.V.Ramakrishna Rao	Assoc.Prof, MBA	Member	9642144268

Duties & Responsibilities

1. Should meets often to discuss the steps to be taken to prevent ragging in the campus.
2. Mandatorily, anti-ragging undertaking is taken from students and their parents at the time of admission.
3. Awareness programs are conducted to the students in association with AP legal Services Authority, Local Police, Progressive Psychologists Association and various NGOs about ragging act, punishments and consequences.
4. Posters depicting the anti-ragging act and its punishments are displayed on all notice boards, corridors and at the canteen.
5. Contact numbers of the anti-ragging committee members are displayed at various sensitive places across the campus.

(iii) Women Grievance & Anti-Sexual Harassment Committee/Cell (WG & ASHC):

A Women Grievance & Anti-sexual Harassment committee is established in the college to ensure safe and healthy working environment for the female students and staff. The cell plays dual role. The Cell is required to work in the direction of providing help to any female complaining of discrimination, either gender discrimination or otherwise, any kind of abuse, loneliness, peer pressure, groupism, home sickness, insecurity and/or inferiority complex in terms of physical appearance, hostel issues, harassment from room-mates, adjusting and adopting to the new environment etc.

The Cell also deals with issues relating to sexual harassment at the college as per the guidelines of Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal)

Act, 2013. It is applicable to all students, staff and faculty. The following is also sexual harassment and is covered by the committee:

- Eve-teasing, Unsavory remarks,
- Jokes causing or likely to cause awkwardness or embarrassment,
- Innuendos and taunts, Gender based insults or sexist remarks,
- Unwelcome sexual overtone in any manner such as over telephone (obnoxious telephone calls) and the like,
- Touching or brushing against any part of the body and the like,
- Displaying pornographic or other offensive or derogatory pictures, cartoons, pamphlets or sayings,
- Forcible physical touch or molestation and Physical confinement against one's will and any other act likely to violate one's privacy.

Table 10.13 Composition of Women Grievance and Anti-Sexual Harassment Committee

Sl. No	Name	Designation	Position	Phone No.
1.	Dr.K.Jyothsna	Assoc.Prof-BS&H	President	8985367040
2.	Dr.Akanksha Mishra	Assoc.Prof-EEE	Vice-President	9704559874
3.	Mrs.K.Vahini	Asst.Prof-MECH	Secretary	9491992944
4.	Mrs.P.Rajya Lakshmi	Advocate	Adviser	9290442757
5.	Dr.P.Vijaya Bharathi	Assoc.Prof-CSE	Dept.Coordinator	9849819662
6.	Mrs.T.Sandhya Kumari	Assoc.Prof-ECE	Dept.Coordinator	9949873848
7.	Ms.B. M. Pushpa Latha	Assoc.Prof-EEE	Dept.Coordinator	9640782871
8.	Mrs.S.Kalyani	Assoc. Prof-IT	Dept.Coordinator	9491162578
9.	Mrs.K.Vahini	Asst.Prof- MECH	Dept.Coordinator	9491992944
10.	Mrs.M.Satyavathi	Asst.Prof-MBA	Dept.Coordinator	9032991981
11.	Dr.K.P.Suhasini	Assoc.Prof-BS&H	Dept.Coordinator	9885218954

Mechanism for complaints on Sexual Harassment:

A written complaint is required to be taken from the aggrieved person, necessary action to be taken, preferably to settle the matter through counselling and conciliation as soon as possible. In case the matter is not so sorted, inquiry to be conducted and matter to be sorted out within 10 days from the date of complaint. The members to be vigilant all the time and ensure that there is

no such incident taking place in campus by creating awareness and having an open dialogue with all the students. Following are the Guidelines to be strictly followed

- The complainant will have to submit a written and signed complaint addressed to the Presiding officer of the Cell
- The students/staff can give a complainant through e-mail to viewfeminawing@gmail.com
- The counselor will call the complainant for a personal meeting, usually within a week from the submission of the written complaint
- The members of the Cell will discuss the complaint
- If the case falls outside the purview of the Cell, the complainant will be informed to Director
- If the case comes under the purview of the Cell, an enquiry committee will be set up
- The Committee will submit a report and recommend the nature of action to be taken at the earliest by Director
- If any legal action is required with the help of advocate member of the cell complaint is forwarded to police.

10.1.4 DELEGATION OF FINANCIAL POWERS (10)

(Institution should explicitly mention financial powers delegated to the Principal, Heads of Departments and relevant in-charges. Demonstrate the utilization of financial powers for each year of the assessment years)

Institution should explicitly mention financial powers delegated to the Principal, Dean-Admin and Heads of Departments. Demonstrate the utilization of financial powers for each year of the assessment years

Finance Committee:

Finance Committee of the institution shall be the key body which will monitor and manage the financial sustainability of the institution. Finance committee is an advisory body to the Governing Body and reports/recommends from time to time regarding the matters related to budget estimates, income from fees etc. The term of the members of the finance committee will be for the two years and shall be re-constitute by the Principal.

Table 10.14 Composition of Finance Committee

Sl. No	Name of Committee Member	Designation	Position
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1.	Dr.J.Sudhakar	Principal	Chairman
2.	Prof.A.Sesha Rao	Academic Director	Member
3.	Mr.N.Srikanth	Executive Director	Member
4.	Dr.P.S.Ravindra	Dean-Admin	Member
5.	Mr.Suresh	Head of Accounts-VIEW	Member
6.	Mr.I.Rama Rao	External Auditor	Member
7.	Mr.Suresh	Statutory Auditor, LES	Member

The functions of the finance Committee are as follows:

1. To monitor and manage the budget estimation relating to the Income from fees collected etc.,
2. To manage the annual budgets and utilization reports submitted by the individual departments
3. Audited account for the above and Department level Financial Delegation

Financial powers delegated to the Principal, Dean-Admin, Heads of Departments and relevant in-charges

1. The Principal of the institution have complete financial powers pertaining to the college.
2. The Principal acts as the joint signatory of all the college financial accounts.
3. The Principal is empowered to sanction the requisite amount of money after getting approval from the Finance committee.
4. Dean of Administration can spend up to Rs. 10,000. In addition to it all pre approved recurring expenses can be cleared by DoA.
5. The HODs are delegated to use Rs 5,000 contingency in emergency purchases and repairs for the smooth running of the department.
6. Annual Budget for the institution is prepared by the Finance committee at the beginning of the year, by considering the possible income and expenditure involved. It is approved in the GB meeting.
7. The HOD is the in-charge for the equipments and stores attached to the department concerned. HOD prepares the lists of items of stores to be replenished at periodical intervals and arrange for the purchase of stores.
8. As stated in table 10.9 above, Institution purchase committee carefully scrutinizes and allocates required funds to each department after acquiring proposals from all the departments regarding their requirements for the academic year.

9. The Purchase Committee will go through the quotes and recommendations of the user and advise the concerned HOD. The concerned HOD will forward the recommendations of the Purchase Committee along with remarks to the Principal.
10. The Dean-Admin will scrutinize the comparative statement and give his remarks and send the file back to the concerned department. The HOD shall take copies of the comparative statement and the quotations and send the originals to Purchase Department for further action.
11. The Dean-Admin will place order after taking approval of Principal & Executive Director.
12. Vouchers support all transactions. All bills/invoices/vouchers are scrutinized by account staff and approved by the Dean-Admin and Principal.
13. The bill payments are passed after ensuring proper verification/evaluation of the items. Only duly authorized persons to operate the transactions through the bank.
14. Audited financial statements including Income and Expenditure Account, Balance Sheet etc. are prepared by qualified auditors and submitted to banks and other regulatory agencies.

Utilization of financial powers for each of the assessment years:

The following table demonstrates the Financial Utilizations by Principal, Dean Admin, and HODs for the last 3 assessment year i.e.2017-18, 2018-19 and 2019-20.

Table 10.15 Financial Utilizations by Principal, Dean Admin, and HOD

	HOD	Dean-Admin	Principal
CAY (2019-20)	Utilization: 1. Printers Cartridge Refilling cost 2. Hospitality expenses like tea coffee, Lunch, Snacks for external laboratory examiners and for panel members in Project Viva Voice. 3. Postage and Cell charges for parents and for official Correspondence. 4. Maintenance and Miscellaneous expenses.	Utilization: 1. Institution buildings. 2. Approval for rent, rates and taxes 3. Insurance and others, if any 4. Postage, Telephone charges 5. Electricity charges 6. Printing and Stationary 7. College maintenance 8. Games & expenses 9. Travelling & conveyance 10. Transportation Charges	Utilization: 1. Advertisement & Publicity expenditure 2. Purchase of books and periodicals for library 3. Approval of cost of functions & celebrations 4. Payment of affiliation fees etc. 5. Purchase of A.C. machinery. 6. Purchase of building construction material 7. Purchase of 300 computers and peripherals 8. Purchase of machinery 9. Purchase of vehicles 10. Approvals for research projects related expenditure 11. Purchase of online journals for the digital library 12. Approval for regular salaries.
CAY m1 (2018-19)	Utilization: 1. Printers Cartridge Refilling cost 2. Hospitality expenses like tea/coffee, Lunch, Snacks for External Laboratory Examiners and for Panel Members in Project Viva Voice. 3. Postage and Call charges for Parents and for official correspondence. 4. Maintenance and Miscellaneous expenses.	Utilization: 1. Institution buildings. 2. Approval for rent, rates and taxes 3. Insurance and others, if any 4. Postage, Telephone charges 5. Electricity charges 6. Printing and Stationary 7. Garden maintenance 8. Repair & maintenance 9. College maintenance 10. Games & expenses	Utilization: 1. Advertisement & Publicity expenditure 2. Purchase of books and periodicals for library 3. Approval of cost of functions & celebrations 4. Payment of affiliation fees etc. 5. Purchase of A.C. machinery. 6. Purchase of building construction material 7. Purchase of 250 computers and

			peripherals 8. Purchase of electrical equipment 9. Purchase of furniture & fixtures for the class rooms and labs 10. Purchase of lab equipment 11. Purchase of office equipment 12. Purchase of machinery
CAY m2 (2017-18)	Utilization: 1. Printers Cartridge Refilling cost 2. Hospitality expenses like tea/coffee, Lunch, Snacks for External Laboratory Examiners and for Panel Members in Project Viva Voice. 3. Postage and Call charges for Parents and for official correspondence. 4. Maintenance and Miscellaneous expenses.	Utilization: 1. Institution buildings. 2. Approval for rent, rates and taxes 3. Insurance and others, if any 4. Postage, Telephone charges 5. Electricity charges 6. Printing and Stationary 7. Garden maintenance 8. Repair & maintenance 9. College maintenance	Utilization: 1. Advertisement & Publicity expenditure 2. Purchase of books and periodicals for library 3. Approval of cost of functions & celebrations 4. Payment of affiliation fees etc. 5. Purchase of A.C. machinery. 6. Purchase of building construction material 7. Purchase of computers and peripherals 8. Purchase of electrical equipment

10.1.5. TRANSPARENCY AND AVAILABILITY OF CORRECT/UNAMBIGUOUS INFORMATION IN PUBLIC DOMAIN (5)

(Information on policies, rules, processes and dissemination of this information to stakeholders is to be made available on the web site)

Effective governance, leadership and management are evident from its long history of disturbance-free performance in imparting quality technical education. It is mainly because of the highly responsive compact management which gets constant inputs and feedback from the administrative and academic heads, experts, alumni, faculty, students, and supporting staff.

Information on the policies, rules, processes:

1. The Institution has its own HR policies, Service Rules and Processes that are disseminated to the stake holders through the institutional website <http://view.edu.in/admsrpp.php>
2. The Vision, Mission and objectives of the institution are displayed in the College campus at Notice boards, Department Notice boards, Canteen, Hostel building, library and other prime locations to engross the attention of all students, faculty, staff and visitors. The same is also communicated through college website and Newsletter to all the stakeholders for wide publicity.
3. The web-site (www.view.edu.in) of the institution publishes the information pertaining to the institute and programs for circulation to stakeholders and the general public.
4. Annual audited reports are published and available to the stakeholders and public in the college website.
5. The student admissions are transparently filled through a separate single window system of the government of Andhra Pradesh. Admission to UG is done through APEAMCET and admission to PG programs is done through APPGCET & APICET.

Dissemination of the information about student, faculty and staff

1. Information such as Internal marks scored by students, Shortage of attendance, if any, examination schedule, availability of scholarships, opportunities for students etc. are promptly displayed on Notice Boards.
2. Criteria for student scholarships, faculty awards etc. are informed well in advance so that equal opportunity is given to all individuals concerned.
3. At the beginning of every academic year the college brings out a broucher, which contain all the information like departments profile, faculty details, students result, achievements, placement records and other information required by a student to carry out her studies in the college.

4. Notices or Circulars concerned to students are circulated in the class rooms and displayed on the notice boards.
5. Circulars or notifications from the university regarding academic matters are sent to all the Heads of the departments and circulated among the faculty members and students.
6. The institution is transparent in providing timely information to its staff enabling better connectivity and proficiency in day-to-day academic and administrative works.
7. An SMS alert is sent to parents/guardians if their ward fails to attend the classes.
8. Regularly we intimate to parents/ guardian regarding the attendance and academic progress of their wards through registered post with acknowledgement.

10.2. Budget Allocation, Utilization, and Public Accounting at Institute level (30)

(Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years)

Total Income at Institute level: for CFY, CFY_{m1}, CFY_{m2} and CFY_{m3}

CFY: Current Financial Year,

CFY_{m1}: (Current Financial Year minus 1),

CFY_{m2}: (Current Financial Year minus 2) and

CFY_{m3}: (Current Financial Year minus 3)

Table 1 CFY 2019-2020

Total Income:				Actual Expenditure (till...)			Total No. of students:
100,408,508				152,832,520			2368
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non recurring	Special Projects/ Any other, specify	Expenditure per student:
99,535,825	0	300000	572,683	107,401,404	45,431,116	0	64541

Table 2 CFYm1 2018-2019

Total Income:				Actual Expenditure (till...)			Total No. of students:
100,050,510				144,356,363			2455
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non recurring	Special Projects/ Any other, specify	Expenditure per student:
99,285,460	0	400,000	365,050	114,019,867	30,336,496	0	58801

Table 3 CFYm2 2017-2018

Total Income:				Actual Expenditure (till...)			Total No. of students:
93,429,180				127,738,841			2357
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non recurring	Special Projects/ Any other, specify	Expenditure per student:
91,145,210	0	1,674,360	609,610	100,792,728	26,946,113	0	54196

Table 4 CFYm3 2016-2017

Total Income:				86,558,949	Actual Expenditure (till...)			110,617,386	Total No. of students: 2171
Fee	Govt.	Grant(s)	Other Sources (specify)	Recurring including Salaries	Non recurring	Special Projects/ Any other, specify		Expenditure per student:	
84,161,866	0	0	2,397,083	89,567,189	21,050,197	0		50,952	

Table 5 Summary of budget allocation and expenses

Item	Budgeted in 2019-20	Actual Expenses in 2019-20	Budgeted in 2018-19	Actual Expenses in 2018-19	Budgeted in 2017-18	Actual Expenses in 2017-18	Budgeted in 2016-17	Actual Expenses in 2016-17
Infrastructure Built-Up	28,000,000	27,061,417	19,840,000	19,820,565	23,500,000	22,996,824	18,000,000	17,570,228
Library	166,500	164,809	425,000	395,030	800,000	714,159	825,000	776,399
Laboratory Equipment	1,200,000	1,078,060	3,000,000	2,804,536	300,000	273,600	370,000	360,257
Laboratory Consumable	48,000	46,928	120,000	113,839	80,000	73,406	120,000	105,948
Teaching and non-Teaching staff salary	62,000,000	65,524,922	70,000,000	71,416,461	58,501,456	61,527,649	50,000,000	52,233,443
Maintenance and Spares	7,100,000	6,990,615	3,500,000	3,380,388	2,500,000	2,440,988	1,700,000	1,583,479
R&D	3,250,000	3,144,921	2,700,000	2,557,792	3,000,000	2,664,954	2,100,000	2,078,543
Training and Travel	200,000	193,352	180,000	163,357	288,000	285,027	500,000	467,375
Miscellaneous Expense	14,250,000	14,203,173	5,200,000	5,010,987	600,000	575,274	425,000	416,038
Admin & Finance costs	36,000,000	34,424,324	40,000,000	38,693,408	36,250,000	36,186,960	36,000,000	35,025,677
Total	152,214,500	152,832,520	144,965,000	144,356,363	125,819,456	127,738,841	110,040,000	110,617,386

10.2.1. Adequacy of budget allocation (10)

(The institution needs to justify that the budget allocated during assessment years was adequate)

The yearly budget is prepared according to the needs & requirements of the departments taking into consideration of annual intake of students, laboratory & infrastructure developments. Components include Students, faculty & staff requirements and promotions and latest technologies etc. Formal budget estimates will be prepared by each department and will be reviewed in HODs meeting with the Principal. After deliberations, formal budget made altered in departments and forwarded to Principal for preparing the final budget at the college level. The final budget is sent to Management for approval and sanction. The Management is approving almost 100% which was proposed by the institute. The budget allocation and utilization for the last three years is adequate.

Table 1 CFY 2019-2020

Item	Budgeted	Percentage of Allocation
Infrastructure Built-up	28,000,000	18.40
Library	166,500	0.11
Laboratory Equipment	1,200,000	0.79
Research & Development	3,250,000	2.14
Total Non Recurring	32,616,500	21.43
Teaching & Non-Teaching Salaries	62,000,000	40.73
Maintenance and Spares	7,100,000	4.66
Laboratory Consumables	48,000	0.03
Training & Travel	200,000	0.13
Miscellaneous Exp.	14,250,000	9.36
Administration and Finance Cost	36,000,000	23.65
Total Other Recurring Expenditure	57,598,000	37.84
TOTAL	152,214,500	100.00

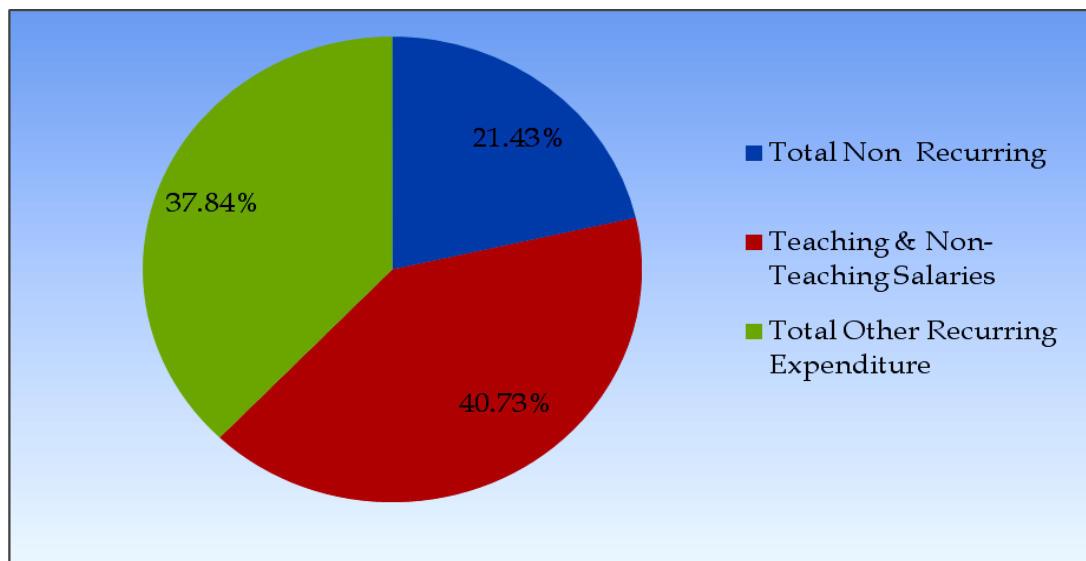


Table 2 CFYm1 2018-2019

Item	Budgeted	Percentage of Allocation
Infrastructure Built-up	19,840,000	13.69
Library	425,000	0.29
Laboratory Equipment	3,000,000	2.07
Research & Development	2,700,000	1.86
Total Non Recurring	25,965,000	17.91
Teaching & Non-Teaching Salaries	70,000,000	48.29
Maintenance and Spares	3,500,000	2.41
Laboratory Consumables	120,000	0.08
Training & Travel	180,000	0.12
Miscellaneous Exp.	5,200,000	3.59
Administration and Finance Cost	40,000,000	27.59
Total Other Recurring Expenditure	49,000,000	33.80
TOTAL	144,965,000	100.00

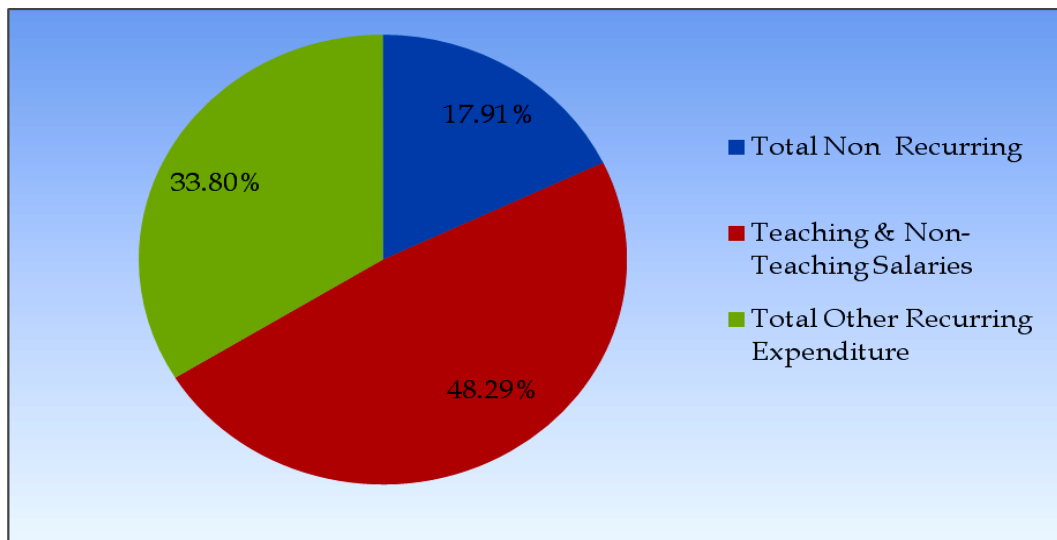


Table 3 CFYm2 2017-2018

Item	Budgeted	Percentage of Allocation
Infrastructure Built-up	23500000	18.68
Library	800000	0.64
Laboratory Equipment	300000	0.24
Research & Development	3000000	2.38
Total Non Recurring	27,600,000	21.94
Teaching & Non-Teaching Salaries	58501456	46.50
Maintenance and Spares	2500000	1.99
Laboratory Consumables	80000	0.06
Training & Travel	288000	0.23
Miscellaneous Exp.	600000	0.48
Administration and Finance Cost	36250000	28.81
Total Other Recurring Expenditure	39,718,000	31.57
TOTAL	125819456	100.00

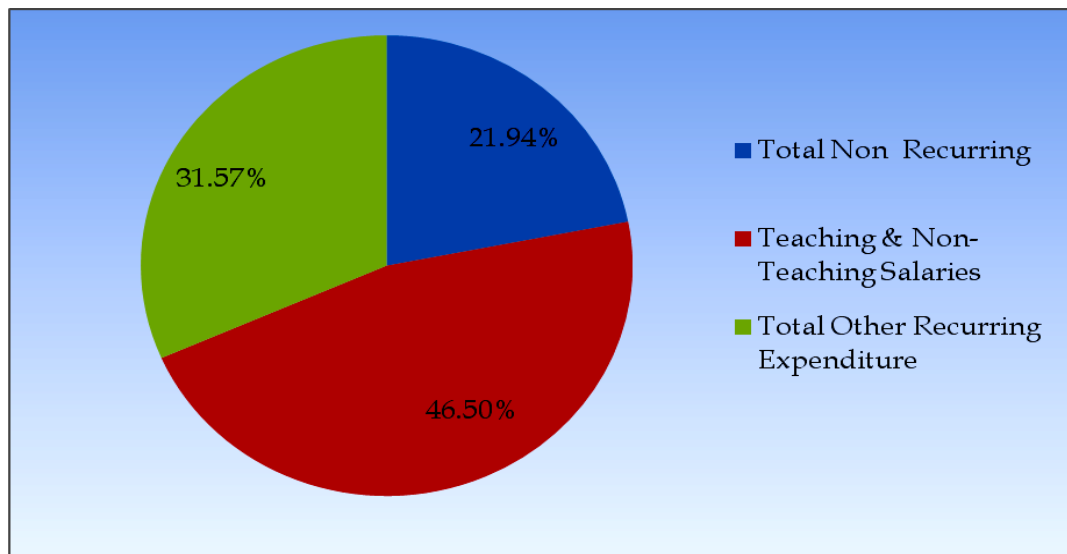
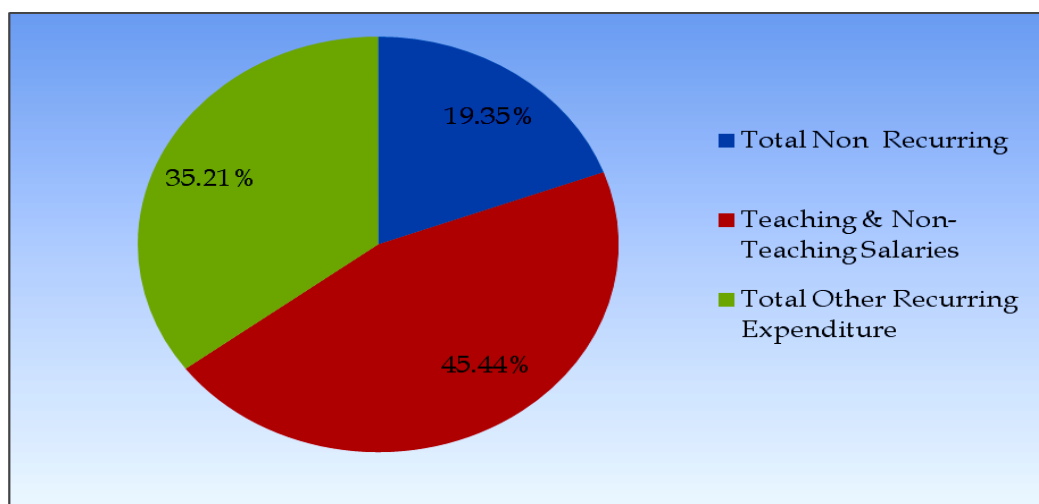


Table 4 CFYm3 2016-2017

Item	Budgeted	Percentage of Allocation
Infrastructure Built-up	18000000	16.36
Library	825000	0.75
Laboratory Equipment	370000	0.34
Research & Development	2100000	1.91
Total Non Recurring	21,295,000	19.35
Teaching & Non-Teaching Salaries	50000000	45.44
Maintenance and Spares	1700000	1.54
Laboratory Consumables	120000	0.11
Training & Travel	500000	0.45
Miscellaneous Exp.	425000	0.39
Administration and Finance Cost	36000000	32.72
Total Other Recurring Expenditure	38,745,000	35.21
TOTAL	110040000	100.00

**Table 5 Summary of Budget Allocation**

Head of Expenditure	2019-20	2018-19	2017-18	2016-17
Teaching and Non-Teaching Salaries	40.73%	48.29%	46.5%	45.44%
Administration and Finance Cost	23.65%	27.59%	28.81%	32.72%
Other recurring Expenditure	14.19%	6.21%	2.75%	2.49%
Non-recurring Expenditure	21.43%	17.91%	21.94%	19.35%

Total Expenditure	100%	100%	100%	100%
Total Expenditure per student	64,541	58,801	54,196	50,952

Analysis on Adequacy:

- The total budget allocation and utilization have followed established norms in terms of contribution to salaries, administrative expenditure and Non Recurring expenditure to the total expenditure.
- Total budget of the institution has increased by 38% in the past 4 years which is in lines with the increase in student strength
- Total salary expenditure is at a healthy range of 40.73% to 48.29% of the total recurring expenditure in the assessment years
- Total administrative and finance cost is within a range of 23.65% to 32.72% which is as per the accepted standards and it also indicates that the institute has been growing.
- Total nonrecurring expenditure is within a range of 17.91% to 21.94% of the total expenditure of the institution showcasing the commitment towards growth and preparations for the future.
- The average expenditure per student has been growing consistently at an average of 8.21% over the past 4 years which indicating a healthy growth and development in all parameters.

10.2.2. Utilization of allocated funds (15)

(The institution needs to state how the budget was utilized during assessment years)

Table 1 CFY 2019-2020

Item	Budgeted	Utilization	% of Utilization
Infrastructure Built-up	28,000,000	27,061,417	96.65
Library	166,500	164,809	98.98
Laboratory Equipment	1,200,000	1,078,060	89.84
Research & Development	3,250,000	3,144,921	96.77
Total Non Recurring	32,616,500	31,449,206	96.42
Teaching & Non-Teaching Salaries	62,000,000	65,524,922	105.69
Maintenance and Spares	7,100,000	6,990,615	98.46
Laboratory Consumables	48,000	46,928	97.77
Training & Travel	200,000	193,352	96.68
Miscellaneous Exp.	14,250,000	14,203,173	99.67

Administration and Finance Cost	36,000,000	34,424,324	95.62
Total Other Recurring Expenditure	50,498,000	48,867,777	96.77
TOTAL	152,214,500	152,832,520	100.41

Table 2 CFYm1 2018-2019

Item	Budgeted	Utilization	% of Utilization
Infrastructure Built-up	19,840,000	19,820,565	99.90
Library	425,000	395,030	92.95
Laboratory Equipment	3,000,000	2,804,536	93.48
Research & Development	2,700,000	2,557,792	94.73
Total Non Recurring	25,965,000	25,577,923	98.51
Teaching & Non-Teaching Salaries	70,000,000	71,416,461	102.02
Maintenance and Spares	3,500,000	3,380,388	96.58
Laboratory Consumables	120,000	113,839	94.87
Training & Travel	180,000	163,357	90.75
Miscellaneous Exp.	5,200,000	5,010,987	96.37
Administration and Finance Cost	40,000,000	38,693,408	96.73
Total Other Recurring Expenditure	45,500,000	43,981,591	96.66
TOTAL	144,965,000	144,356,363	99.58

Table 3 CFYm2 2017-2018

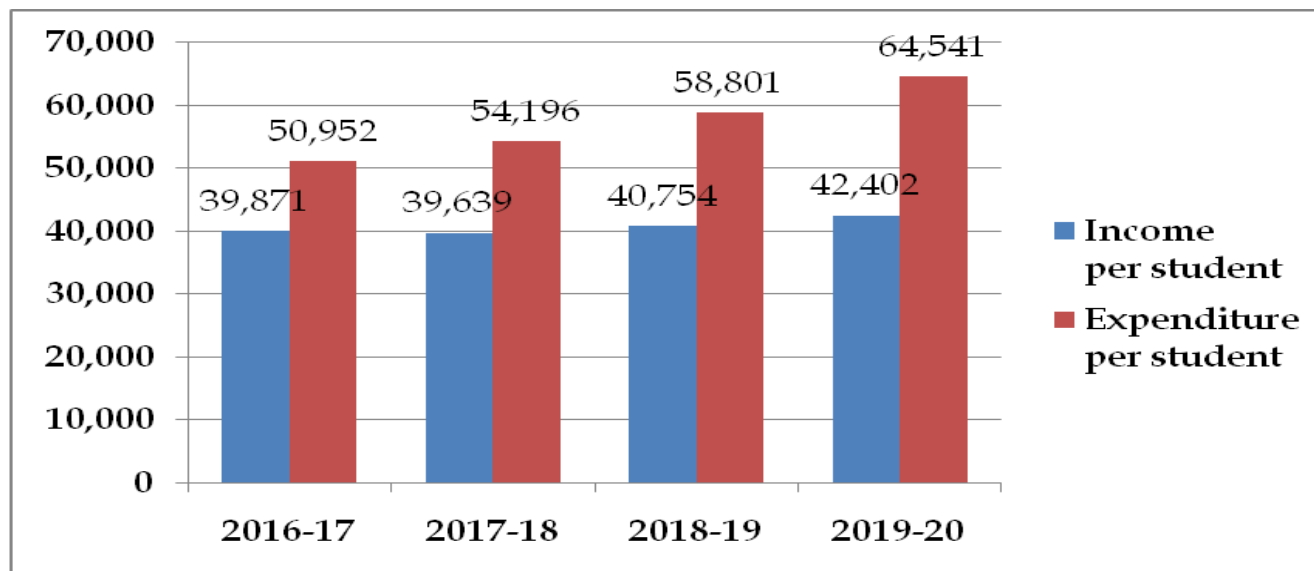
Item	Budgeted	Utilization	% of Utilization
Infrastructure Built-up	23,500,000	22,996,824	97.86
Library	800,000	714,159	89.27
Laboratory Equipment	300,000	273,600	91.20
Research & Development	3,000,000	2,664,954	88.83
Total Non Recurring	27,600,000	26,649,537	96.56
Teaching & Non-Teaching Salaries	58,501,456	61,527,649	105.17
Maintenance and Spares	2,500,000	2,440,988	97.64
Laboratory Consumables	80,000	73,406	91.76
Training & Travel	288,000	285,027	98.97
Miscellaneous Exp.	600,000	575,274	95.88
Administration and Finance Cost	36,250,000	36,186,960	99.83
Total Other Recurring Expenditure	37,218,000	37,120,667	99.74
TOTAL	125,819,456	127,738,841	101.53

Table 4 CFYm3 2016-2017

Item	Budgeted	Utilization	% of Utilization
Infrastructure Built-up	18,000,000	17,570,228	97.61
Library	825,000	776,399	94.11
Laboratory Equipment	370,000	360,257	97.37
Research & Development	2,100,000	2,078,543	98.98
Total Non Recurring	21,295,000	20,785,426	97.61
Teaching & Non-Teaching Salaries	50,000,000	52,233,443	104.47
Maintenance and Spares	1,700,000	1,583,479	93.15
Laboratory Consumables	120,000	105,948	88.29
Training & Travel	500,000	467,375	93.48
Miscellaneous Exp.	425,000	416,038	97.89
Administration and Finance Cost	36,000,000	35,025,677	97.29
Total Other Recurring Expenditure	37,045,000	36,015,038	97.22
TOTAL	110,040,000	110,617,386	100.52

Table 5 Statement of Income and Expenditure per student

Financial Year	Total Income	Total Expenditure	Adjustment from Other Units	Income per student	Expenditure per student
2019-20	100,408,508	152,832,520	52,424,012	39,871	50,952
2018-19	100,050,510	144,356,363	44,305,853	39,639	54,196
2017-18	93,429,180	127,738,841	34,309,661	40,754	58,801
2016-17	86,558,949	110,617,386	24,058,437	42,402	64,541



Utilization:

- Total utilization of allocated funds to majority elements has been at a healthy range of 92% to 106% of the budgeted expenditure in the past 4 years
- Salaries at the institution have increased by 31.04% from 2016-17 to 2019-20 indicating an average growth of 10% per annum indicating a healthy improvement in staff numbers and also healthy increments for the staff members.
- An appropriate utilization of allocated fund to Infrastructure Built-up has been taken place in all the assessment Years, which indicates the institute is able to accrue a significant portion of the nonrecurring expenditure from internal accruals indicating a healthy growth.
- Total nonrecurring expenditure has increased from 2.07 crores to 3.14 crores due to the focus of the institution on infrastructure improvement and establishing state of the facilities
- The expenditure over income of the institute stand for the cost incurred for infrastructure development which is adjusted from the other units of Lavu Educational society which indicates the commitment of the institution towards its vision to provide competent women technical power keeping the demands of the industry along with providing a robust economic boost to the family in the form of a technically educated and trained woman professional.

10.2.3. Availability of the audited statements on the institute's website (5)

(The institution needs to make audited statements available on its website)

YES, The institution needs to make audited statements available on its website

2019-20	YES	www.view.edu.in
2018-19	YES	www.view.edu.in
2017-18	YES	www.view.edu.in
2016-17	YES	www.view.edu.in

10.3 Program Specific Budget Allocation, Utilization (30)

Total Income at Institute level: For CFY,CFYm1,CFYm2 & CFYm3

CFY: (Current Financial Year),

CFYm1 : (Current Financial Year minus 1),

CFYm2 : (Current Financial Year minus 2) and

CFYm3 : (Current Financial Year minus 3

Table 1 :: CFY 2019-20

Total Budget:		22,768,200	Actual expenditure : 22,911,970		Total No. of students :	355
Non Recurring	Recurring		Non Recurring	Recurring	Expenditure per student	
6,988,200	15,780,000		6,810,830	16,101,140	64541	

Table 2 :: CFYm1 2018-19

Total Budget:		20,239,000	Actual expenditure: 20,168,730		Total No. of students :	343
Non Recurring	Recurring		Non Recurring	Recurring	Expenditure per student	
4,281,000	15,958,000		4,238,460	15,930,271	58801	

Table 3 :: CFYm2 2017-18

Total Budget:		14,664,748	Actual expenditure:		15,228,941	Total No. of students :	281
Non Recurring	Recurring		Non Recurring	Recurring	Expenditure per student		
3,272,000	11,392,748		3,212,498	12,016,443	54196		

Table 4 :: CFYm3 2016-17

Total Budget: 12,471,000		Actual expenditure: 12,687,116		Total No. of students :	249
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student	
2,476,000	9,995,000	2,414,325	10,272,791	50952	

Table 5 :: Summary of allocation and expenses

Items	Budgeted in 2019-20	Actual Expenses in 2019-20	Budgeted in 2018-19	Actual Expenses in 2018-19	Budgeted in 2017-18	Actual Expenses in 2017-18	Budgeted in 2016-17	Actual Expenses in 2016-17
Laboratory Equipment	175,000	161,618	400,000	391,835	35,000	32,618	43,000	41,319
Software	512,000	511,545	384,000	382,905	9,862	9,596	7,000	6,746
Laboratory Consumable	8,000	7,035	18,000	15,905	10,000	8,751	15,000	12,152
Maintenance and Spares	1,075,000	1,048,002	485,000	472,290	300,000	291,013	190,000	181,615
R&D	475,000	471,472	370,000	357,362	350,000	317,714	250,000	238,396
Training and Travel	30,000	28,986	25,000	22,823	34,000	33,981	55,000	53,605
Miscellaneous Expense	42,600	42,586	37,500	35,005	15,000	13,717	9,600	9,543
Total	2,317,600	2,271,244	1,719,500	1,678,126	753,862	707,390	569,600	543,376

10.3.1. Adequacy of budget allocation (10)

(Program needs to justify that the budget allocated over the assessment years was adequate for the program)

Table 1 :: CFY 2019-20

Items	Budgeted	% of Allocation
Laboratory Equipment	175,000	7.55
Software	512,000	22.09
Laboratory Consumable	8,000	0.35
Maintenance and Spares	1,075,000	46.38
R&D	475,000	20.50
Training and Travel	30,000	1.29
Miscellaneous Expense	42,600	1.84
Total Expenditure	2,317,600	100.00

Table 2 :: CFYm1 2018-2019

Items	Budgeted	% of Allocation
Laboratory Equipment	400,000	23.26
Software	384,000	22.33
Laboratory Consumable	18,000	1.05
Maintenance and Spares	485,000	28.21
R&D	370,000	21.52
Training and Travel	25,000	1.45
Miscellaneous Expense	37,500	2.18
Total Expenditure	1,719,500	100.00

Table 3 :: CFYm2 2017-2018

Items	Budgeted	% of Allocation
Laboratory Equipment	35,000	4.64
Software	9,862	1.31
Laboratory Consumable	10,000	1.33
Maintenance and Spares	300,000	39.80
R&D	350,000	46.43
Training and Travel	34,000	4.51
Miscellaneous Expense	15,000	1.99
Total Expenditure	753,862	100.00

Table 4 :: CFYm3 2016-2017

Items	Budgeted	Percentage of Allocation
Laboratory Equipment	43,000	7.55
Software	7,000	1.23
Laboratory Consumable	15,000	2.63
Maintenance and Spares	190,000	33.36
R&D	250,000	43.89
Training and Travel	55,000	9.66
Miscellaneous Expense	9,600	1.69
Total Expenditure	569,600	100.00

Analysis on Adequacy:

- The total budget allocated as per the requirements of the Department to meet the established norms of statutory bodies.
- Total budget of the department has increased in the past 4 years which is in lines with the increase in student strength.
- In order to develop effective teaching-learning process among the students and staff, allocated 22% of department budget towards lab equipment and software equipment during the last two years.
- All the labs are well established and maintain the consistency of labs and renovations of labs, allocated major budget for maintenance and spares.
- To develop employability as well as entrepreneurship skills including **Product Development Training** and also promote more research activities among the students and staff, faculty members are motivated to participate in workshops and FDPs, so that spent more budget for R&D.

10.3.2 Utilization of Allocated Funds (20)*(Program needs to state how the budget was utilized during the last three assessment years)***Table 1 :: CFY 2019-20**

Item	Budgeted	Utilization	
Laboratory Equipment	175,000	161,618	92.35
Software	512,000	511,545	99.91
Laboratory Consumable	8,000	7,035	87.94
Maintenance and Spares	1,075,000	1,048,002	97.49
R&D	475,000	471,472	99.26
Training and Travel	30,000	28,986	96.62
Miscellaneous Expense	42,600	42,586	99.97
Total Expenditure	2,317,600	2,271,244	98.00

Table 2 :: CFYm1 2018-2019

Item	Budgeted	Utilization	
Laboratory Equipment	400,000	391,835	97.96
Software	384,000	382,905	99.71
Laboratory Consumable	18,000	15,905	88.36
Maintenance and Spares	485,000	472,290	97.38
R&D	370,000	357,362	96.58
Training and Travel	25,000	22,823	91.29
Miscellaneous Expense	37,500	35,005	93.35
Total Expenditure	1,719,500	1,678,126	97.59

Table 3 :: CFYm2 2017-2018

Item	Budgeted	Utilization	
Laboratory Equipment	35,000	32,618	93.20
Software	9,862	9,596	97.30
Laboratory Consumable	10,000	8,751	87.51
Maintenance and Spares	300,000	291,013	97.00
R&D	350,000	317,714	90.78
Training and Travel	34,000	33,981	99.94
Miscellaneous Expense	15,000	13,717	91.45
Total Expenditure	753,862	707,390	93.84

Table 4 :: CFYm3 2016-2017

Item	Budgeted	Utilization	Percentage of Utilization
Laboratory Equipment	43,000	41,319	96.09
Software	7,000	6,746	96.38
Laboratory Consumable	15,000	12,152	81.01
Maintenance and Spares	190,000	181,615	95.59
R&D	250,000	238,396	95.36
Training and Travel	55,000	53,605	97.46
Miscellaneous Expense	9,600	9,543	99.41
Total Expenditure	569,600	543,376	95.40

Utilization:

- Proposed budget sanctioned by the management, we purchased the lab equipment and software and also given training to the students as well as faculty as per the vision and mission of the Department.
- Total utilization has been at a healthy range of 97.46% to 98.14% of the budgeted expenditure in the past 4 years.
- The department is able to accrue a significant portion of the nonrecurring expenditure from internal accruals indicating a healthy growth.
- To meet the curriculum requirements, established CEED laboratory with necessary computers and equipment.
- Total expenditure of the department drastically increased in the last 4 years due to the focus of the department on infrastructure improvement and establishing state of the facilities.

10.4. Library and Internet (20)

(Indicate whether zero deficiency report was received by the Institution for all the assessment years. Effective availability/ purchase records and utilization of facilities/equipment etc. to be documented and demonstrated)

The Institute Central Library aims to providing access to its Printed resources as well as Electronic Resources for the use of faculty and Students at the college campus. The Staff and students have unlimited access to a wealth of Information found in resources like books, magazines, Journals, Hand Books, Annual reports and the Internet. In addition, the library offers spacious seating arrangements and a calm ambience for learning.

Zero Deficiency:**Table 10.16** Zero Deficiency report

Academic Year	Zero deficiency report received by the Institute from AICTE	Application No.
2019-20	YES	1-4261476817
2018-19	YES	1-3514059264
2017-18	YES	1-3325461133
2016-17	YES	1-2812749429

Library Data Base**Table 10.17** Details of Library

Carpet area of library (in m2)	571.91Sq. Mts
Reading space (in m2)	275 sq Mts
Number of seats in reading space	175
Number of users (issue book) per day	210 – Issues & Returns (App)
Number of users (reading space) per day	350 (App)
Timings: During working day	7:30 am to 5:30 pm
Number of library staff	03 +1
Number of library staff with a degree in Library	02
Library Management	01
Computerization for search, indexing	Yes

Issue/return records bar coding used	Yes
Library services on Internet	Yes
DELNET Membership	Yes
Archives	Question Papers, Projects, CDs, News paper Clippings, Syllabus etc

Library Expenditure

Table 10.18 Expenditure Details of Library

Academic Year	Books	Journals (E-Journals + Hard Journals)	Other Expenditure	Total Expenditure
2019-20	301890.00	76680.00	74574.00	453144.00
2018-19	434438.00	224696.00	64785.00	723919.00
2017-18	855706.00	176376.00	150550.00	1182632.00
2016-17	652491.00	97452.00	46880.00	796823.00

10.4.1. QUALITY OF LEARNING RESOURCES (HARD/SOFT) (10)

The central Library is a proud partner in the Institute's march towards its vision playing a vital role in acquisition, organization and dissemination of knowledge. The main thrust of the library continues to be the improvement of the quality of services and facilities, achieving higher degree of user's satisfaction and modernization of its activities and operations. The Central Library is totally Air Conditioned, presently covers a total user area of 571.91 sq. mtrs, with a seating capacity of 175 and caters to the information needs of the faculty, staff and students. The Central Library has Text book section, Circulation section, Reference books, Periodical Section with rich collection of Journals and books. The separate departmental libraries are establishment in each department for quick access purpose in addition to the central library.

Library Collection:

The Vignana Vahini Library has a huge collection of 27784 books with 5676 titles on various subjects including technical, managerial and humanities and reference books covering biographies, dictionaries, yearbooks etc. The library subscribes 108 National, International print journals and Magazines, 5230 e-journals, and holds over 1018 project reports. The Learning materials, Previous Question Papers, Project Reports of all departments are made available

Library e-Resources:

The Digital Library has 15 computers and several E- Resource of e-journals, e-books, video lectures (like NPTEL), audio lectures of various publisher are made available in the Digital Library for effective teaching learning process.

Library Automation and Security:

The Central Library employs Barcode technology for access control, automatic issue and return of library books. Automation of library services enables library staff to assist the students for more time in their search for quality learning resources.

10.4.1.1 Relevance and availability of learning resources:

The procurement of the books is decided based on the library advisory committee which consists of all the departments. Selected students from III and IV year of Engineering are also members of the library advisory committee. This committee recommends the titles and authors which are relevant for the courses, and of latest publications. The committee also recommends on the procurement of e-books and e-journals. We implement all the recommendations of the advisory committee.

The following table gives the number of titles and volumes available in central library.

No of Titles and Volumes: 30-06-2020		
No. of Titles: 5676		
No. of Volumes: 27784		
Academic Year	No. of Titles added	No. of Volumes added
2019-20	126	555
2018-19	124	1039
2017-18	183	1708
2016-17	181	1702

The below table gives the number of titles and volumes program wise in the central library.

Table 10.19 Program Wise Number of Titles and Volumes

S. No	Subject	No. of Titles	No. of Volumes
1	Computer Science Engineering	927	4324
2	Information Technology	813	3312
3	Electronics and Communications Engineering	921	4314
4	Electrical and Electronics Engineering	826	3819
5	Mechanical Engineering	712	3013
6	Master of Business Administration	731	5027
7	Sciences & Humanities	318	2762
8	General Books	428	1213
	Total	5676	27784
9	E-Books	1784	1784
10	<u>Book Bank Books:</u>		
	i) SC BOOKS	93	165
	ii) ST BOOKS	25	25

Scholarly Journal Subscription:

Academic Year	No. of Total Technical Journals/Magazines subscribed (Hard Copy)	Internationally acclaimed titles in (Softcopy)
2019-20	108	<ul style="list-style-type: none"> • IEEE • IEI • J-Gate • DELNET • N-Digital
2018-19	104	<ul style="list-style-type: none"> • IEEE • IEI • J-Gate • DELNET • N-Digital
2017-18	101	<ul style="list-style-type: none"> • IEEE • IEI • J-Gate • DELNET • N-Digital

Availability of Digital Library Contents:

Following digital contents are made available

Content	Accessibility	
NPTEL Video Lecture	Access Provided to NPTEL Video Lecture Content	YES, through local Server
National Digital Library of India (NDL) IIT Kharagpur	Membership to NDL Digital Library of India	YES
Availability over Intranet /Internet	YES	
No. of users per day:	25 - 35 Per Day	

10.4.1.2 Accessibility to Students:

1. The Library is open for all users from 7.30 am to 5.30 pm. The library hours are extended on the basis of need during examinations.
2. Regular class time tables of all programs allot one period a week for library study.
3. The students utilize the library study period. In addition, many students spend many more hours in the library studying on their own.
4. The use of library by students is generally more during examination period.
5. Digital Library is also available to the students with free internet Access.
6. The library provides IP enabled access to a large number of full texts online journal databases from the various publishers.
7. In the library the staff helps the students to register National Digital Library for self learning. The staff also helps the students to register with NDL.

10.4.1.3 Support to students for self learning activities

1. A digital library is setup to facilitate online access of the information.
2. The search and download functions are free of cost for all the users.
3. Students can access digital resources through the systems and download the required books / publications.
4. NPTEL (National Project on Technology Enhanced Learning): Access to online learning material prepared by IIT and other esteemed institutions are hosted on institution server.
5. Institute is registered as member of National Digital Library (NDL) & DELNET
6. Each student is given 3 library cards using which he/she can lend 3 books for 15 days.
7. The borrowed books can be renewed before the due date



10.4.2. INTERNET (10)

The entire campus is Wi-Fi enabled to all the students and faculty members. A state-of-the-art campus network with a 60 Mbps Leased line Internet connection offer unlimited access of Internet for the students and staff round the clock, for their educational and research needs.

Table 10.19 Details of Internet

S. No	Particulars	
1	Name of Internet Provider	Idea Cellular Limited and Bharti Airtel Limited
2	Available Bandwidth	60 Mbps
3	WiFi Availability	40 Mbps (Reliance Jio) Wi-Fi connectivity is available in and around the campus
4	Internet access in labs, classrooms, library and office of all departments	Yes. Internet is accessible in all computer labs, classrooms, Library and department offices
5	Security Arrangements	Quick heal Antivirus with firewall protection