PACE Institute of Technology&Sciences

SELF ASSESSMENT REPORT(TIER - I) FOR Electrical and Electronics Engineering

Part A : Institutional Information

1   Name and Address of the Institution

PACE Institute of Technology&Sciences,
NH-5,Near valluramma temple ,valluru village tangutur mandal,prakasam district ,andhra pradesh,pin-523272

2   Name and Address of Affiliating University

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

3   Year of establishment of the Institution:

2008

4   Type of the Institution:

○ Institute of National Inforfance	⦿ Autonomous
○ University	○ Any other(please specify)
○ Deemed University	

5   Ownership Status:

○ Central Government	☐ Trust
○ State Government	☑ Society
○ Government Aided	☐ Section 25 Company
○ Self financing	☐ Any Other(Please Specify)

6   Other Academic Institutions of the Trust/Society/Company etc., if any

Name of Institutions	Year of Establishment	Programs of Study	Location

7   Details of all the programs being offered by the Institution under consideration:

Name of Program	Program Applied level	Start of year	Year of AICTE approval	Initial Intake	Intake Increase	Current Intake	Accreditation status	From	To	Program for consideration	Program for Duration
ELECTRICAL AND ELECTRONICS ENGINEERING	UG	2008	2008	60	Yes	120	Granted accreditation for 3 years for the period (specify period)	2020	2023	Yes	4

Sanctioned Intake for Last Five Years for the ELECTRICAL AND ELECTRONICS ENGINEERING	
Academic Year	**Sanctioned Intake**
2022-23	120
2021-22	120
2020-21	120
2019-20	120
2018-19	120
2017-18	60

8   Programs to be considered for Accreditation vide this application:

S No	Level	Discipline	Program
1	Under Graduate	Engineering & Technology	Civil Engg.
2	Under Graduate	Engineering & Technology	Computer Science & Engg.
3	Under Graduate	Engineering & Technology	Electronics & Communication Engg.
4	Under Graduate	Engineering & Technology	Mechanical Engg.
5	Under Graduate	Engineering & Technology	Electrical and Electronics Engineering

9   Total number of employees

A. Regular* Employees (Faculty and Staff):

Items	2022-23		2021-22		2020-21	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	210	223	208	215	206	226
Faculty in Engineering (Female)	76	83	76	82	63	67
Faculty in Maths, Science & Humanities teaching in engineering program (Male)	51	55	54	58	58	61
Faculty in Maths, Science & Humanities teaching in engineering program (Female)	27	30	24	26	20	22
Non-teaching staff (Male)	125	135	130	138	119	126
Non-teaching staff (Female)	55	63	40	50	24	27

B. Contractual* Employees (Faculty and Staff):

Items	2022-23		2021-22		2020-21	
	MIN	MAX	MIN	MAX	MIN	MAX
Faculty in Engineering (Male)	0	0	0	0	0	0
Faculty in Engineering (Female)	0	0	0	0	0	0
Faculty in Maths, Science & Humanities teaching in engineering Programs (Male)	0	0	0	0	0	0
Faculty in Maths, Science & Humanities teaching in engineering Programs (Female)	0	0	0	0	0	0
Non-teaching staff (Male)	0	0	0	0	0	0
Non-teaching staff (Female)	0	0	0	0	0	0

10   Total number of Engineering students:

Engineering and Technology- UG	☑ Shift1	☐ Shift2
Engineering and Technology- PG	☑ Shift1	☐ Shift2
Engineering and Technology- Polytechnic	☐ Shift1	☑ Shift2
MBA	☑ Shift1	☐ Shift2
MCA	☐ Shift1	☐ Shift2

Engineering and Technology- UG Shift-1

Course Name	2022-23	2021-22	2020-21
Total no. of Boys	2813	2675	2394
Total no. of Girls	1708	1505	1372
Total	**4521**	**4180**	**3766**

Engineering and Technology- PG Shift-1

Course Name	2022-23	2021-22	2020-21
Total no. of Boys	41	54	82
Total no. of Girls	35	34	43
Total	**76**	**88**	**125**

Engineering and Technology- Polytechnic Shift-2

Course Name	2022-23	2021-22	2020-21
Total no. of Boys	659	609	567
Total no. of Girls	171	124	118
Total	**830**	**733**	**685**

Engineering and Technology- MBA Shift-1

Course Name	2022-23	2021-22	2020-21
Total no. of Boys	164	155	166
Total no. of Girls	100	89	113
Total	**264**	**244**	**279**

11   Vision of the Institution:

Our vision is to impart futuristic technical education transforming the students technically superior, ethically strong and self disciplined to serve the nation as a valuable resource.

12   Mission of the Institution:

M1:	To inculcate quality education by implementing innovative teaching-learning methods and state-of-the-art facilities.
M2:	To enrich the intellectual know-how, credibility and integrity of the students to necessitate industry.
M3:	To recognize as scholarly and influential leaders in engineering education, and to develop human power with creativity, advanced technology and passion for the betterment of future nation.

13   Contact Information of the Head of the Institution and NBA coordinator, if designated:

Head of the Institution

Name	Dr. G V K MURTHY
Designation	PRINCIPAL
Mobile No.	9703020577
Email ID	principal@pace.ac.in

☑ NBA Coordinator, If Designated

Name	Dr. T. R. Chaitanya
Designation	Professor
Mobile No.	9581456542
Email ID	chaitanya_tr@pace.ac.in

PART B: Criteria Summary

Critera No.	Criteria	Total Marks	Institute Marks
1	VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES	50	50.00
2	PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES	100	100.00
3	COURSE OUTCOMES AND PROGRAM OUTCOMES	175	175.00
4	STUDENTS' PERFORMANCE	100	79.61
5	FACULTY INFORMATION AND CONTRIBUTIONS	200	182.81
6	FACILITIES AND TECHNICAL SUPPORT	80	80.00
7	CONTINUOUS IMPROVEMENT	75	75.00
8	FIRST YEAR ACADEMICS	50	45.46
9	STUDENT SUPPORT SYSTEMS	50	50.00
10	GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES	120	120.00
	Total	**1000**	**958**

Part B : Criteria Summary

1 VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (50)

Total Marks 50.0

1.1 State the Vision and Mission of the Department and Institute (5)

Total Marks 5.

Institute Marks : 5.

Vision of the institute	Our vision is to impart futuristic technical education transforming the students technically superior, ethically strong and self disciplined to serve the nation as a valuable resource.	
Mission of the institute	M1:	To inculcate quality education by implementing innovative teaching-learning methods and state-of-the-art facilities.
	M2:	To enrich the intellectual know-how, credibility and integrity of the students to necessitate industry.
	M3:	To recognize as scholarly and influential leaders in engineering education, and to develop human power with creativity, advanced technology and passion for the betterment of future nation.
Vision of the Department	To produce technically & professionally robust, self disciplined and motivated Electrical and Electronics Engineers to meet the future needs of the nation.	

Mission of the Department	Mission No.	Mission Statements
	M1	To prepare the students with strong knowledge in Electrical and Electronics Engineering and multidisciplinary problem-solving skills.
	M2	To encourage the students to apply the science and engineering principles with creativity for the technological advancements in Electrical and Electronics Engineering.
	M3	To prepare the graduates a life- long learning in discovering new knowledge for the society.
	M4	To motivate the students in research oriented approach to meet the emerging demands of the Industry.

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

Total Marks 5.

Institute Marks : 5.

PEO No.	Program Educational Objectives Statements
PEO1	Graduates with a comprehensive understanding in mathematics, science and engineering fundamentals, to widen analytical skills and to solve the real life problems with flourishing career in electrical and electronics industries.
PEO2	Graduates of the programme will continue to expand their knowledge and skills during their career.
PEO3	Graduates will exhibit assessable progress in the fields they opt to practice.
PEO4	Graduates of the programme can work in teams discharging societal responsibilities as engineers following ethical practices.

1.3 Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (15)

Total Marks 15.

Institute Marks : 15.

The Vision, Mission and PEO statements are displayed in various places enabling clear dissemination among internal stakeholders (i.e., Management, Staff members, and Students) and external stakeholders (i.e. Parents, Employers, Alumni… etc). These are explained to stakeholders at different interactive sessions.

Adequacy in respect of publication & dissemination

The department Vision, Mission and PEO statements are available on the college website.

The department magazine which includes Vision, Mission and PEO statements that are disseminated to all stakeholders and placed on the website for clear understanding. The lab manuals and course files also contain all these statements.

The Vision, Mission and PEO statements are displayed in the HoD Chamber, staff rooms, classrooms, laboratories, department library, corridors, and notice boards in order to spread the statements to stakeholders easily.

Process of dissemination among stakeholders

Students: An awareness program is conducted at the time of the induction program for the students to make them aware of the Vision, Mission, and PEO statements. Students are continuously motivated towards the achievement of Vision.

Staff: Newly joined staff members will be inducted Vision, Mission, and PEO statements of the department. Existing staff guides the new staff to achieve the Vision through continuous improvement.

Parents: The Vision, Mission and PEO statements are explained clearly to parents during the induction program.

Alumni Members: The Vision, Mission and PEO statements are explained to alumni members during alumni meetings, organized at regular intervals.

Employers: When employers visit the campus for campus placements or when the placement cell approaches the employers for placement activity, the department brochure contains the Vision, Mission and PEO statements will be shared to them during company visits by placement officer.

1.4 State the process for defining the Vision and Mission of the Department, and PEOs of the program (15)

Total Marks 15.

Institute Marks : 15.

Institute Marks : 15.

The Process involved in defining the Vision and Mission of the Department
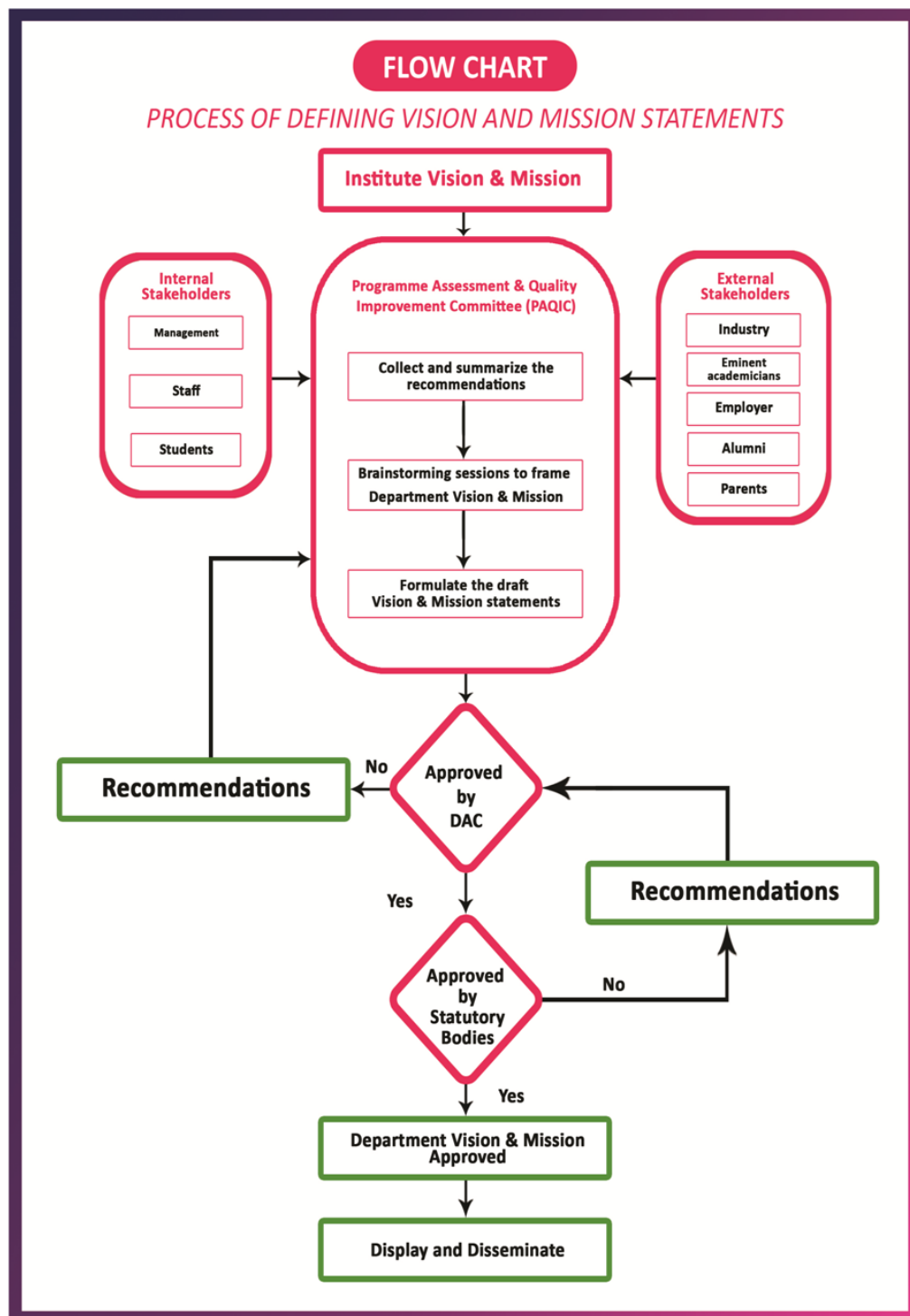
The Department's vision and mission are found through a consultative process involving the stakeholders, faculty of the department, and the Advisory Board members.

1.Department Vision is a derivative component of institute Vision. Department Mission statements express the steps to achieving the department's Vision.

2.The internal (i.e: Management, Staff members, Students) and external stakeholders (i.e: Parents, Employers, Alumni etc) are involved in framing or reframing the Vision and Mission of the department.

3.Programme Assessment and Quality Improvement Committee (PAQIC) collects and summarizes all the stakeholders' recommendations, referring to the department Vision and Mission of reputed institutions, professional bodies, and national and international organizations. The PAQIC will also look into areas to be addressed and resources availability.

4.Discussions and brainstorming sessions will be made among the PAQIC members to arrive at draft Vision and Mission statements.

5.The PAQIC will take this forward to the Department Advisory Committee members for suggestions and PAQIC will incorporate all feasible recommendations.

6.The accepted views are analyzed and reviewed to check the consistency with the Vision and Mission of the institute.

7.The department Vision and Mission statements will be presented to the statutory bodies for final approval.

8.The approved Vision & Mission statements will be disseminated among all stakeholders.

The process involved in defining the PEOs of the program

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Process of Defining PEO Statements
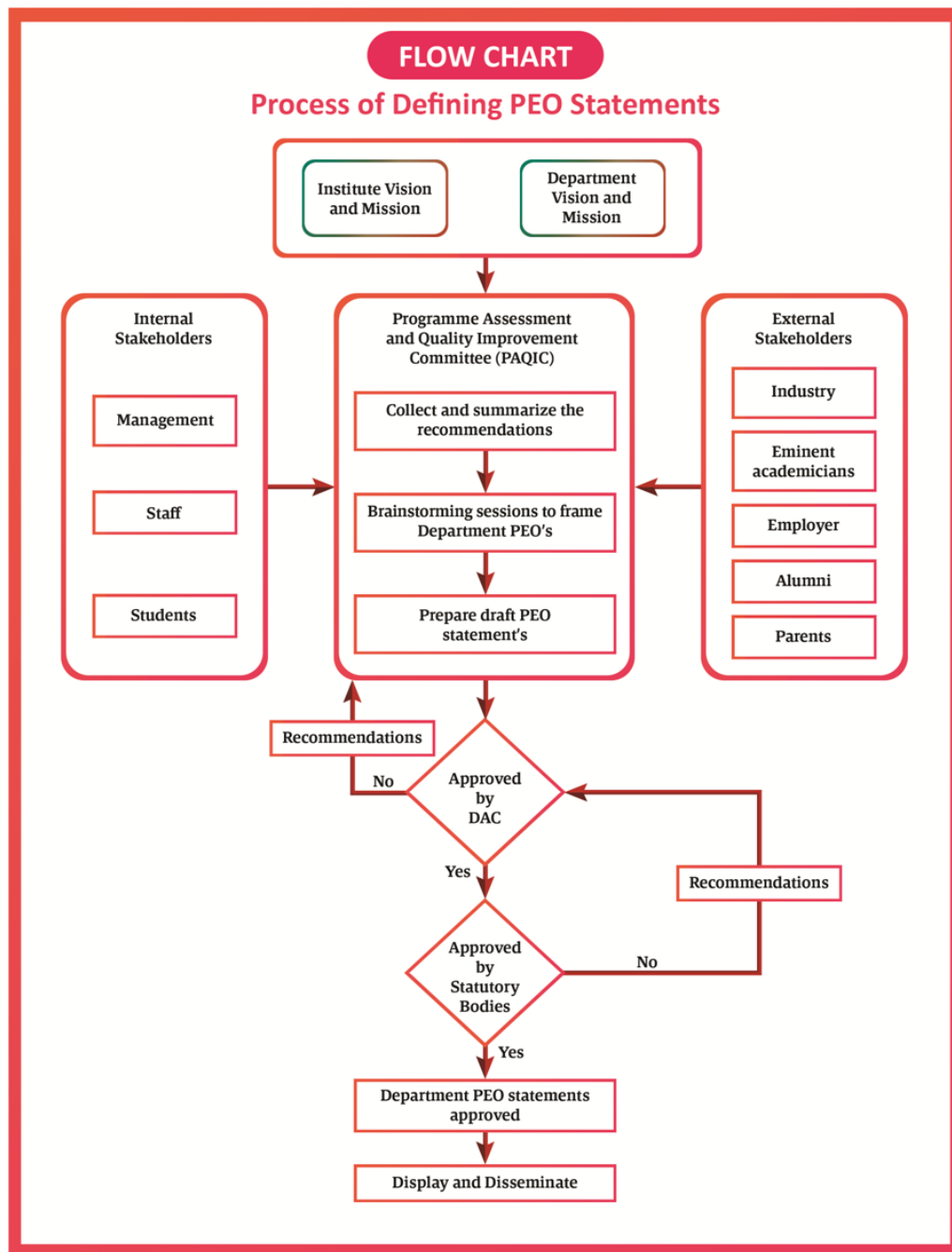
The Program Educational Objectives are established through a consultation process involving the core constituents such as students, alumni, industry, faculty, and employers. The PEOs are established through the following process steps:

1. Program Educational Objectives (PEOs) describe the career and professional accomplishments that the program is preparing graduates to achieve after 3-5 years of completing the program.

2. Department PEO statements are a derivative component of the institute Vision, Mission and department Vision, Mission.

3. The internal (i.e. Management, Staff members, Students) and external stakeholders (i.e. Parents, Employers, Alumni.. etc) are involved in framing or reframing the PEOs of the department.

4. Alumni, Employer suggestions, and employment opportunities available in present and future are considered for framing the PEO statement.

5. Discussions and brainstorming sessions will be made among the PAQIC members to frame PEO statements.

6. The PAQIC send the PEO statements to DAC members for approval.

7. DAC verifies the correlation between the PEOs and Mission statements.

8. After making the feasible modifications suggested by DAC, the Mission statements are passed to statutory committees for approval.

9. The approved PEO statements are disseminated to all stakeholders.

1.5 Establish consistency of PEOs with Mission of the Department (10)   Total Marks 10.

PEO		Description
PEO1	M2	M2 highlights in applying science and Engineering principles for technological advancement in Electrical and Electronics Engineering, Therefore, PEO1 is highly correlated with M2.
	M1, M3&M4	M1, M3 & M4 impart acquiring strong knowledge in electrical and electronics engineering and multidisciplinary problem-solving skills for discovering new knowledge and life-long learning in Society. Therefore, PEO1 moderately correlates with M1, M3& M4.
PEO2	M3	M3 focus to prepare graduates a life- long learning and to expand their knowledge in discovering new knowledge for Society. Therefore, PEO2 highly correlates with M3.
	M1, M2&M4	M1, M2&M4Focus to make the students strong in electrical and Electronics Engineering and motivate them, students, in technological advancements and research. Therefore, PEO2 is moderately correlates with M1, M2& M4
PEO3	M1	M1 Focus to prepare strong in Electrical and Electronics Engineering to fulfill the demands of industry in real life. Therefore, PEO3 strongly correlates with M1.
	M2, M3 & M4	M2, M3 & M4 highlight science and engineering principles for technological advancement and a research-oriented approach to meet the emerging demands of Industry lifelong. Therefore, PEO3 moderately correlates with M2, M3& M4.
PEO4	M3	M3 focuses to apply science and Engineering Knowledge to discharge needs of the societal responsibilities with teamwork. Therefore, PEO4 highly correlates with M3
	M1&M4	M1 & M4 focus on multidisciplinary problem-solving skills and meet the emerging demands of the Industry with a research-oriented approach. So, PEO4 moderately correlates with M1 & M4.
	M2	M2 focus on Creativity for the technological advancements in electrical and electronics engineering. Therefore, PEO4 slightly correlates with M2

PEO Statements	M1	M2	M3	M4
Graduates with a comprehensive understanding in mathematics, science and engineering fundamentals, to widen analytical skills and to solve the real life problems with flourishing career in electrical and electronics industries.	2	3	2	2
Graduates of the programme will continue to expand their knowledge and skills during their career.	2	2	3	2
Graduates will exhibit assessable progress in the fields they opt to practice.	3	2	2	2
Graduates of the programme can work in teams discharging societal responsibilities as engineers following ethical practices.	2	1	3	2

2 PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES (100)

Total Marks 100.(

2.1 Program Curriculum (30)

Total Marks 30.

2.1.1 State the process for designing the program curriculum (10)

Institute Marks : 10.

- PACE Institute of Technology and Sciences (PACEITS) is an AUTONOMOUS Institute Accredited by NAAC 'A' Grade. The B.Tech, Electrical and Electronics Engineering program curriculum is framed in accordance with AICTE & UGC norms.

- Department of Electrical and Electronics Engineering follows a perspective model of discussion forum which preambles the high-level constitution of internal and external stakeholders for the introduction, innovation, and revision of the syllabi.

- The syllabus is framed with extensive emphasis on Employability Skills, Entrepreneurial Skills and Life Long Learning.

- The Feedback on the curriculum is collected from various stakeholders.

- The Faculty Members, Academic peers, Industry Experts, Students and Alumni forms the constitution of Board of Studies (BOS). The feedback from the members of BOS is envisaged in the design of Curriculum.

- The amendment passed by BOS is sent for approval to Academic Council, a statutory body constituted by the Institute. The Academic Council passes a resolution to accept or modify the amendment passed by BOS.

The curriculum preserves the balance in the composition of Basic Sciences, Engineering Sciences, Humanities and Social Sciences, Professional Core, Professional Electives and Open Electives and their distribution is as per the model curriculum of AICTE and Andhra Pradesh State Council of Higher Education (APSCHE) guidelines.

Factors considered for Curriculum Design:

The Curriculum is designed to ensure that the students to have the required domain knowledge and skills for employability. The factors taken into consideration for designing the program curriculum are:

- Model curriculum prescribed by AICTE/UGC/JNTUK//APSCHE

- Department Vision and Mission

- Twelve Program Outcomes (POs) recommended by NBA

- Program Specific Outcomes (PSOs)

- Suggestions from stake holders

The program curriculum is designed based on the broad guidelines of the institute keeping in view of AICTE/JNTUK/UGC/APSCHE directives and program specific criteria to meet the requirements of POs, PSOs and PEOs of the Department. The previous curriculum is found in the design of new curriculum by consulting Industry persons, parents, alumni, and students. Technological developments constitute important criteria while designing the program curriculum.

The Program Assessment and Quality Improvement Committee (PAQIC) and faculty members design the course content to meet out the requirement of COs. The individual courses are then discussed specifically for their outcomes in the department advisory committee (DAC) meetings. The committee points out the deficiencies of the curriculum keeping in view the various inputs and returns the same to the faculty for review. Once theDAC is satisfied with the contents of the curriculum, it is submitted to the program specific Board of Studies (BOS) meeting. The BOS evaluates the curriculum in terms of POs, PSOs and PEOs, and various inputs. The BOS submits the same to the PAQIC, chaired by the HOD. Again the curriculum is subjected to evaluation so that the contents fulfill all the statutory requirements, else it is again returned for review. Finally, the program curriculum is submitted to the Academic Council (AC), which is the highest academic body of the institute.

The process of framing the program curriculum is shown in the Figure 2.1.1.a.
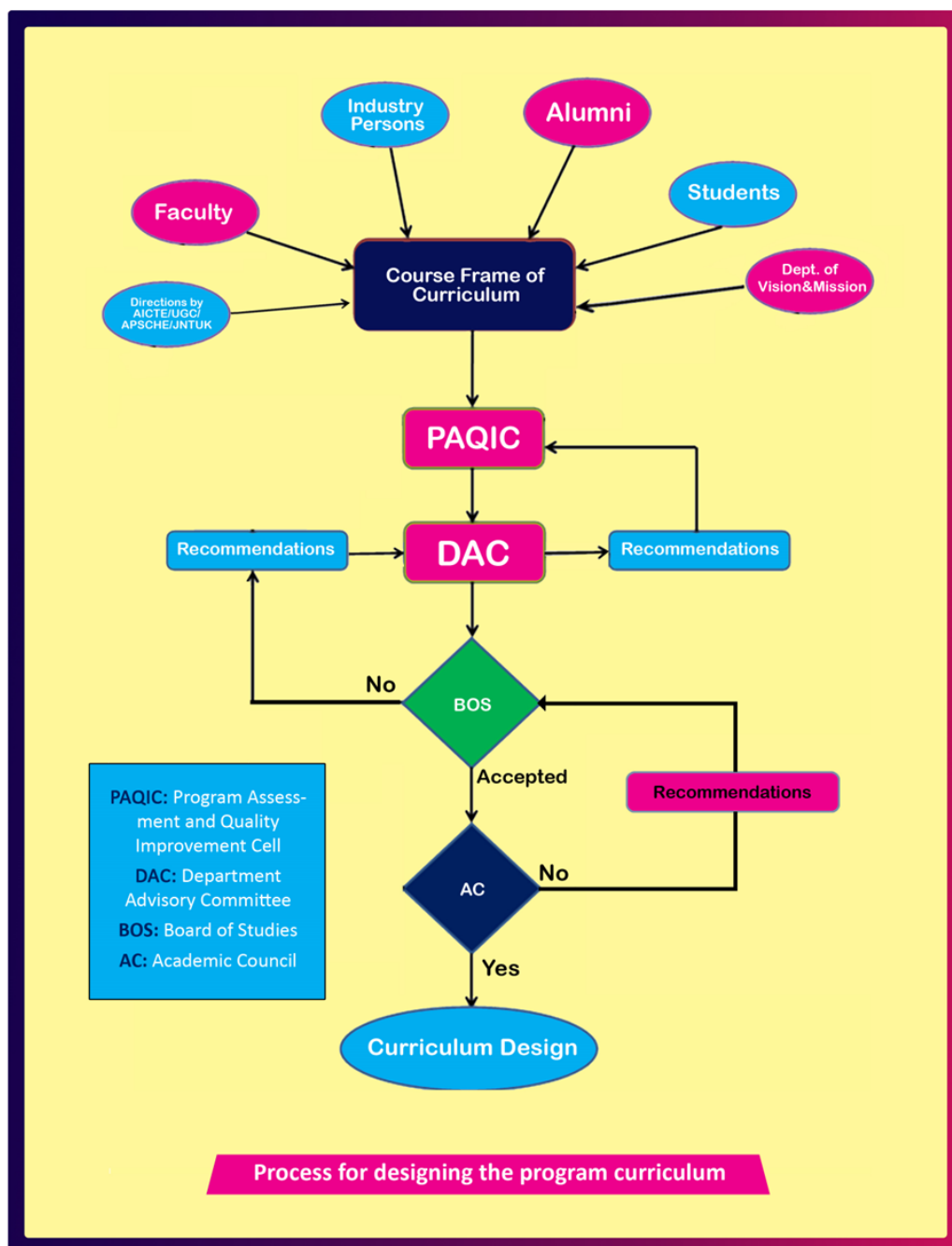
Figure 2.1.1.a: Process involved in the design of the program curriculum

Table 2.1.1.a: Regulations implemented as per the academic year

S.No.	Regulation	Implemented Academic Year
1	R18	2018-19
2	R21	2021-22

Table 2.1.1.b: Functions and Responsibilities of Competent Authorities

S.No.	Names of academic and administrative bodies	Functions and responsibilities

1	Academic Council	The Academic Council is the highest academic body which decides and advices on all academic matters. Academic proposals of BoS from each department are scrutinized and approved with or without modifications by the academic council. It also recommends/advise the Governing Body on proposals for new programme of study and other academic matters • Scrutinize and approve the proposals with or without modification of the Boards of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant there to etc., provided that where the Academic Council differs on any proposal, it will have the right to return the matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so. • Implement the orders issued time to time by the State Government and the affiliating University in the admission of students to different programs of study offered by the college. • Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels. • Frame regulations in consistent with university norms to conduct examinations and initiate measures for improving the quality of teaching, students' evaluation and advisory system in the College. • Encourage faculty members to undertake sponsored research, industrial consultancy, continuing education and related activities. • Recommend to the Governing Body proposals for institution of new programs study. • Recommend to the GB the institution of scholarships, fellowships, prizes and medals, and to frame regulations for the award of the same. • Advise the GB on suggestions pertaining to academic affairs made by it. • Perform such other functions as may be assigned by the Governing Body.
2	Board of Studies	• Prepare syllabi for various courses keeping in view the objectives of the institute, interest of the stakeholders and national requirement, for consideration and approval of the Academic Council • Suggest methodologies for innovative teaching and evaluation techniques • Suggest panel names to the Academic Council for appointment as paper setters, evaluators, examiners etc. • Coordinate research, teaching, extension and other academic activities in the department/college • Elaborate discussions on starting new courses, programs etc.
3	Department Advisory Committee (DAC)	• The DAC interacts and maintains liaison with stakeholders • The DAC is chaired by HOD who receives the report of the DAC and monitors the progress of the program. • The Committee develops and recommends new or revised goals and objectives of the program. • Based on the inputs received from PAQIC, the committee reviews and analyzes the gap between curriculum and industry requirements and gives necessary feedback or advice actions. • Recommends MOOCs courses like NPTEL, edx, spoken tutorial, etc, FDP, STTPs/ Guest Lectures monitoring, Budget proposal and Lab facilities. • Review on student feedback.

| 4 | Program Assessment Quality Improvement Cell (PAQIC) | Track the results of Program Outcomes (POs), Program Specific Outcomes (PSOs) and Program Educational Objectives (PEOs), and plan the steps required to achieve POs, and PSOs Evaluates program effectiveness and proposes necessary changes for continuous improvement Prepares periodic reports on program activities, progress status or other special reports for management key stake holders Review on Exit Survey, Alumni Survey, and Employer Survey Motivates the faculty and students towards attending workshops, developing projects, working models, paper publications and records Interact with stakeholders and DAC to facilitate the achievement of POs, PSOs, and maintain track record and current status Program Assessment Committee meets periodically to review the program and submits report to Department Advisory Committee | |

2.1.2 Structure of the Curriculum (5)   Institute Marks : 5.

ID	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Total Hours	Theory Credits	Practical Credits	Total Credits
1	P18MCT01	INDUCTION PROGRAM	0	0	0	0	0	0	0
2	P18HST01	English-I	3	0	0	3	3	0	3
3	P18BST01	Mathematics-I	3	0	0	3	3	0	3
4	P18BST05	Applied Chemistry	3	0	0	3	3	0	3
5	P18EST03	C-Programming for Problem Solving	3	0	0	3	3	0	3
6	P18EST02	Engineering Graphics	1	0	3	4	1	1.5	2.5
7	P18HSL01	English Language Communication Skills Lab	0	0	3	3	0	1.5	1.5
8	P18BSL03	Applied Chemistry Lab	0	0	3	3	0	1.5	1.5
9	P18ESL02	Engineering Workshop	0	0	3	3	0	1.5	1.5
10	P18ESL03	C-Programming for Problem Solving Lab	0	0	3	3	0	1.5	1.5
11	P18HST02	English - II	3	0	0	3	3	0	3
12	P18BST02	Mathematics - II	3	0	0	3	3	0	3
13	P18BST03	Applied Physics	3	0	0	3	3	0	3
14	P18EST05	Python Programming	3	0	0	3	3	0	3
15	P18EST01	Basic Electrical & Electronics Engineering	3	0	0	3	3	0	3
16	P18MCT02	Environmental Science	2	0	0	2	0	0	0
17	P18ESL01	Basic Electrical & Electronics Engineering Lab	0	0	3	3	0	1.5	1.5
18	P18BSL01	Applied Physics Lab	0	0	3	3	0	1.5	1.5
19	P18ESL04	Python Programming Lab	0	0	3	3	0	1.5	1.5
20	P18EET01	Electrical Circuit Analysis	3	1	0	4	4	0	4
21	P18EET02	Electromagnetic Fields	3	0	0	3	3	0	3
22	P18EET03	Electrical Machines - I	3	0	0	3	3	0	3
23	P18ECT01	Semiconductor Devices and Circuits	3	0	0	3	3	0	3
24	P18BST07	Mathematics-III	3	0	0	3	3	0	3
25	P18MET09	Thermal and Hydraulic Prime Movers	3	0	0	3	3	0	3
26	P18EEL01	Electrical Circuits Lab	0	0	3	3	0	1.5	1.5
27	P18EEL02	Electrical Machines – I Lab	0	0	3	3	0	1.5	1.5
28	P18EET04	Electrical Machines - II	3	1	0	4	4	0	4
29	P18EET05	Control Systems	3	1	0	4	4	0	4
30	P18EET06	Power Systems -I	3	0	0	3	3	0	3
31	P18CST02	Data Structures	3	1	0	4	4	0	4
32	P18ECT03	Switching Theory and Logic Design	3	0	0	3	3	0	3
33	P18BST08	Mathematics - IV	3	0	0	3	3	0	3
34	P18ECL01	Semiconductor Devices and Circuits Lab	0	0	3	3	0	1.5	1.5
35	P18EEL03	Electrical Machines – II Lab	0	0	3	3	0	1.5	1.5
36	P18CSL02	Data Structures Lab	0	0	3	3	0	1.5	1.5
37	P18EET07	Electrical Measurements and Instrumentation	3	0	0	3	3	0	3
38	P18EET08	Power Systems -II	3	0	0	3	3	0	3
39	P18EET09	Power Electronics	3	0	0	3	3	0	3
40	P18ECT07	Pulse and Digital Circuits	3	0	0	3	3	0	3
41	P18XXOXX	Open Elective-1	2	0	0	2	2	0	2

42	P18EEEXX	Professional Elective-1	3	0	0	3	3	0		3	
43	P18MCT08	Design Thinking for Innovation	2	0	0	2	2	0		2	
44	P18EEL04	Power Electronics Lab	0	0	3	3	0	1.5		1.5	
45	P18EEL05	Control Systems Lab	0	0	3	3	0	1.5		1.5	
46	P18EEI01	Internship	0	0	0	0	0	2		2	
47	P18EET10	Power System Analysis	3	0	0	3	3	0		3	
48	P18EET11	Power Semiconductor Drives	3	0	0	3	3	0		3	
49	P18ECT18	Micro Processors and Micro Controllers	3	0	0	3	3	0		3	
50	P18ECT09	Linear & Digital IC Applications	3	0	0	3	3	0		3	
51	P18XXOXX	Open Elective-2	2	0	0	2	2	0		2	
52	P18MCT09	Biology	2	0	0	2	0	0		0	
53	P18EEL06	Electrical Measurements & Instrumentation Lab	0	0	3	3	0	1.5		1.5	
54	P18ECL07	Micro Processors and Micro Controllers Lab	0	0	3	3	0	1.5		1.5	
55	P18EEM01	Mini Project	0	0	2	2	0	2		2	
56	P18EET12	POWER SYSTEM OPERATION & CONTROL	3	0	0	3	3	0		3	
57	P18EET13	UTILISATION OF ELECTRICAL ENERGY	3	0	0	3	3	0		3	
58	P18MBT01	MANAGEMENT CONCEPTS & PRACTICES	2	0	0	2	2	0		2	
59	P18EET14	SWITCH GEAR AND PROTECTION	3	0	0	3	3	0		3	
60	P18EEEXX	Professional Elective-2	2	0	0	2	2	0		2	
61	P18XXOXX	Open Elective-3	2	0	0	2	2	0		2	
62	P18MCT14	EMPLOYABILITY SKILLS	2	0	0	2	0	0		0	
63	P18EEL07	ELECTRICAL SIMIUALTION LAB	0	0	4	4	0	2		2	
64	P18EEL08	POWERM SYSTEMS LAB	0	0	3	3	0	1.5		1.5	
65	P18EET15	HVDC Transmission	3	0	0	3	3	0		3	
66	P18EEEXX	Professional Elective-3	2	0	0	2	2	0		2	
67	P18EEP01	Project	0	0	12	12	0	6		6	
		Total	**123**	**4**	**72**	**199**	**121**	**39.0**		**160.0**	

2.1.3 State the components of the curriculum (5)

Institute Marks : 5.

Course Components	Curriculum Content (% of total number of credits of the program)	Total number of contact hours	Total number of credits
Basic Sciences	13.13	26.00	21
Engineering Sciences	16.25	35.00	26
Humanities and Social Scie	5.94	11.00	9
Program Core	49.06	94.00	79
Program Electives	4.38	7.00	7
Open Electives	3.75	6.00	6
Project(s)	5	14.00	8
Internships/Seminars	1.25	0.00	2
Any other (Please specify)	1.25	6.00	2
Total number of Credits			**160**

2.1.4 State the process used to identify extent of compliance of the curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I (10)

Institute Marks : 10.

2.1.4 State the process used to identify extent of compliance of the curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I (10)

All the courses that are offered under the curriculum contribute to the attainment of POs & PSOs. Thenumber of courses varying from six and above contributes to each of the POs attainment indicating the balanceinthe curriculum.

Program Outcomes and Program Specific Outcomes:

Program outcomes statements are directly adapted from the NBA manual which are common to all theprograms. Program Specific Outcomes (PSOs) beyond the twelve POs are formulated based on the contemporary skills and competencies in line with the industry requirements.

The curriculum of our program was developed to fulfil the all the program outcomes and program specific outcomes.

Table 2.1.4.a List of POs and PSO

PO-1	Engineering Knowledge of students was developed by the professional core courses, basic sciences courses.
PO-2	Problem analysis skills were developed by core courses and practiced while doing the internships, skill oriented courses and applied during the project works.
PO-3	Design/development of solutions skills were development by core courses, and practice them in internships and applied during projects works.
PO-4	Conduct investigation of complex problems were developed by the projects and mini projects and many of the core courses.
PO-5	Modern tool usage was developed by applying them in projects and mini projects. Students also practicethose skills while they attending internships.
PO-6	Engineering and Society skill was developed by the mandatory course and induction program, ethics...etc.
PO-7	Environment and Sustainability skill was developed by the mandatory courses and induction program, ethics...etc.
PO-8	Ethics was developed by the project works, mandatory courses like ethics.
PO-9	Individual and team work was developed by the course like project work, internships, skill oriented courses.
PO-10	Communication was developed by the course like English, soft skill courses, projects, internships.
P0-11	Project management and finance skills was developed by the course like projects, internships.
P0-12	Life-long learning was developed by the courses like project work, internships, skill oriented courses.
PSO-1	Ability to apply the professional core theories and process to choose the sustainable control, Measuring and drive circuitry for the specified upcoming fields.
PSO-2	Ability to design, simulate and find optimal solutions for various industrial and societal Problems related to electrical and electronics engineering.
PSO-3	To prepare the students to succeed in competitive examinations for higher education and Employment related to Electrical and Electronics Engineering.

The process for attaining the Program Outcomes and Program Specific Outcomes is shown figure 2.1.4.a
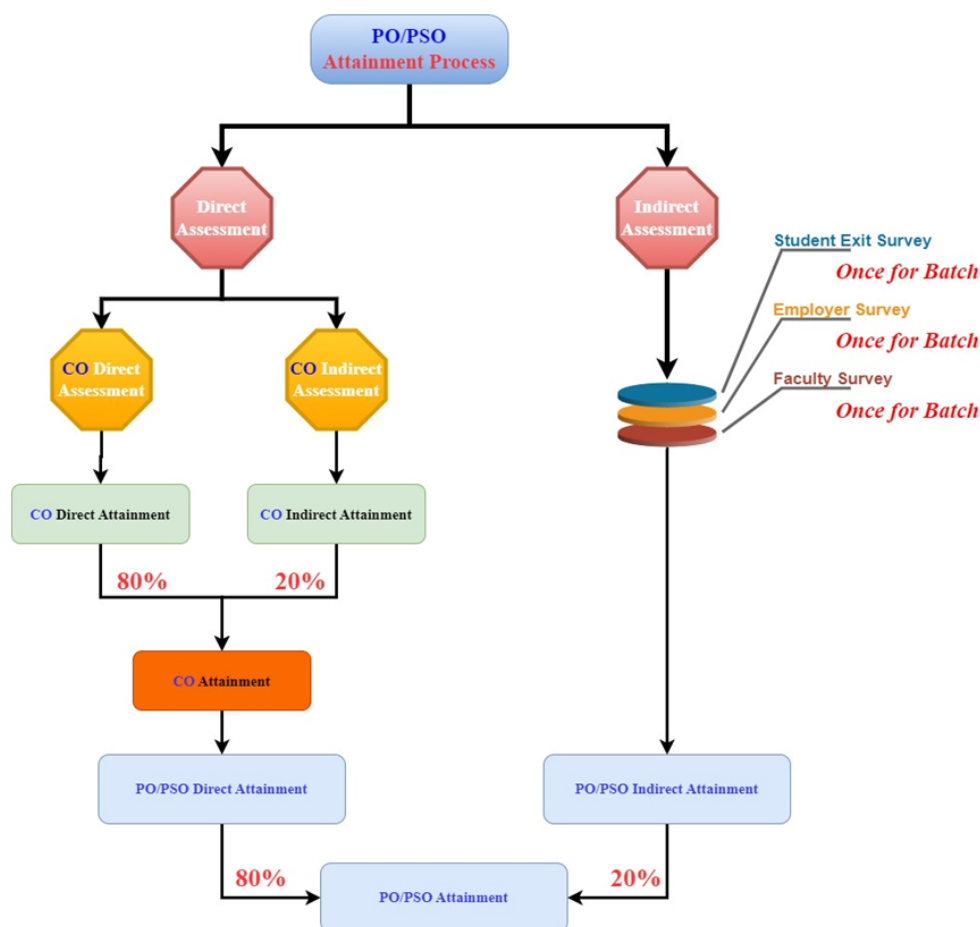

Figure 2.1.4.a: Flow diagram of curriculum for attaining the PO'S and PSO'S

A detailed matrix is prepared by mapping of all courses in the program with POs and PSOs along with their level of correlation: 1 (low), 2 (medium) and 3 (high). The process of measuring the attainment of POs and PSOs through COs is demonstrated and properly documented in criteria 3. If POs and PSOs are not attained as per the specified target levels, then corrective measures will be taken to fill the curriculum gap.

Table 2.1.4.b: Details of course code allocation for R-18 regulation

CODE	NAME OF THE COURSE	CODE	NAME OF THE COURSE
I SEMESTER		**II SEMESTER**	
C101	English-I	C110	English-II
C102	Mathematics-I	C111	Mathematics-II
C103	Applied Chemistry	C112	Applied Physics
C104	C - Programming for Problem Solving	C113	Python Programming
C105	Engineering Graphics	C114	Basic Electrical and Electronics
C106	English Language Communication Skills Lab	C115	Environmental Science
C107	Applied Chemistry Lab	C116	Basic Electrical and Electronics Engineering Lab
C108	Engineering Workshop	C117	Applied Physics Lab
C109	C - Programming For Problem Solving Lab	C118	Python Programming Lab
III SEMESTER		**IV SEMESTER**	
C201	Electrical Circuit Analysis	C209	Electrical Machines - II
C202	Electromagnetic Fields	C210	Control Systems
C203	Electrical Machines - I	C211	Power Systems -I
C204	Semiconductor Devices and Circuits	C212	Data Structures
C205	Mathematics-III	C213	Switching Theory and Logic Design
C206	Thermal and Hydraulic Prime Movers	C214	Mathematics - IV
C207	Electrical Circuits Lab	C215	Semi Conductor Devices and Circuits Lab
C208	Electrical Machines – I Lab	C216	Electrical Machines – II Lab
--	--	C217	Data Structures Lab
V SEMESTER		**VI SEMESTER**	
C301	Electrical Measurements & Instrumentation	C311	Power System Analysis
C302	Power Systems –II	C312	Power Semiconductor Drives
C303	Power Electronics	C313	Micro Processors and Micro Controllers
C304	Pulse and Digital Circuits	C314	Linear and Digital IC Applications
C305	Open Elective-I	C315	**Open Elective-II**
C306	**Professional Elective – I**	C316	Biology
C307	Design Thinking for Innovation	C317	Electrical Measurements & Instrumentation Lab
C308	Power Electronics Lab	C318	Micro Processors and Micro Controllers Lab
C309	Control Systems Lab	C319	Mini Project
C310	Internship	--	--
VII SEMESTER		**VIII SEMESTER**	
C401	Power System Operation and Control	C410	HVDC Transmission
C402	Utilization of Electrical Energy	C411	**Professional Elective-III**
C403	Management Science	C412	Project
C404	Switch Gear and Protection	--	--
C405	**Professional Elective-II**	--	--

C406	**Open Elective-III**	--	--
C407	Employability Skills	--	--
C408	Power Systems Lab	--	--
C409	Electrical Simulation Lab	--	--

Table 2.1.4.c: Mapping of courses with POs and PSOs for R-18 regulation

course code	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO
					I SEMESTER								
C101	-	-	-	-	-	-	-	-	2	2.33	-	2	-
C102	1.37	1.49	-	-	-	-	-	-	-	-	-	-	-
C103	1.40	1.60	2.20	-	-	-	-	-	-	-	-	1.80	-
C104	1.75	1.65	1.54	1.54	1.54	-	-	-	-	1.04	0.78	0.58	1.38
C105	1.55	1.10	1.45	-	-	-	-	-	-	-	-	-	-
C106	1.00	-	2.00	-	-	-	2.00	-	2.00	1.00	1.00	3.00	-
C107	3.00	-	-	3.00	2.00	-	-	-	-	-	-	-	-
C108	0.93	1.23	1.13	0.64	0.62	-	-	-	-	-	-	0.68	0.62
C109	3.00	2.80	2.80	1.33	1.50	1.50	-	-	-	-	-	1.40	2.00
					II SEMESTER								
C110	-	-	-	-	-	-	-	-	1.04	1.37	-	1.04	-
C111	1.31	1.55	-	-	-	-	-	-	-	-	-	-	1.55
C112	1.34	1.23	1.11	0.66	-	-	-	-	-	-	-	0.76	0.55
C113	1.46	1.46	1.46	1.04	1.25	0.91	-	-	-	-	-	0.83	0.91
C114	1.39	1.88	1.39	-	-	-	0.79	-	-	-	-	-	1.57
C115	0.60	0.20	0.20	-	-	0.20	0.20	0.40	-	-	-	0.20	-
C116	1.67	1.54	1.47	-	-	2.00	2.00	2.00	1.87	-	-	-	2.81
C117	3.00	2.00	2.00	2.00	-	-	-	-	-	-	-	1.50	2.00
C118	2.81	2.63	2.63	1.23	1.40	1.42	-	-	-	-	-	1.31	1.89
					III SEMESTER								
C201	2.42	2.42	2.15	1.85	-	-	-	-	-	-	-	1.42	2.02
C202	1.46	1.17	1.17	1.17	-	-	-	-	-	-	-	2.04	1.60
C203	2.71	2.41	2.60	1.76	-	-	-	-	-	-	-	1.81	1.81
C204	2.14	2.14	1.53	2.14	-	-	-	-	-	-	-	1.12	1.42
C205	1.70	1.69	-	-	-	-	-	-	-	-	-	-	-
C206	1.46	-	1.52	-	-	1.15	-	-	-	-	-	-	-
C207	2.80	2.40	2.60	2.00	2.00	-	-	-	2.00	-	-	2.00	2.40
C208	3.00	2.33	2.33	-	-	-	-	-	3.00	-	-	2.00	2.33
					IV SEMESTER								
C209	1.34	1.36	1.01	1.01	-	-	-	-	-	-	-	1.01	-
C210	1.42	1.80	1.42	1.41	1.54	-	-	-	-	-	-	1.48	1.48
C211	1.67	1.91	1.93	1.91	-	2.38	2.68	-	-	-	-	2.10	-
C212	2.62	1.74	1.74	1.74	-	-	-	-	-	-	0.87	0.87	-
C213	1.09	-	1.28	1.14	-	-	-	-	-	-	-	1.12	1.21
C214	1.22	1.19	-	-	-	-	-	-	-	-	-	-	-
C215	3.00	3.00	3.00	3.00	-	-	-	-	3.00	-	-	3.00	3.00
C216	3.00	2.60	2.20	2.00	2.00	-	2.00	-	2.00	2.00	3.00	2.00	3.00
C217	3.00	3.00	2.75	2.25	-	-	-	-	-	-	-	3.00	-
					V SEMESTER								
C301	1.65	1.65	1.65	1.78	2.52	1.41	-	-	-	-	-	-	1.75
C302	1.43	2.05	1.19	1.84	-	-	-	-	-	-	-	0.71	1.43
C303	2.21	2.01	2.81	1.61	-	-	-	-	-	-	-	2.01	1.87
C304	1.63	1.41	1.38	1.15	-	-	-	-	-	-	2.52	1.21	1.21
C305	1.57	1.47	1.29	1.29	0.40	0.40	-	-	0.64	0.64	-	-	1.29
C306	2.40	3.00	3.00	1.00	-	-	-	-	1.00	-	-	-	-
C307	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.80
C308	2.49	1.82	2.49	-	-	-	-	-	-	-	-	-	2.49
					VI SEMESTER								
C309	2.42	2.42	2.22	2.22	1.52	-	-	-	-	-	1.52	2.00	1.62
C310	1.84	1.94	1.74	-	-	-	-	-	-	-	-	1.50	1.94
C311	1.69	1.88	1.54	1.07	1.07	1.23	-	-	-	-	-	1.39	-
C312	0.96	1.96	1.56	1.50	1.72	-	-	-	-	-	1.44	1.62	1.70
C313	-	-	-	-	-	1.72	2.47	-	-	-	-	2.47	-
C314	2.80	2.00	2.00	1.50	2.00	1.00	1.00	-	-	-	-	-	2.00
C315	2.20	2.25	2.00	2.00	2.00	2.00	2.00	-	2.00	-	2.25	2.20	1.80
C316	2.75	2.00	2.75	-	-	-	-	-	-	-	-	-	2.75
					VII SEMESTER								
C401	1.30	2.04	1.78	-	1.04	1.20	-	-	-	-	-	-	2.20

C402	1.58	1.75	1.75	0.86	0.52	0.69	-	-	-	-	-	1.17	1.75
C403	2.31	1.84	1.84	-	-	1.57	2.00	0.92	1.84	1.17	2.26	-	1.79
C404	1.49	1.82	1.49	-	-	-	-	-	-	-	-	-	-
C405	-	-	-	-	-	1.00	1.00	-	1.15	1.00	1.29	1.15	-
C406	2.00	2.00	3.00	3.00	-	-	-	-	-	-	-	-	-
C407	2.00	2.33	2.00	2.67	3.00	-	-	-	-	-	-	2.00	2.00
VIII SEMESTER													
C408	1.68	1.68	2.25	2.15	1.34	1.04	0.84	-	-	-	-	1.68	3.00
C409	3.00	2.50	2.50	1.50	2.00	1.00	1.50	3.00	2.50	3.00	1.33	2.67	3.00
Number of courses mapped	56	52	51	37	21	19	13	4	14	9	11	40	39

Number of courses mapped to each PO and PSO
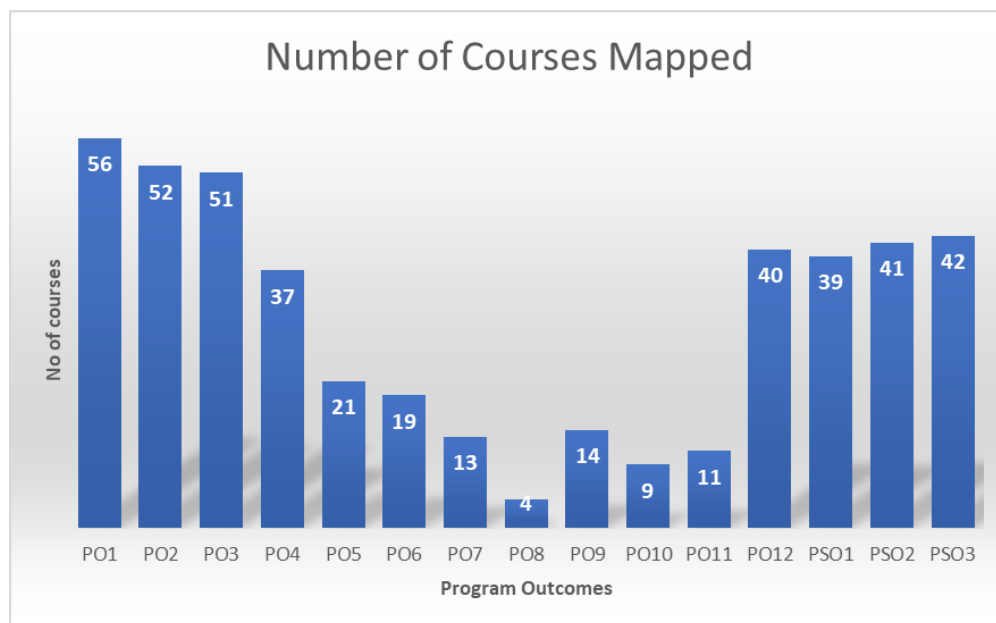

Figure 2.1.4.b: Number of courses mapped to each PO and PSO for R18 Regulation

2.2 Teaching-Learning Processes (70)   Total Marks 70.

2.2.1 Describe Processes followed to improve quality of Teaching & Learning (15)

Institute Marks : 15.

The quality improvement in teaching and learning of the department is achieved through a well-defined system of an academic procedure, which is given below
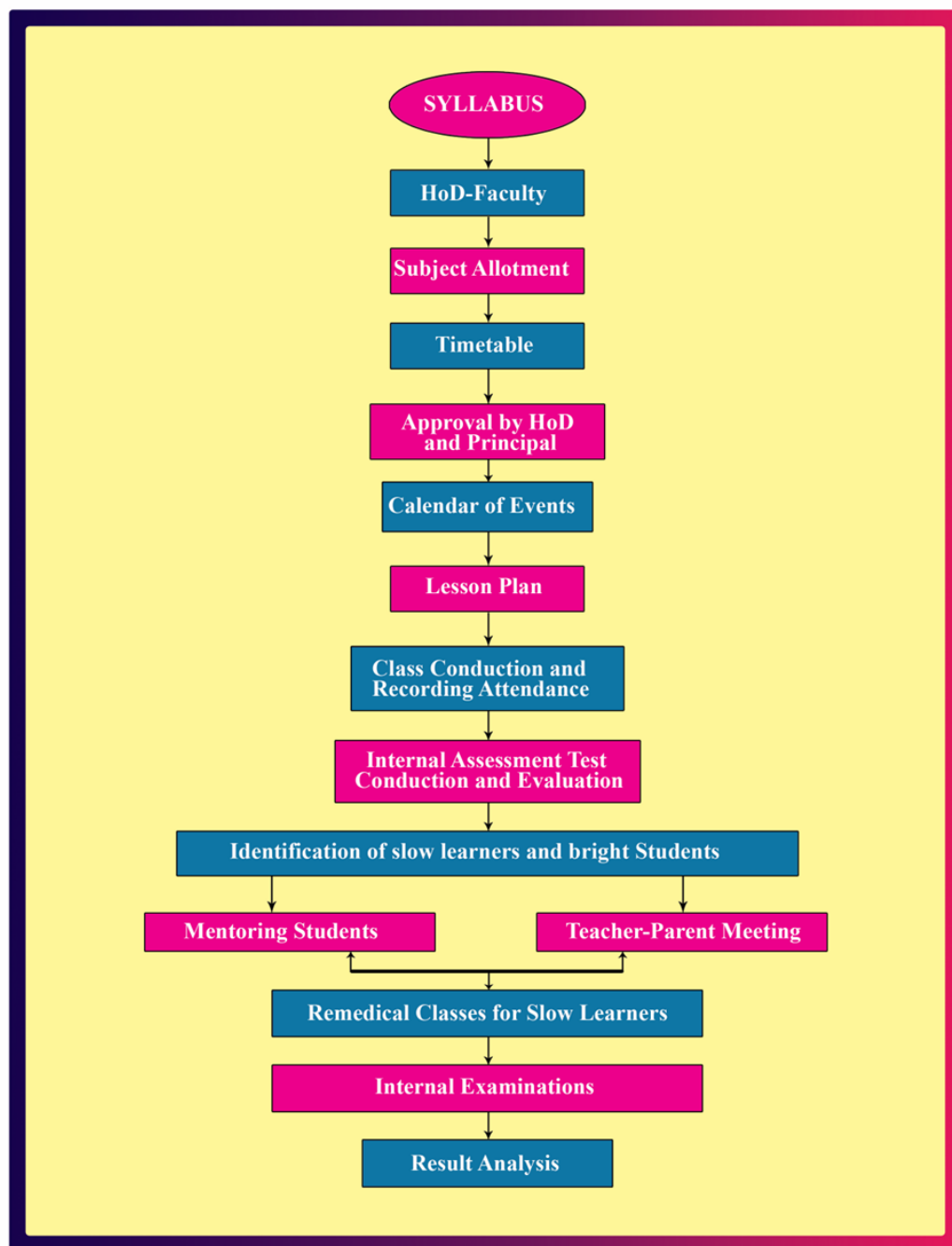

Figure 2.2.1.a: Flow diagram of teaching and learning process

The quality of teaching and learning process is improved through the following implementations:

PLANNING:

A. ADHERENCE TO ACADEMIC CALENDAR

In the beginning of every academic year, the college Dean of Academics prepares well planned academic calendar and distribute it to all faculty members and students.

The academic calendar consists of:

- Date of commencement of the academic session
- Duration of semester
- Commencement of Continuous Internal Evaluation (CIE) tests
- Preparation period and practical exams
- Commencement of practical and semester end examinations(SEE)

Figure 2.2.1.b: Shows the Sample copy of academic calendar of the college

SRINIVASA EDUCATIONAL SOCIETY'S

PACE INSTITUTE OF TECHNOLOGY & SCIENCES
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An ISO 9001 : 2008 Certified Institution | 'A' Grade Engineering College by Government of A.P.
NH-16, Near Valluramma Temple, ONGOLE - 523 272, A.P., Contact No : 08592 278315, 9581456310 | www.pace.ac.in

Lr. No: PACE(A)/ECS/2022-23/AC/03   03/09/2022

CIRCULAR

The Proposed Academic Calendar for II Year I & II Semester B.Tech Programme during the Academic year 2022-23 is detailed below.

Description	From	To	Weeks
B.Tech II Year I Semester			
Commencement of I Semester Class Work	12/09/2022		
I Unit of Instructions	12/09/2022	05/11/2022	8W
Assignment-I	24/10/2022	29/10/2022	1W
I Mid Examinations	31/10/2022	05/11/2022	1W
II Unit of Instructions	07/11/2022	31/12/2023	8W
Assignment-II	19/12/2022	24/12/2022	1W
II Mid Examinations	26/12/2022	31/12/2022	1W
Practical Examinations & Preparation	02/01/2023	07/01/2023	1W
Semester End Examinations	08/01/2023	21/01/2023	2W
B.Tech II Year II Semester			
Commencement of II Semester Class Work	23/01/2023		
I Unit of Instructions	23/01/2023	18/03/2023	8W
Assignment-I	06/03/2023	11/03/2023	1W
I Mid Examinations	13/03/2023	18/03/2023	1W
II Unit of Instructions	20/03/2023	13/05/2023	8W
Assignment-II	01/05/2023	06/05/2023	1W
II Mid Examinations	08/05/2023	13/05/2023	1W
Practical Examinations & Preparation	15/05/2023	20/05/2023	1W
Semester End Examinations	22/05/2023	03/06/2023	2W

Controller of Examinations   PRINCIPAL 03/09/22

PRINCIPAL
PACE INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)
VALLUR, ONGOLE-523 272, ANDHRA PRADESH

Copy to:
: All HoD's for necessary action   : Director, IQAC- for information
: Dean Academics - for information   : Administrative Officer –.for information
: Office File   : Notice board at Exam Cell & System

Figure 2.2.1.b: Sample copy of academic calendar of the college

Subject Allocation:

The department adopts a well-defined process for course allotment to see that workload is distributed properly.

Lecture Plan:

- Course allocation is made before the commencement of every semester based on the competencies and choice of the faculty members.
- Once the courses are allocated, faculty prepares a lecture plan indicating the topics covered lecture wise based on the course objectives and course outcomes.
- The module coordinator looks after the delivery of the course content and supervises preparation of question papers to improve the quality of the question paper.

Table 2.2.1.a: List of modules and relevant courses for core engineering subjects of EEE curriculum

S.No	Name of the Module	Relevant courses	Name of Module Coordinator
1	Basic Electrical Engineering	- Electrical Circuits I - Electrical Circuits II - Network Analysis	Dr.K.Venkateswarlu
2	Electrical Machines	- Electrical Machines -I - Electrical Machines -II - Special Electrical Machines - Electrical Measurements And Instrumentation	K. Venkateswarlu
3	Power Electronics	- Power Electronics - Flexible Ac Transmission Systems - Utilization Of Electrical Engineering - Control Systems	Dr. K.Prakasam
4	Power Systems	- Power System I - Power System II - Power System Operation And Control - Electrical Distribution Systems - Switch Gear And Protection	B. Venkatesh

5	Advance Electrical Engineering	- Mini Project - Internship - Main Project - Comprehensive Viva	K. Sowjan kumar

B. PEDAGOGICAL INITIATIVES

Electrical and Electronics Engineering being a rapidly changing field which requires continuous learning to be updated in the particular profession and the pedagogies play an important role in development of the content. Faculty members use various pedagogical methods for effective teaching learning process as given below:

- Chalk and White board
- Power point presentation
- Experimental Learning
- Project based learning
- Learning Management System (Moodle)
- Seminars/Workshops/Conferences/Industrial visits
- Technical Training Programmes through Training & Placement Cell (T&P)
- MOOCs Courses -Swayam NPTEL, Coursera, Udaemy, etc
- Interactive learning

Implementation

The implementation of teaching-learning mechanism is carried out based on the following different activities. Some of the pedagogical implementation methods are given below:

Google Meet/ Zoom Online Classes:

During COVID-19 pandemic, the class work is conducted through online in various platforms such as google meet/Zoom and which were very effectively used for every course of the program. The faculty can upload course plans, e-Books, course materials, video lectures, question banks, etc in this platform. The online assessment tests are conducted through google meet. Figure 2.2.1c: Shows the Screenshot of the online class conducted in google meet by a faculty member.
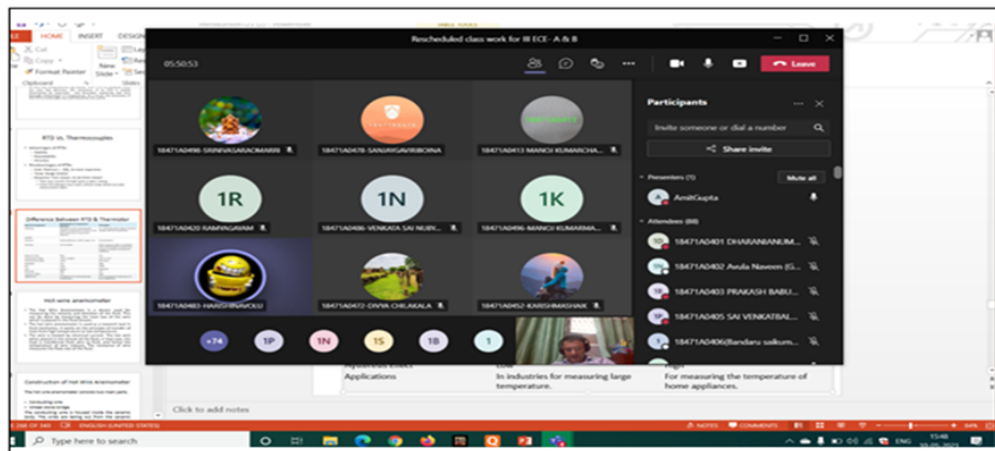

Figure 2.2.1.c: Screenshot of the online class conducted in google meet

Experimental learning:

- To improve the quality of learning, curriculum of laboratory courses is developed in such a manner to emphasize the concepts learned in theoretical subjects.
- In each semester, two or three laboratory courses are conducted and most of these courses are related to theoretical subjects.
- Both hardware and software based laboratories are equipped with necessary infrastructure to facilitate effective conduction of the experiments in the laboratory.
- Faculty members are assigned for each practical session to assist the students in conducting experiments.
- For the laboratory sessions, detailed instruction manuals are provided for each laboratory course.
- Students are also advised to study the theory and the procedure to conduct the experiment before the laboratory session.
- Students conduct the experiments and record the observations in the observation book. After completion of the experiment, students are encouraged to discuss about obtained results from the experiment.
- The observations are verified by faculty and record books are evaluated.
- As part of testing the learning process, viva-voce is conducted in each laboratory session.

Project based learning:

- The main project work and mini project is carried out by students in VIII & VI Semesters respectively.
- Students in each section are divided into batches consisting of 3-5 students.
- Each batch selects their guide according to the research area of the faculty members.
- Problem identification is done based on the existing solutions collected from literature survey and also identifies the constraints to the problems.

Learning Management System (Moodle):

The college encourages teaching & learning through LMS tool, such as Moodle. Each Department has a Moodle coordinator, who maps the students, courses and faculty at the beginning of the semester in Moodle. Lesson plan, syllabus, assignments, lab manuals and extra material are shared with the students through Moodle. Quiz is conducted through Moodle.
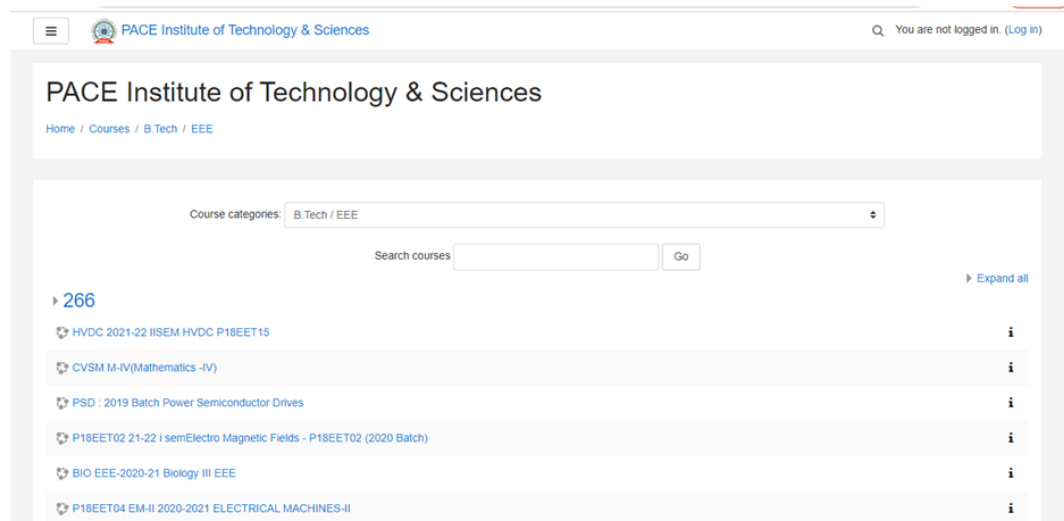
Figure 2.2.1.d: Screenshot of the PACE Moodle

Invited Lectures:

The department interacts with the industry and academic experts to deliver Guest lectures/ Seminars/Workshops to students on latest technologies and tools.

- The department has various Student Chapters like IEI student chapter and ISTE chapter. These chapters conduct various technical events to the students regularly
- The guest lectures by resource persons from industry, academic and research institutions are frequently arranged by the department
- Students are also encouraged to present technical papers at conferences and exhibit their projects in project competitions

Table 2.2.1.b: List of events organized under Professional societies/ chapters of the Department

AY: 2022-23				
S.No	Date	Name of the event	Professional Society	Number of participants
1	27-07-2022	A webinar on "Matlab applications"	ISTE	94
2	28-09-2022	A one day national level webinar on "Renewable energy sources"	ISTE	115
3	20-10-2022	A one day national level webinar on "what core industry expects"	ISTE	87
4	14-12-2022	A one day national level webinar on "smart grid"	ISTE	112
5	08-02-2023	A one day national level webinar on "solar panels"	ISTE	68
6	14-03-2023	Awareness program on Abroad studies	ISTE	106
AY: 2021-22				
S.No	Date	Name of the event	Professional Society	Number of participants
1	28-01-2022	Modern Techniques in Smart power systems	ISTE	80
2	08-02-2022	Technical Symposium	ISTE	26
3	09-03-2022	Technical Quiz	ISTE	78
4	08-04-2022	A one day national webinar on "Electric Vehicles"	ISTE	115
5	04-06-2021	Paper Presentation	IEI	53
6	19-06-2021	A One Day National level webinar on 'Electric vehicles'	IEI	640
7	03-07-2021	A One Day National level webinar on 'Entrepreneurial and employibikity skills for engineers '	IEI	53
8	26-10-2021 to 30-10-2021	A Five day national level online technical test	IEI	348
9	10-02-2022	Aptitude Test	IEI	26
10	14-03-2022	A One Day National level webinar on 'Abroad Studies"	IEI	48
AY: 2020-21				
S.No	Date	Name of the event	Professional Society	Number of participants
1	20-11-2020	Technical Quiz	IEI	49

2	14-12-2021	Awarness program on GATE	IEI	45
3	29-12-2020	Aptitude Test	IEI	53
4	06-02-2021	A One Day National level webinar on 'Grid Technology for Renewable Power Integration	IEI	144
5	06-03-2021	Technical Symposium	IEI	14
6	15-05-2021	Online Technical Test	IEI	51

AY: 2019-20

S.No	Date	Name of the event	Professional Society	Number of participants
1	14-12-2019	Technical Quiz	IEI	48
2	28-12-2019	Technical Symposium	IEI	51
3	18-02-2020	Aptitude Test	IEI	50

MOOCs Courses:

The students are encouraged to do the certification courses in NPTEL, Coursera, Udemy and other MOOC Courses. This course enables them to enrich their subject knowledge, give an exposure to recent technological advancements and also serves as a platform to strengthen their interdisciplinary skills. It is also considered as a key for lifelong learning. The faculty members are also using E-sources such as Swayam NPTEL courses for effective teaching.

Table 2.2.1.c: Details of MOOC courses

S.No	No. of Different Courses	No. of students involved	MOOC platforms
2020-21			
1	3	328	CISCO, NASCCOM, CODETANTRA
2019-20			
2	3	238	Spoken tutorial, NPTEL, Courseera

Technical Training Programmes through Training & Placement Cell:

- Technical training refreshes the basics which will be helpful for placement activities
- Specially designed training (soft skills, communication skills) is given to students regularly by the Training & Placement cell. Such activities facilitate the students to win in job recruitment /placement

List of training programmes conducted by T&P cell

Table 2.2.1.d: List of industrial trainings for A.Y 2022-2023

S.no	Name of the program	Date	Organized by	Beneficiary
1	DXC TRAINING	26-06-2022 to 13-07-2022	Inhouse	19KQ-BATCH
2	TCSTRAINING	14-07-2022 to 13-08-2022	Inhouse	19KQ-BATCH
3	TECH MAHINDRA TRAINING	10-09-2022 to 21-09-2022	Inhouse	19KQ-BATCH
4	deloitte TRAINING	12-12-2022 to 28-12-2022	Inhouse	19KQ-BATCH
5	OSI DIGITAL & THRMO FISHER TRAINING	31-12-2022 to 06-01-2023	Inhouse	19KQ-BATCH
6	[24].7 ai	06-02-2023 TO 11-02-2023	Inhouse	19KQ-BATCH
7	TOLL PLUS	17-02-2023 TO 22-02-2023	Inhouse	19KQ-BATCH

Table 2.2.1.e: List of industrial trainings for A.Y 2021-2022

S.no	Name of the program	Date	Organized by	Beneficiary
1	TCS & WIPRO TRAINING	06-10-2021 to 19-10-2021	Inhouse	18KQ-BATCH
2	MINDTREE TRAINING	21-10-2021 to 30-10-2021	Inhouse	18KQ-BATCH
3	QUEST GLOBAL TRAINING	01-11-2021 to 16-11-2021	Inhouse	18KQ-BATCH
4	HCL TRAINING	17-11-2021 to 16-12-2021	Inhouse	18KQ-BATCH
5	INFYTQ& HACK WITH INFYTRAINING	06-12-2021 to 07-01-2022	Inhouse	19KQ-BATCH
6	HEXAWARETRAINING	21-04-2022 to 02-05-2022	Inhouse	19KQ-BATCH

Table 2.2.1.f: List of industrial trainings for A.Y 2020-2021

S.no	Name of the program	Date	Organized by	Beneficiary
1	T CS NQTTRAINING	01-10-2020 to 20-10-2020	Inhouse	17KQ-BATCH

2	HEXAWARETRAINING	01-11-2020 to 10-11-2020	Inhouse	17KQ-BATCH
3	APTROID TRAINING	15-11-2020 to 20-11-2020	Inhouse	17KQ-BATCH
4	TEK SYSTEMS TRAINING	01-12-2020 to 10-12-2020	Inhouse	17KQ-BATCH
5	WIPRO TRAINING	18-12-2020 to 28-01-2021	Inhouse	17KQ-BATCH
6	GLOBAL EDGE TRAINING	15-02-2021 to 19-02-2021	Inhouse	17KQ-BATCH
7	INFYTQTRAINING	10-02-2021 to 17-04-2021	Inhouse	18KQ-BATCH
8	MPHASISTRAINING	01-07-2021 to 10-07-2021	Inhouse	18KQ-BATCH

Table 2.2.5.g: List of industrial trainings for A.Y 2019-2020

S.no	Name of the program	Date	Organized by	Beneficiary
1	EMBEDDED UR TRAINING	01-07-2019 to 08-07-2019	Inhouse	16KQ-BATCH
2	TCS TRAINING	22-07-2019 to 02-08-2019	Inhouse	16KQ-BATCH
3	MIND TREE TRAINING	06-09-2019 to 11-09-2019	Inhouse	16KQ-BATCH
4	WIPRO COMPANY SPECIFIC TRAINING	11-10-2019 to 17-10-2019	Inhouse	16KQ-BATCH
5	CTS SPECIFIC TRAINING	13-11-2019 to 22-11-2019	Inhouse	16KQ-BATCH
6	INFYTQ TRAINING	27-01-2020 to 10-02-2020	Inhouse	17KQ-BATCH
7	INFYTQ TRAINING	13-02-2020 to 24-02-2020	Inhouse	17KQ-BATCH

C. METHODOLOGIES TO SUPPORT WEAK STUDENTS AND ENCOURAGE BRIGHT STUDENTS

The department has a well-defined process of monitoring, guiding and assisting weak students. The students who secure below 50% marks in any subject in their I-Mid-Term examination are identified and considered as academically weak students. Students who secure above 80% marks in their I-Mid-term examination in all subjects are considered as academically bright students. Weak students are given counseling for the career guidance. Bright students are encouraged to take up new challenges, like participating in events like quiz, paper presentation, mini projects and technical fests, placement training.

Mentoring:

- The purpose of mentoring system is to monitor the student with regard to their academic and professional well-being.
- Every mentor regularly monitors the internal and external marks obtained by students and guide them for improvement in case of poor performance.
- Mentors also identify the core competencies of the students and guide them to make a better professional.
- Students are allowed to approach the mentor for both academic & personal problems.

Assistance for weak students:

- Mentors regularly follow their progress and counsel them to attend the classes regularly
- Motivated the weak students to attend remedial classes and help them to better understand the subject
- Students' attendance and performances are intimated to parents.
- Counselling is given to the students by subject handling faculty, Class teacher and HOD if necessary
- Discussion on important questions and question bank is arranged
- Remedial classes are conducted for weak students to improve

Support for average students:

- Encourage students to attempt MOOCs and other certification courses
- Assigning seminar presentations to improve their presentation skills etc.
- Motivate them to workshops, seminars, paper presentations and other co-curricular activities

Encouraging bright students:

- To take up mini/major projects to enrich them technically skilled
- Motivate them to attend conferences, project expos and other co-curricular activities
- Encourage students to attend competitive examinations, like GATE, CAT etc.
- Involve bright students for peer tutoring the weak students.

The following flow chart is used to support weak students and encourage bright students

Figure 2.2.1.e: The process used for encouraging bright students and assisting weak students

D.QUALITY OF CLASSROOM TEACHING

In the teaching-learning process, the lectures are delivered by the faculty member through a set of teaching aids and adopting various teaching methods.

Course Plan:

In the teaching learning process, the course plan plays a vital role. It is prepared by each faculty member handling their respective courses two weeks prior to the commencement of every semester. The course plan for each of the course is scrutinized by the PA&QIC under the guidance of the Head of the Department.

All faculty members maintain the attendance diary and evaluation book for the course that they handle. The course plan contains the following details.

- Course plan includes course outcomes, teaching aids, teaching methods, learning outcomes, and mapping of outcomes and learning resources that can be effectively utilized for the best delivery.
- Based on the course plan, the delivery is recorded accordingly in the attendance diary and evaluation book and reviewed by the Head of the Department.
- The teaching-learning process is evaluated based on the data recorded in the attendance diary and evaluation book.
- Vision & Mission of the Institute
- Vision & Mission of the Department
- PEOs, POs & PSOs
- Syllabus of the Course
- Course Outcome vs. PO, PSO Mapping
- Academic Calendar
- Individual Time Table
- Lesson Plan
- Student Nominal Roll
- Student Attendance Register
- Course Material
- Question Bank
- Assignment Questions
- Class Room Test Questions
- CIE Exam Question Paper
- Sample Photocopy of CIE Answer Scripts (Best, Moderate, Worst)
- Course Evaluation Procedure (Internal & External)
- CIE Exam Performance

- List of Slow & Advanced Learners
- Remedial Classes for Slow learners
- Model/Previous Year Question Paper
- Gap Analysis & Content Beyond Syllabus
- Course End Survey
- Course Attainment Sheet

Contents of the lab course file is as follows

- Vision & Mission of the Institute
- Vision & mission of the department
- PEOs POs & PSOs
- Syllabus of the Course
- Course Outcome vs. PO, PSO Mapping
- Academic Calendar
- Lab Time Table
- Lab Equipment (Consumable & Non-Consumable
- Lab Layout
- Dos & Don'ts Dos &Don'ts
- Attendance Register
- Student Log Register
- Demo Session Material (i.e. PPT...etc)
- Lab manual
- Lab Evaluation Procedure (Internal & External)
- Lab Observation
- Lab Record
- List of Experiments beyond the Syllabus
- Question Paper (Internal & External
- Scope for conducting Case Studies
- Attainment Sheet

Every faculty in the department is strictly follows the plan and procedure to ensure the quality of teaching in the class room.

E. CONDUCT OF EXPERIMENTS (OBSERVATION IN LAB)

Student's carryout extra experiments beyond the specified list. All laboratories have adequate equipment/kits/components. Detailed instruction manuals are provided to the students.The observations are checked and verified by faculty and record books are maintained systematically. Two/Three faculty members and one Lab technician are assigned for each practical session.

F. CONTINUOUS ASSESSMENT IN LABORATORY

Continuous assessment system is also implemented for assessment of laboratory work. Students are instructed to maintain individual Laboratory assessment records. These records are checked and verified by faculty member before the commencement of each experiment. Viva voce is conducted for the students in order to test their knowledge in the experiment. The internal assessment marks are allotted based on Rubrics and the average marks is considered for awarding final internal assessment work.

Table 2.2.1.h: Allocation of internal laboratory marks for R18 regulation

S. No	Internal	Marks	External	Marks
1	Internal Lab Examination	10		
2	Record	05		
3	Day to day work	20	External Lab Exam	60
4	Viva-Voce	05		
	Total Marks	**40**		

G. STUDENT'S FEEDBACK OF TEACHING LEARNING PROCESS AND ACTION TAKEN

To improve the teaching learning process the feedback from the student is obtained every semester for every course. Common feedback system is designed at the institutional level for all the years by considering all the dimensions of the teaching-learning process. The feedback is collected online portal in middle of the every semester in all courses. Feedback is analysed by senior Professors along with the Head of the Department. After analysis, all comments written by the students in the feedback forms will be communicated to the respective faculty members along with their feedback level. Thereby teacher can know their strengths, weaknesses and improve their teaching skills accordingly.

Syllabus of the subject *

	4 - Very Good	3 - Good	2 - Average	1 - Bad	0 - Very bad
PP	○	○	○	○	○
EM-II	○	○	○	○	○
PS-II	○	○	○	○	○
EM	○	○	○	○	○
STLD	○	○	○	○	○

Figure 2.2.1.f: Feedback format used for the faculty on teaching & learning

2.2.2 Quality of end semester examination, internal semester question papers, assignments and evaluation (15)   Institute Marks : 15.

Initiatives:

The examination process / Setting of quality question papers aims to measure the intellectual skills accomplished by the students as per Revised Bloom's Taxonomy levels

- Remembering
- Understanding
- Applying
- Analyzing
- Evaluating
- Creating

Assessing the performance of students over a well-distributed interval of time within the semester through continues evaluation.

Implementation Details:

Internal Examinations

- The internal examination question papers are prepared by the faculty involved in delivering the course for all sections
- Question papers are prepared in a manner to cover all the COs of that particular course and Revised Bloom's Taxonomy will also be followed in question paper setting.
- The department conducts five assignment tests, 5 Class room tests and two sessional tests in a semester for all courses: one at the middle and the other at the end of semester for theory courses as per the R-18 regulation.
- After completion of tests, the evaluated answer scripts are distributed to the students and an opportunity is given to the students to verify and the changes are rectified before the marks statement is finalized.

Semester End Examinations

- For each course of the program, semester end examination is conducted.
- The Controller/Coordinator of Examinations identifies the panel of question paper setters from premier institutes like NITs, State Universities, and Autonomous Colleges.
- The question papers are also scrutinized by the subject expert to ensure all questions were set from course syllabus and to identify insufficient data or typographical mistakes, if any in the question paper.

Evaluation:

As per the R-18 regulations, each theory course is evaluated for 100 marks, distributed into 40 marks for internal assessment and 60 marks for semester end examination.

Internal Examinations

- Every theory course consists of 5 units and for each course the internal assessment is done for 40 marks.
- The internal evaluation is based on two cycle tests conducted in each semester. The 40 internal marks are awarded as sum of 80**%** of the best cycle and **20%** of the least cycle examinations, where each cycle of examination contains the distribution as shown in Table 2.2.2a.

Table 2.2.2.a: Distribution of internal Marks for theory course

S.No	Type of examination	Max Marks
1	Descriptive test	20
2	Objective test	10
3	Assignment test and CRT	10
	Total Marks	**40**

- Each descriptive test question paper contains 4 questions one from each unit covering syllabus from 2.5 units (first 2.5 units for first cycle and remaining 2.5 units for second cycle). The student has to answer all the 4 questions (4X5M=2**0M**). The descriptive examination is conducted for 2 hour duration.
- Online Objective type test question paper contains 20 objective questions for 10 marks (20 X 1/2 M = 10M) covering the syllabus from 2.5 units. The Objective Examination is conducted for 20 minutes duration along with descriptive test.
- The evaluation for laboratory class work consists of,

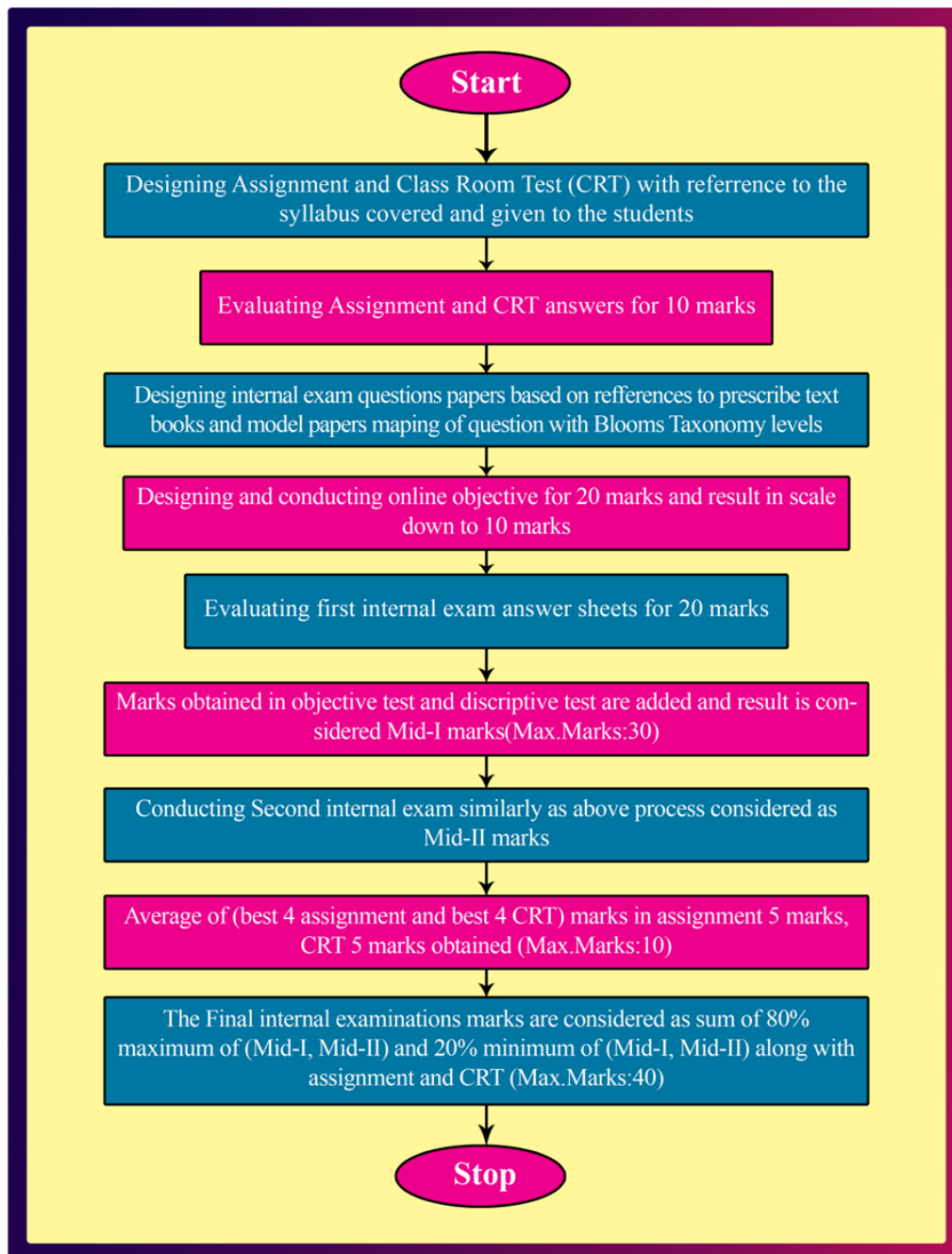| Parameter	Marks
Day-to-Day work	20
Internal test	10
Record	05
Viva-Voce	05
Total	**40**

Figure 2.2.2.a: Process of internal evaluation systems

Semester End Examinations

- The valuation of answer booklets of the semester end examination is done by conducting the spot valuation by inviting the valuators from nearby autonomous institutions
- For each course, a detailed key (solutions cum scheme of valuation) is prepared by one of the internal faculties, who has taught the subject in the current semester
- In order to get uniformity in the valuation process, the normalization system is adopted
- According to this system:
- All the valuators sit together to discuss and finalize a common scheme of valuation at the beginning of the assessment
- The Chief examiner picks one answer script, randomly for every 10 answer scripts and valuate the script
- The Chief examiner compares valuated marks with previous allotted marks and finalize the marks based on the probable deviation.
- If marks deviation exceeds then the Chief examiner advices the valuator to re-valuate the scripts.
- Revaluation of answer scripts is available, based on the students request.

B. PROCESS TO ENSURE QUESTIONS FROM OUTCOMES/LEARNING LEVELS PERSPECTIVE

- For all UG courses, internal question papers are scrutinized by the Pre-Exam Committee (PEC). The committee will verify whether the question papers which are prepared by the concerned faculty members according to the blooms taxonomy (BT) and course outcomes (COs). The committee will also give their suggestions and directions to ensure quality of question papers and evaluation scheme. The PEC approves the question papers in respect of Continuous Internal Evaluation tests. Students who answered a particular question is taken into consideration and average of all students marks is taken for CO-PO attainment.
- The Pre-Exam Committee (PEC) is formed with HOD and Senior faculty members of the department.
- The Committee ensures the quality of internal question papers, based on the course outcomes with proper blooms taxonomy levels.
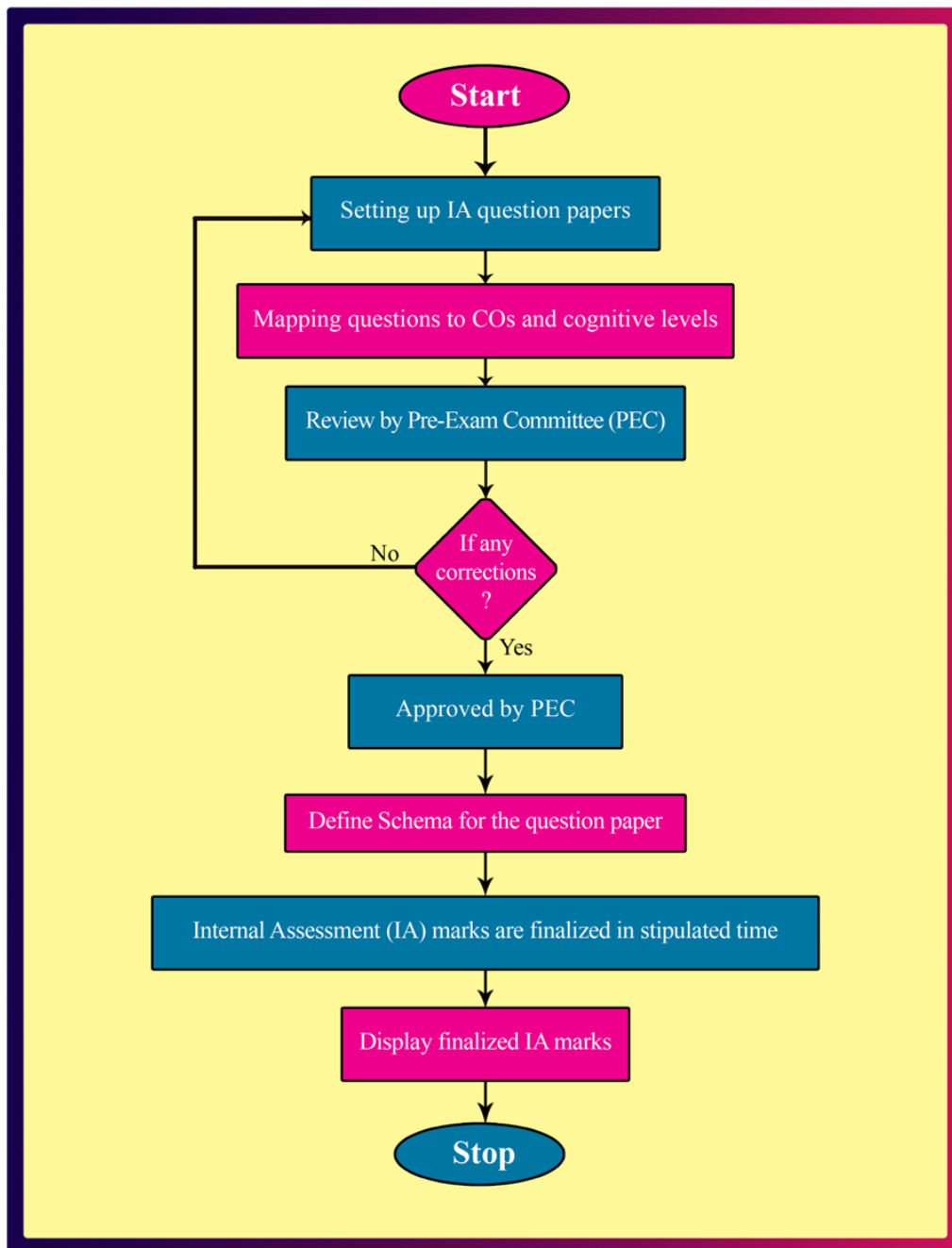
Figure 2.2.2.b: Flow chart of process for internal examination question paper setting and evaluation

C. Evidence of COs coverage in mid-term tests (5)

- The faculty members of concerned courses are instructed to give question papers with proper mapping of COs and Blooms taxonomy levels.
- The Sample Mid Exam Question paper is given below.

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III B.Tech II Semester – Subjective Examination-I
Power System Analysis
(Common to EEE A & B Sections)

Subject Code: P18EET10	Academic Year: 2022-23	R18 Regulation
Time: 2 hours	Date of Exam: 14/03/2022	Max Marks: 20

Answer all the Questions. All Questions carry equal marks.   *4X5=20 Max Marks*

Q.No	Questions	Marks	KL	CO
1	Illustrate the formation of Bus incidence matrix with suitable example	5 M	L1	1
2	Using building algorithm construct ZBus for the network whose line data is given below. Take bus 4 as reference bus. 	Element	Code	Reactance(p.u)
---	---	---
1	1-2	0.5
2	2-3	0.6
3	3-4	0.4
4	2-4	0.5		5 M	L3	2
3	A 30 MVA, 13.8 KV, 3-phase generator has a sub transient reactance of 15%. The generator supplies a motor through a step-up transformer - transmission line – step-down transformer arrangement. The motor has rated inputs of 20 MVA at 12.8 KV with 20% sub transient reactance . The 3-phase transformers are rated at 35 MVA, 13.2 KV -Δ /115 KV-Y with 10 % leakage reactance. The line reactance is 80 ohms. Draw the equivalent per unit reactance diagram by selecting the generator ratings as base values in the generator circuit.	5 M	L3	1
4	Write a Step by Step Procedure for G-S iterative Method in the Load Flow Analysis.	5 M	L2	3

Fig 2.2.2.c: Mid Examination Question Paper

D. Quality of conductAssignment and its relevance to COs(5)

- To conduct Assignment, the faculty members of concerned courses will give four (4) questions from each unit. A student shall submit five assignments with Viva Voce to the concerned faculty from all five units. Each question in the assignment will be mapped with CO and blooms taxonomy level.
- The Assignment shall be evaluated by the concerned faculty. The average of best four assignment marks shall be considered for awarding 5 marks.
- The feedback is given to the students after evaluation and answer scripts were given to the students for the verification. It impacts the students to improve their performance in further examinations.
- The Sample Assignment Questions are given below for one assignment.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Assignment Questions

AY : 2022 – 23			Dt: 29/08/2022		

Name of the subject : SWITCH GEAR AND PROTECTION   Branch: EEEYear / sem : IV / I

Q.No	Questions	Marks	BL	CO
1	Difference between SF6 circuit breaker and Vacuum circuit breaker	1M	L4	1
2	Explain various types of induction relays.	1M	L2	1
3	Explain Various Arc Interruption methods.	1M	L2	1
4	Define Restriking voltage, recovery voltage and RRRV	1M	L1	1

Fig 2.2.2.d: Sample copy of Assignment Paper

Impact Analysis

- The Examination Scrutinizing Committee of the department analyzes the quality of question papers.

- The above process ensures that question papers are framed by considering all COs into account.
- Question papers are framed as per Bloom's taxonomy levels.
- The desired COs, POs and PSOs of each course are attained through adopting the above stated quality initiatives in question paper settings and assignments.

2.2.3 Quality of student projects (20)

<div align="right">Institute Marks : 20.</div>

The department follows standard procedures to ensure that students should carry out quality projects and the major project work is carried out by the students in VIII Semester and the Mini project in the VI Semester in R18 regulations. Students are encouraged to do project work on real-world examples.

A. IDENTIFICATION OF PROJECTS AND ALLOCATION METHODOLOGY TO FACULTY MEMBERS

Project Group formation:

- The students are categorized into batches based on their performance in the previous examinations
- Each team or project batch consists of 4-6 students.
- Project batches are formed such that each batch has students with varying academic merit

- Each batch selects their guide according to their area of interest and the research area and competency of the faculty members.
- Project identification is done based on student's innovative ideas in consultation with the supervisor
- The lists of previous year projects are available to the students to ensure no repetition of project work in selecting the present project work
- The students take guidance from their guides while finalizing the problem
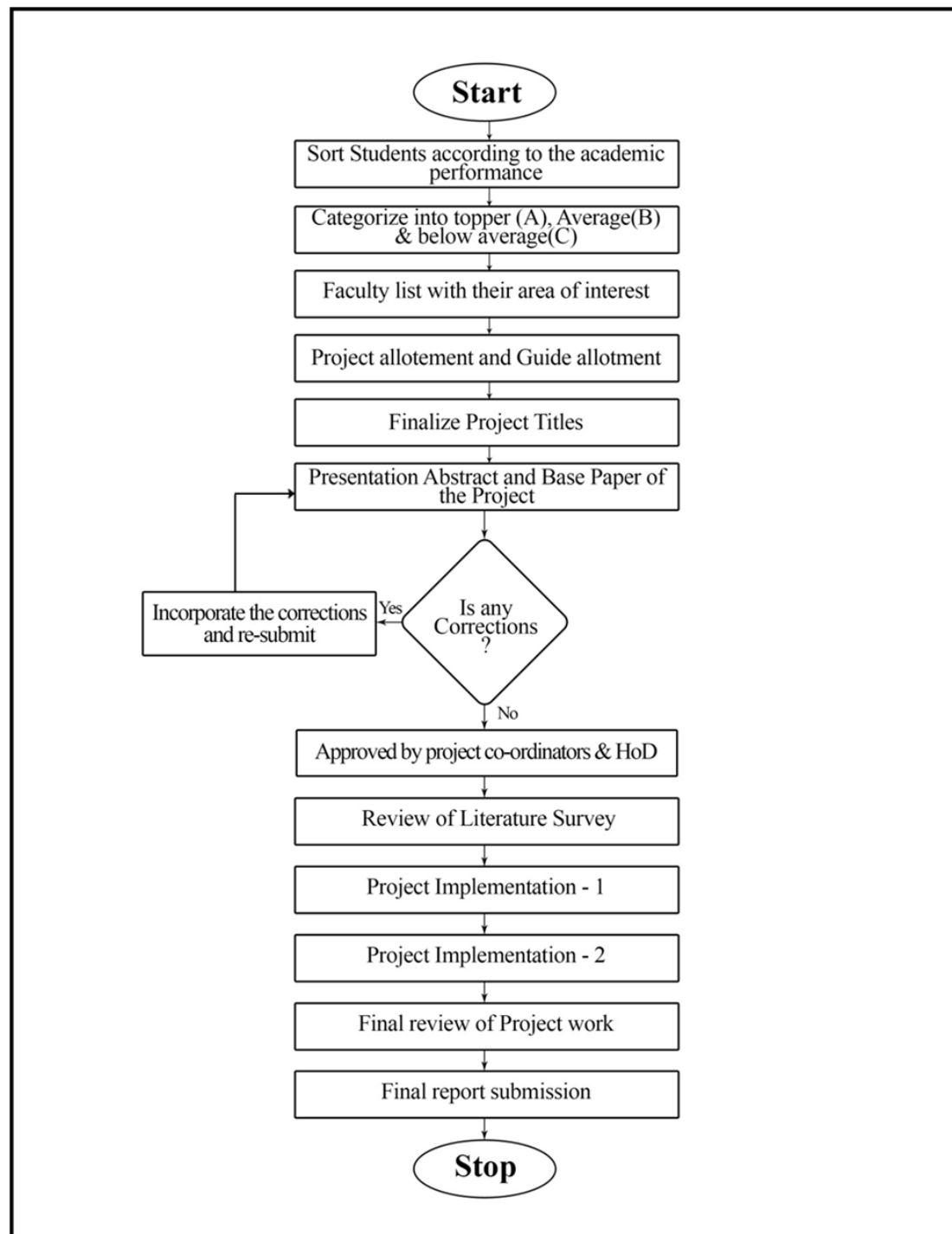
Figure 2.2.3.a: The process used for project group formation, Guide allocation, and Project Completion

B. TYPES AND RELEVANCE OF THE PROJECTS AND THEIR CONTRIBUTION TOWARDS ATTAINMENT OF POs AND PSOs

Department students select the projects considering various factors like environment, safety, ethics, cost, and standards. They are organized in different broad areas like Power Systems, Power Electronics, and Sensor Applications. The projects are carried out in all different methods like application, product, research, and review.

Table 2.2.3.a: List of various categories of student projects and their relevance with POs and PSOs

A. Y	Broad area of the project	No. of projects
	Power Systems	8
2021-22	Power Electronics	16
	Sensor Applications	1

	Power Systems	8
2020-21	Power Electronics	4
	Sensor Applications	1
	Power Systems	8
2019-20	Power Electronics	3
	Sensor Applications	1

C. PROJECTS RELATED TO INDUSTRY

The students are allowed to do the project in the industry, based on the opportunity got from the industry. The student utilizes the skills and knowledge using that they learn in the industry in the projects. And also student prepares projects which are useful in the real-time world and industry useful.

Table. 2.2.3.b details of industry-related projects

S.No	Name of the Student(s)	Name of the Project	Dates	Organization
AY: 2021-22			
1	P Krishna Sree Pi Ambika K Anusha G Navya V Sahajalidey	Multilevel Inverter for Electric Vehicle Applications	20-01-2022 to 15-02-2022	Hyderabad Institute of Electrical Engineers, Hyderabad
2	V Nagi Reddy T Prasanth N Venkata Karthik Y Chakradhar	A New Nine-Level Inverter with Low Tsv And Fewer Numbers of Components for Renewable Energy Systems	25-01-2022 to 17-02-2022	Hyderabad Institute of Electrical Engineers, Hyderabad
3	K Venkateswarlu K Venkatarao B Venkata Sai O Naga Sai A Venkata Sai	P-V Based Off-Board Electric vehicle Battery Charger	24-01-2022 to 20-02-2022	Pantech Proed Pvt Ltd, Hyderabad

S.No	Name of the Student	Title of the Project	Dates	Organization
AY: 2020-21			
1	M Ramya Krishna K Rajani Aamuna VAnitha N Lakshmi Manasa Priyanka	Microgrid system based on renewable power generation units	29-01-2021 to 20-02-2021	Pace Power Systems Pvt Limited, Bengaluru
2	L Gopi Chandu S Venkata Srikanth A Veeraj U Venubabu KNagarjuna	Simulation and implementation of multi-level inverter-based BLDC motor drive	25-01-2021 to 17-02-2021	Crystal Power Controls

S.No	Name of the Student	Title of the Project	Dates	Organization
AY: 2019-20			
1	G. Rajyalakshmi P. Hargavi U. Kalyani B. Vijayalakshmi S. Nagalakshmi	A New Fuzzy Logic-Based MPPT For Grid Connected and Islanded Modes of PV Systems	05-12-2019 to 10-01-2019	Pace Power Systems Pvt Limited, Bengaluru
2	B. Anjaneyulu A. Sivakrishna T.Saichandu D. Manohar M. Yaswanth	Control and Operation of A DC grid-Based Wind Power Generation System in A Microgrid	05-12-2019 to 10-01-2019	Hexaware Technologies Limited

D. PROCESS FOR MONITORING AND EVALUATION

According to R-18 Regulations:

- Major project is evaluated for a total of 200 marks. Out of 200 marks for the project work, 80 marks are for Internal Evaluation consisting of literature review, contribution, innovation, presentation, and viva voce. The assessment of the project report and 120 marks for the external evaluation.
- Mini Project is evaluated for a total of 100 marks. Out of 100 marks, 30 Mini project reports, 25 marks for innovation, 25 marks for presentation and 20 marks for Viva voce.

Internal Evaluation

- The department forms Project Review Committee (PRC) every year and it consists of Head of the department as Chair, senior faculty members and project coordinator as members.
- A project coordinator is appointed by the Head of the Department and is responsible for planning, scheduling and executing of all activities related to the project.
- The project coordinator instructs the students to select the project domain and submit the synopsis to the concern guide adhering to the timelines decided by the HOD.
- Department encourages the students to carry out in-house projects and required support is provided through continuous hands-on training by internal as well as external experts.
- The students are asked to meet their respective guides regularly and asked to explain the progress of their project.
- Project reviews are conducted regularly by the PRC of the department in the presence of a respective guide to check the status of the projects and time-to-time assessment is done for all the projects.
- Project teams have to submit the project report in the prescribed format given by the department.

The performance of a student in a project survey shall be evaluated based on the following parameters:

Parameter	Marks
Literature Review	15
Presentation	15
Viva Voce	10
Total	**40**

Two Project Implementation Reviews are evaluated based on the following parameters:

Parameter	Marks
Contribution	10
Innovation	10
Presentation	10
Viva Voce	10
Total	**40**

The phase-wise review of projects is done as follows:

The CIE for project work shall be based on the project survey and project implementation and is evaluated by a three-member committee consisting of two senior faculties and a project supervisor constituted by the HoD.

External evaluation

An end-semester project, viva voce is conducted with a panel of internal and external examiners.
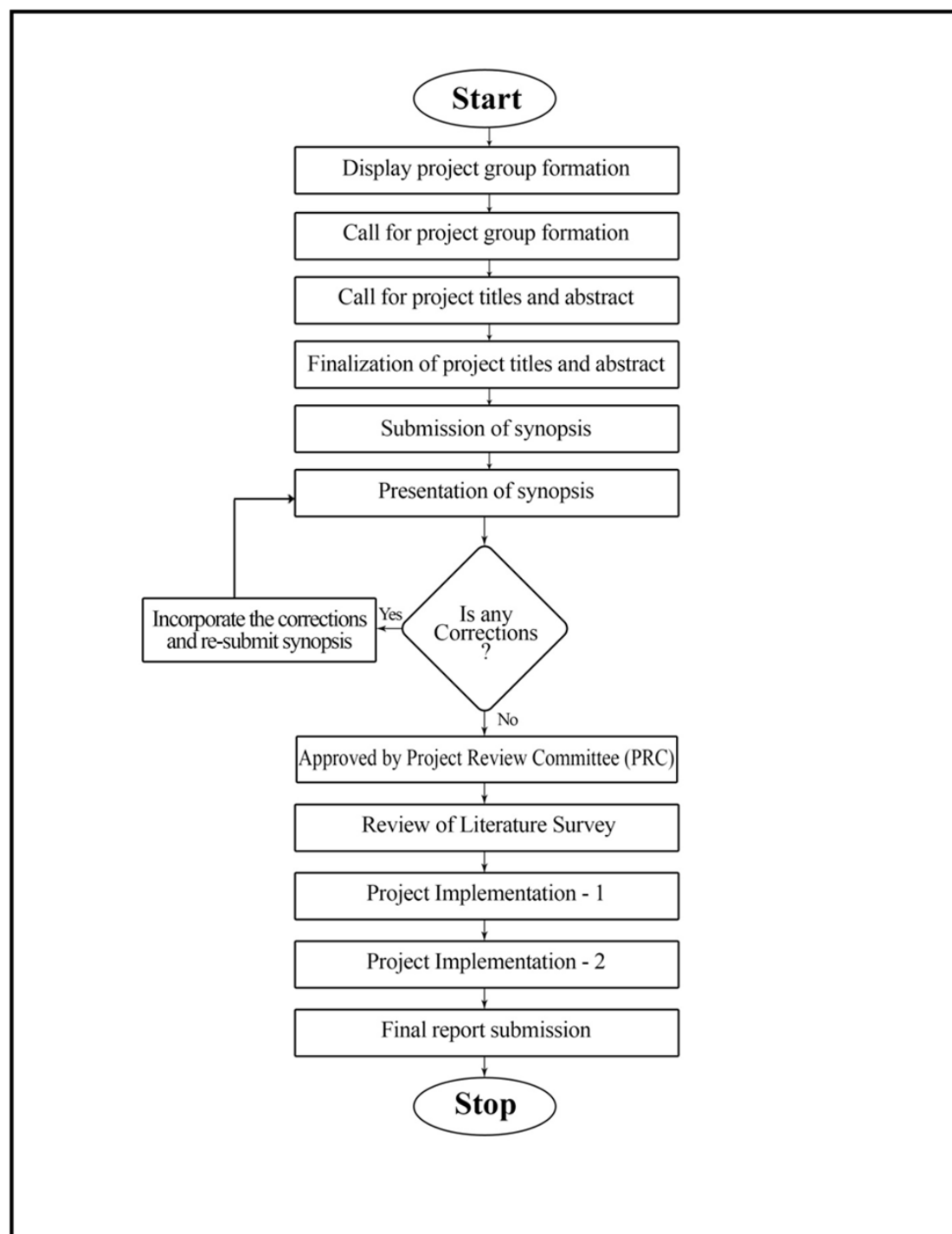

Figure 2.2.3.b: Process for defining the student projects approval and evaluation

E. PROCESS TO ASSESS INDIVIDUAL AND TEAM PERFORMANCE

Project reviews are conducted by PRC along with a respective guide as per the schedule and presentations should be given by all team members according to their division of project work. The performance of the individual and team of the project is assessed at the time of presentation in reviews by considering the following criteria.

The performance of the individuals was assessed by considering the following criteria:

- Communication
- Confidence in the project work
- Attainment of the individual scope of work
- Overall contribution to the project accomplishment

The performance of the project team is assessed by considering the following criteria:

- Knowledge of the member's contribution toward the project
- Coordination in consolidating the work
- Time management

F. QUALITY OF COMPLETED PROJECTS/ WORKING PROTOTYPES

Project Review Committee (PRC) ensures the quality of the student projects based on the following criteria.

- Review of literature and related studies
- Innovativeness and creativity
- Implementation strategies
- Presentation skills
- Impact on society

1. The students will demonstrate the working prototype models during the internal and external project reviews
2. Outcomes of the projects are encouraged to be published as a paper in conferences/journals.
3. Students are encouraged to publish their project work in reputed journals/conferences.

Table 2.2.3.f: Best projects of the students

Batch No	Roll No	Name of Student	Title of The Project	Area of The Project
1	18KQ1A0232	Katta Vasanth Kumar	Temperature Sensor to reduce the Spread of Covid-19	Sensor Applications
	18KQ1A0229	Gowtham Prince Pilli		
	18KQ1A0257	Chillara Bhanu Prakash		
	18KQ1A0228	Doddi Stanley Abhishek		
	18KQ1A0250	Thatiparthi Vamsi		
2	18KQ1A0206	Kotu Yasaswini	A Novel Switched Capacitor DC-DC Boost Converter to Balance the DC Link Voltage for Npc-Mli	Power Electronics
	18KQ1A0215	Shaik Haseena Begum		
	18KQ1A0211	Mutluri Hema		
	18KQ1A0222	Vanaparthi Ishwarya		
3	18KQ1A0216	Shaik Manisha	Strategy of Power Converter Current Controllers	Power Electronics
	18KQ1A0221	Tanneru Sai Mahalakshmi		
	18KQ1A0209	Manam Tejaswini		
	18KQ1A0218	Sikakolli Siva Bhavana		
	18KQ1A0263	Bethamsetty Teja Sri Greeshma		

Batch No	Roll Number	Name of the Student	Title of the Project	Area of the Project
1	17KQ1A0224	Shaik Reena Taj	Design and implementation of solar tracking system based on the sun position algorithm	POWER SYSTEMS
	17KQ1A0203	Arumulla Srilatha		
	17KQ1A0221	Puli Ramya Krishna		
	17KQ1A0206	Byneedi Venkata Apuroopa		
	17KQ1A0213	Marisetty Ramyasree		
2	17KQ1A0215	Narisetty Harini	Mitigation of voltage sag using super conductor fault current limiters	POWER SYSTEMS
	18KQ5A0205	Vanaparthi Sravani		
	17KQ1A0212	Malladi Geethanjali		
	17KQ1A0217	Nuthalapati Sahana		
	17KQ1A0222	Saikam Nolithasree		
3	17KQ1A0210	Konuri Vasudha Bhargavi	ANN based MPPT applied to solar-powered water pumping system using BLDC motor	POWER ELECTRONICS
	17KQ1A0211	Kummitha Sravani		
	17KQ1A0218	Pattan Ruksana		
	17KQ1A0245	Parre Tanuj		
	18KQ5A0214	Nandyala Venkata Lakshmi Narayana		

Batch No	Roll Number	Name of The Student	Title of The Project	Area of The Project
1	16KQ1A0203	B. Keerthi Sai	HV Differential Protection by Proportional Current by Using Microcontroller (Arduino)	Power Systems
	16KQ1A0221	S. Rajesri		
	17KQ5A0215	K. Vijayalakshmi		
	16KQ1A0210	L.Lavanya		
	16KQ1A0209	K. Jyothirmai		
2	16KQ1A0219	S. Divya	Improved Active Power Filter Performance for Renewable Power Generation Systems	Power Electronics
	16KQ1A0217	P.Nagadeepthi		
	16KQ1A0211	M.Sowndarya		
	16KQ1A0214	N.Sowjanya Lakshmi		
	16KQ1A0220	S.Vanitha		

3	16KQ1A0251	Y. Sunil Kumar	Hardware Design of Closed Loop Controlled Boost Converter for Solar Power System Using Fuzzy Logic Controller	Power Electronics
	16KQ1A0246	S.K.V.V. Prasad		
	16KQ1A0247	T.V. Koteswararao		
	16KQ1A0233	A.Peda Kotaiah		
	17KQ5A0211	K. Mani Kanta		

G. EVIDENCE OF PAPERS PUBLISHED /AWARD RECEIVED BY PROJECT

- Students are encouraged to publish paper of their innovative project work in Conferences/journals
- Students are encouraged to attend the National or International Conferences to gain more ideas of their projects

Table 2.2.3.g: Paper publications based on the project

AY: 2021-22				
S.No	Name of the Student(s)	Title of the paper	Name of the Journal/ Conference	Date/ ISSN No
1	K. Naresh T. Prasanth C. Gowtam sai D. Gopi B. Swarna babu	The New topology of Multilevel Inverter with minimum of switches	International journal of innovative research in computer science and Technology	March 2022, 2347-5552
2	N.Raghunadh K. Venkateswarlu B. Venkatasai, A. Venkatasai	P-V Based Off-Board Electric vehicle Battery Charger	International Journal of Innovative Research in Engineering and Management	Feb 2022, 2350-0557
3	Sk. Neelima A. Sai Chandana M. Kavitha M. Mounika K. Sravani	Energy Management in Microgrids with Renewable Energy Sources	International journal of innovative research in computer science and Technology	March 2022, 2347-5552
4	J. Suresh B. Mohan Kumar G. Suresh G. Ravik varma M. Murali	Integration of Renewable Energy Generating sources with Micro-Grid	International Journal of Innovative Research in Engineering and Management	April 2022, 2350-0557
5	K. Yashaswini R. Nitheesha J. Lakshmi Tejaswini G. Lakshmi Jahnavi N. Saikiran	Wind-Photovoltaic combined generation with grid connection using Back-to-Back voltage source converters	International journal of innovative research in computer science and Technology	May 2022, 2347-5552
6	Sk. Jani Basha Sk. Abdul Rasool, P. Harikrishna R. Veda kumar Ch. Srinivas	Hybrid Active Power Filter for Power quality Improvement	International journal of innovative research in computer science and Technology	July 2022, 2347-5552

AY: 2020-21				
S.No	Name of the Student	Title of the Project	Name of the Journal/ Conference	Date/ ISSN No
1	Attuluri Lavanya Panthagani Divya Sayyad Kousar Jan Gunturi Pavithra Yadavalli Hymavathi	Modelling And Simulation Of Wind Turbine Generator Using Matlab	International journal of innovative research in computer science and Technology	01-03-2021, 2347-5552
2	N. Harini K. Sravani M. Geethanjali N. Sahana S. Nolithasree	Ann Based Mppt Applied To Solar Powered Water Pumping System Using Bldc Motor	International journal of innovative research in computer science and Technology	01-03-2021, 2347-5552
3	S Nolithasree B Rajendra K Ravichandra J Vamsi Prasad D Anjanachari	Power Quality Improvement Using D-STATCOM	International journal of innovative research in computer science and Technology	01-03-2021, 2347-5552
4	U Naga Chandu D Pradeep Y Rupas B Anil Ch. Lokesh	An Interlinking Converter for Renewable Energy Integration Into Hybrid Grid	International journal of innovative research in computer science and Technology	01-03-2021, 2347-5552
AY: 2019-20				

S.No	Name of the Student	Title of the Project	Name of the Journal/ Conference	Date/ ISSN No
1	G. Rajyalakshmi P. Hargavi U. Kalyani B. Vijayalakshmi S. Nagalakshmi	A New Fuzzy Logic Based MPPT For Grid Connected And Islanded Modes of PV Systems	International Journal of Innovative Research in Engineering and Management	01-05-2020, 2350-0557
2	B. Anjaneyulu A. Sivakrishna T.Saichandu D. Manohar M. Yaswanth	Control and Operation of A DC-grid-Based Wind Power Generation System In A Microgrid	International Journal of Innovative Research in Engineering and Management	01-05-2020, 2350-0557
3	G. Somasekhar V.Ashok T.V.Sai Rahul G.Surendra K.Sukumar Bandi Sri Krishna	Monitoring and Protection Of Distribution Transformer By Using Gsm Module	International Journal of Innovative Research in Engineering and Management	01-05-2020, 2350-0557

2.2.4 Initiatives related to industry interaction (10)

Institute Marks : 10.

S.No	Name of the Student	Title of the Project	Name of the Journal/ Conference	Date/ ISSN No
1	G. Rajyalakshmi P. Hargavi U. Kalyani B. Vijayalakshmi S. Nagalakshmi	A New Fuzzy Logic Based MPPT For Grid Connected And Islanded Modes of PV Systems	International Journal of Innovative Research in Engineering and Management	01-05-2020, 2350-0557

Industry interactions help students to acquire practical knowledge. So, in order to improve technical abilities, various industrial activities are carried out. To promote Industry-Institute Interaction, the following initiatives are being undertaken by the department:

INITIATIVES

- An industrial expert is a member of the Department Advisory Committee, which guides the department towards excellence.
- An expert from Industry is nominated as a member of the Board of Studies who takes an active role in the Curriculum design.
- Conduct Technical Workshops jointly with Industries.
- Value-added courses in collaboration with Industries.
- Invited lectures by Industrial Experts.
- Industrial tours
- Industry internships
- Industry training
- Industry Supported lab

IMPLEMENTATION DETAILS

Industry Supported lab

There is AICTE MODROB-funded Advanced Power Electronics Lab in the department, which helps the student and faculty to work on it.

Memorandum of Understanding with Industries:

The department has MOUs with various industries to strengthen the relationships for mutual benefit by way of exchanging expertise. MOUs are done with an emphasis on internships, Project Work for Students, Industrial Visits, Students Specific Training, and Faculty Development Programs.

Table 2.2.4a: List of Industries with which the Institute has entered into MOUs for the department of EEE

S. NO	Name of the Company/Organization/Industry	Date of MOU Signed	Valued Period	No of Years
1	Hyderabad Institute of Electrical Engineers, Hyderabad	14-09-2022	13-09-2025	3 Year
2	Pantech Proed Pvt Ltd, Hyderabad	01-09-2021	31-08-2026	5 years
3	Bhavya Constructions, Vijayawada	18/02/2020	11/02/2025	5 years
4	G.S.Electricals, Vijayawada	02/12/2020	01/12/2025	5 years
5	Weber India Pvt Limited, Nellore	07/12/2020	06/12/2025	5 years
6	TVL ELECTRICALS, Vijayawada	18/02/2020	17/02/2025	5 years
7	Sree Arudathi Engineering Company, Ongole	10/02/2021	09/02/2026	5 years
8	Lanarsy, Hyderabad	01/08/2022	30/07/2025	3 years
9	Lineage power pvt limited Bengaluru	02/08/2022	01/08/2025	3 years
10	Pace Power Systems Pvt Limited, Bengaluru	01/08/2022	30/07/2025	3 years
11	Passionate Engineers Pvt Ltd , Ongole	07/12/2018	06/12/2023	3 years
12	Slylandro Power Pvt Ltd, Vijayawada	01/12/2018	31/11/2023	5 years
13	Synxa It(P) Ltd Hyderabad	10/12/2018	09/12/2023	5 years
14	Vidalndt, Vijayawada	01/11/2018	31/10/2022	4 Years
15	Crystal Power Controls	09/11/2022	08/11/2025	3 Years
16	Hexaware Technologies Limited	10/03/2022	09/03/2025	3 Years

A. INDUSTRY INVOLVEMENT IN THE PROGRAM DESIGN AND CURRICULUM

Industry involvement in the Program Design and Curriculum is required to bridge the gap between industry and institute. Partial delivery of courses at the institution is also required to prepare the students for employment. The department is appointing industrial experts as members of the Board of Studies, and Department Advisory Committee to involve in designing the program, and guide the department towards academic excellence.

B. INDUSTRY INVOLVEMENT IN PARTIAL DELIVERY OF ANY REGULAR COURSES FOR STUDENTS

Guest lectures by industrial experts are one of the best practices which help the student to know about recent trends in industries related to their courses. The effectiveness of course delivery by the industry expert is monitored for improvement in students' knowledge of different latest technologies. Every year students take an internship in the industry to get practical exposure to the real-time world, which is a part of the curriculum.

From A.Y: 2021-22 implemented R21 regulations there is 5 skill-oriented course that will be taught with the help of the industry. As a part of that one skill-oriented course is already completed by the batch on Solar PV design.

Table 2.2.4c: Invited lectures organized by the Department of EEE by Industry persons

Academic Year	Name of the Resource Person	Name of the Organization	Topics covered in	Target participants
2021-22	Mr. Madan Mohan	Founder and CEO HIEE	Solar power generation	II EEE
	Mr. V. Anil Kumar	Architect system engineer, REBI, BOSCH	Electric vehicle technologies	III EEE
2020-21	Mr. Emmoji V	Lead R&D, GE Hyderabad	Digital relays	IV EEE
	Mr. C. Sarath Babu	Power grid corporation	Renewable energy technologies	IV EEE
2019-20	Mr. K. Siva Nagaraju,	DANR Technologies	MATLAB fundamentals	III and IV EEE
	Mr. K. Poorna Chandra Rao	APSSDC Vijayawada.	Basic of PLC	II EEE

C. IMPACT ANALYSIS OF INDUSTRY INSTITUTE INTERACTION

- The students of the EEE department have shown keen interest to participate in guest lectures, workshops, and training offered by different industries. It helps to acquire industrial knowledge to identify and solve real-time problems.
- Students picked up what they learned at the workshops to implement their own mini-projects and also final-year projects.
- The effectiveness of this practice can be assessed by the great response of the participants of the workshops/training.
- This helps the students to improve their problem analysis skills, modern tools usage, communication, team working skills.

2.2.5 Initiatives related to industry internship/summer training (10)

2.2.5 Initiatives related to industry internship/summer training (10)

INITIATIVES:

Department of Electrical and Electronics Engineering takes several initiatives to make student industry ready. As a part of that department made 1-month internship is mandatory in the curriculum. In addition to this department regularly conducts industrial visits to students to get industrial exposure and real-life experience.

Industry internship/summer training

- To make students take internships the department made internships mandatory for all students with 2 credits. The students are encouraged to take up internship programs during their semester break for 4 weeks.
- The department encourages students to take up implant training during summer holidays in various prestigious organizations
- Faculty members give them guidelines, suggestions, scope, and contact details of the internship.
- They also help the students by interacting with the industrial experts, providing them with recommendation letters and necessary support.

Table 2.2.5.a: List of Summer internships attended by the students

Academic Year	No. of Students	Industry details
2021-22	113	1. Hyderabad Institute of Electrical Engineers 2. Code Tantra
2020-21	128	1. Hyderabad Institute of Electrical Engineers 2. Code Tantra
2019-20	125	1. Hyderabad Institute of Electrical Engineers 2. Pantech Solutions

Assessment for Internship:

Internship/training of the student shall be assessed for 100 marks for R18 Regulation. After completing the internship, the student shall submit a certificate and a report to the department for Evaluation and conduct a Viva-Voce Examination.

Table 2.2.5.b: Weightage of marks for Internship

S. No.	External	Marks
1	Internship Report	50
2	Presentation	30
3	Viva voce	20
	Total Marks	**100**

Industrial tours for Students

- Industrial visits give greater clarity about the importance of Electrical and Electronics Engineering concepts. The students will practically experience these concepts.
- As class learning is not enough holistic learning the department of EEE conducts industrial visits for the students. This is helpful to get practical and hands-on learning is essential for better understanding the processes.
- Industrial tours are organized for students to provide insight into the technology used in industries.
- As the faculty from the EEE department accompanied the students during the industrial tour, the industrial visit helps the faculty to correlate between theoretical and practical learning.

Table 2.2.5.c: List of Industrial Tours

Academic Year	No. of Students	No. of Tours	Details
2021-22	361	02	1. APTRANSCO 220/132/33 KV, Ongole 2. APTRANSCO 33/11 KV, Ongole
2020-21	NIL	NIL	-
2019-20	173	03	1. 220/132/33 KV substation ongole 2. NTTPS, Vijayawada 3. Srisailam hydro power plant, srisailam

IMPACT ANALYSIS

The following is the impact analysis observed on Industry Institute interactions in the form of internships and industrial visits

- The students' technical skills are improved.
- Students gain valuable work experience.
- Students have an edge in the job market
- Students gain the basic skills needed for the development of real-world projects.
- Knowledge gained during the internship program helped the students to implement their project work.
- These internships and industrial tours make them aware of real-world problems, have hands-on experience with modern tool usage, be able to conduct investigations and solve complex engineering problems, and also increase the students teamwork, communication skills, and project management skills.

STUDENT FEEDBACK ON INITIATIVE

- Every student of the department submits feedback on the industrial interactions during visits, training programs, and internships, soon after the completion of the same.
- The feedback obtained from the students is used effectively in strengthening the industrial relations of the department and also to guide the successor batches. The following Figure 2.2.5a shows the student feedback during the industrial visit.
- The feedback also explores the content to be revised in the curriculum to bridge the gap between academics and industry

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Department of Electrical and Electronics Engineering

Name of the Industry: Srisailam Hydro Power Plant at Srisailam

Year& Sem: II –II   Date: 29/02/2020

Industrial Visit Feedback Form

Name &Roll No (Optional):

S. No	Evaluation Parameters	Excellent 5	Good 4	Fair 3	Average 2	Poor 1
1	Relevance of the industrial visits w. r. t your curriculum	✓				
2	Industry visit bridge the gap between Industry and Institute	✓				
3	Explanation of the Persons Concerned about the Industry		✓			
4	Acquiring the Practical Knowledge through the Industrial Visit	✓				
5	Clarification of Doubts	✓				

Do you recommend this Industrial Visit for others: Yes/No

Any suggestions for Improvement? The Industrial Visit was full of excitement and enthusiasm. This improved the know of various Instrumentation equipment presently used in the Industry.

Figure 2.2.5.a: Student feedback

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3 COURSE OUTCOMES AND PROGRAM OUTCOMES (175)   Total Marks 175.0

Define the Program specific outcomes

PSO1	Ability to apply the professional core theories and process to choose the sustainable control, Measuring and drive circuitry for the specified upcoming fields.
PSO2	Ability to design, simulate and find optimal solutions for various industrial and societal Problems related to electrical and electronics engineering.
PSO3	To prepare the students to succeed in competitive examinations for higher education and Employment related to Electrical and Electronics Engineering.

3.1 Establish the correlation between the courses and the Program Outcomes (POs) & Program Specific Outcomes (25)   Total Marks 25.

Institute Marks : 25.

No. of Core Courses : 6	C2 : 2	C3 : 2	C4 : 2

Note : Number of Outcomes for a Course is expected to be around 6.

Course Name :	C2 01	Course Year :	2019-2020

Course Name	Statements
C2 01.1	Apply network theorems for the analysis of electrical circuits.
C2 01.2	Solve three- phase circuits under balanced and unbalanced condition.
C2 01.3	Understand the Coupled Circuits find the transient response of electrical networks
C2 01.4	Find the parameters for different types of network and their interrelations.
C2 01.5	Solve Electrical networks with network topology concepts.

Course Name :	C2 09	Course Year :	2019-2020

Course Name	Statements
C2 09.1	Apply the concepts of 3-Phase induction motor.
C2 09.2	Understand the starting and testing methods of 3-Phase induction motor.
C2 09.3	Analyze the performance, losses and efficiency of single phase induction motor.
C2 09.4	Determine the regulation of synchronous generator.
C2 09.5	Analyze the performance of synchronous motor.

Course Name :	C3 01	Course Year :	2020-2021

Course Name	Statements
C3 01.1	Analyze types of instruments and principle of operation of various analog instruments used in laboratories and field practice.
C3 01.2	Design various measuring instruments for a variety of applications in electrical field
C3 01.3	Gain the knowledge on operation and maintenance of CTs and PTs.
C3 01.4	Measure the resistance, inductance, and capacitance by selecting appropriate technique and analyze the operation of different digital instruments.
C3 01.5	Analyze the working principle of transducers to measure the non electrical quantities

Course Name :	C3 09	Course Year :	2020-2021

Course Name	Statements
C3 09.1	Identify impedance diagram for a power system network and to understand per unit quantities
C3 09.2	Solve the formation a Ybus and Zbus for a power system networks
C3 09.3	Develop the load flow solution of a power system using different methods
C3 09.4	Distinguish the fault currents for all types faults to provide data for the design of protective devices
C3 09.5	Analyse the steady state, transient and dynamic stability concepts of a power system.

Course Name :	C4 01	Course Year :	2021-2022

Course Name	Statements
C4 01.1	Compute optimal scheduling of Generators.
C4 01.2	Understand hydrothermal scheduling.
C4 01.3	Importance of the frequency and PID controllers in single area and two area systems.
C4 01.4	Apply the unit commitment problem
C4 01.5	Analyze reactive power control and compensation for transmission line.

Course Name :	C4 08	Course Year :	2021-2022

Course Name	Statements
C4 08.1	Explain different types of HVDC levels and basic concepts
C4 08.2	Analyze the operation of converters configuration
C4 08.3	Acquire control concept
C4 08.4	Signify reactive power control and AC/DC load flow.
C4 08.5	Analyze converter faults, protection and harmonic effects & Design high pass filters

Course Articulation Matrix

1 . course name : C201

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C201.1	Apply netwo	3	3	3	3	-	-	-	-	-	-	-	2
C201.2	Solve three	3	3	3	2	-	-	-	-	-	-	-	2
C201.3	Understand	3	3	2	2	-	-	-	-	-	-	-	2
C201.4	Find the pa	3	3	2	1	-	-	-	-	-	-	-	2
C201.5	Solve Elect	3	3	3	3	-	-	-	-	-	-	-	1
Average		**3.00**	**3.00**	**2.60**	**2.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.80**

2 . course name : C209

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C209.1	Apply the c	3	3	3	3	-	-	-	-	-	-	-	3
C209.2	Understand	3	3	2	2	-	-	-	-	-	-	-	2
C209.3	Analyze the	3	3	2	2	-	-	-	-	-	-	-	2
C209.4	Determine t	3	3	2	2	-	-	-	-	-	-	-	2
C209.5	Analyze the	3	-	2	2	-	-	-	-	-	-	-	2
Average		**3.00**	**3.00**	**2.20**	**2.20**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.20**

3 . course name : C301

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C301.1	Analyze typ	3	3	3	3	3	3	-	-	-	-	-	-
C301.2	Design vari	3	3	3	-	-	2	-	-	-	-	-	-
C301.3	Gain the kn	3	2	2	-	-	2	-	-	-	-	-	-
C301.4	Measure th	2	3	3	2	-	-	-	-	-	-	-	-
C301.5	Analyze the	3	3	3	-	-	2	-	-	-	-	-	-
Average		**2.80**	**2.80**	**2.80**	**2.50**	**3.00**	**2.25**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4 . course name : C309

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C309.1	Identify imp	3	3	2	2	1	-	-	-	-	-	1	2
C309.2	Solve the fo	3	3	3	3	2	-	-	-	-	-	2	-
C309.3	Develop the	3	3	3	3	3	-	-	-	-	-	3	-
C309.4	Distinguish	3	3	3	3	2	-	-	-	-	-	2	2
C309.5	Analyse the	3	3	3	3	2	-	-	-	-	-	2	2
Average		**3.00**	**3.00**	**2.80**	**2.80**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**2.00**

5 . course name : C401

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401.1	Compute op	2	3	-	-	-	2	-	-	-	-	-	-
C401.2	Understand	2	3	-	-	2	2	-	-	-	-	-	-
C401.3	Importance	2	3	-	-	-	2	-	-	-	-	-	-
C401.4	Apply the u	2	3	3	-	-	-	-	-	-	-	-	-
C401.5	Analyze rea	2	-	2	-	-	2	-	-	-	-	-	-
Average		**2.00**	**3.00**	**2.50**	**0.00**	**2.00**	**2.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

6 . course name : C408

Course	Statements	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C408.1	Explain diffe	2	1	3	2	1	2	1	-	-	-	-	2
C408.2	Analyze the	2	2	3	2	2	1	1	-	-	-	-	2
C408.3	Acquire con	2	3	3	3	2	1	1	-	-	-	-	2
C408.4	Signify read	2	2	2	3	1	1	1	-	-	-	-	2
C408.5	Analyze con	2	2	2	3	2	1	1	-	-	-	-	2
Average		**2.00**	**2.00**	**2.60**	**2.60**	**1.60**	**1.20**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**

1 . Course Name : C201

Course	PSO1	PSO2	PSO3
C201.1	3	3	3
C201.2	3	3	3
C201.3	1	3	3
C201.4	3	3	3
C201.5	2	3	3
Average	**2.40**	**3.00**	**3.00**

2 . Course Name : C209

Course	PSO1	PSO2	PSO3
C209.1	-	2	2
C209.2	-	3	3
C209.3	-	3	3
C209.4	-	2	3
C209.5	-	3	2
Average	**0.00**	**2.60**	**2.60**

3 . Course Name : C301

Course	PSO1	PSO2	PSO3
C301.1	3	-	2
C301.2	3	-	2
C301.3	3	-	2
C301.4	3	-	2
C301.5	3	-	2
Average	**3.00**	**0.00**	**2.00**

4 . Course Name : C309

Course	PSO1	PSO2	PSO3
C309.1	2	3	3
C309.2	2	3	3
C309.3	2	3	3
C309.4	2	3	3
C309.5	2	3	3
Average	**2.00**	**3.00**	**3.00**

5 . Course Name : C401

Course	PSO1	PSO2	PSO3
C401.1	3	3	2
C401.2	-	2	2
C401.3	3	2	2
C401.4	3	1	3
C401.5	-	2	2
Average	**3.00**	**2.00**	**2.20**

6 . Course Name : C408

Course	PSO1	PSO2	PSO3
C408.1	3	-	3
C408.2	-	2	3
C408.3	-	2	3
C408.4	-	3	3
C408.5	-	3	3
Average	**3.00**	**2.50**	**3.00**

Program Articulation Matrix

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	2	2.33	PO11	2
C102	2.6	2.8	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C103	1.4	1.6	2.2	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.8
C104	3	2.8	2.6	2.6	2.6	PO6	PO7	PO8	PO9	2	1.5	1
C105	2.8	2	2.6	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C106	1	PO2	2	PO4	PO5	PO6	2	PO8	2	1	1	3
C107	3	PO2	PO3	3	2	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C108	1.6	2	1.8	1	1	PO6	PO7	PO8	PO9	PO10	PO11	1
C109	3	2.8	2.8	1.33	1.5	1.5	PO7	PO8	PO9	PO10	PO11	1.4
C110	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	2	2.33	PO11	2
C111	2.4	2.8	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C112	3	2.8	2.4	1.33	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.8
C113	2.8	2.8	2.8	2	2.4	1.75	PO7	PO8	PO9	PO10	PO11	1.6
C114	1.8	2.4	1.8	PO4	PO5	PO6	1	PO8	PO9	PO10	PO11	PO12
C115	3	1	1	PO4	PO5	1	1	2	PO9	PO10	PO11	1
C116	1.8	1.6	1.6	PO4	PO5	2	2	2	2	1	PO11	PO12
C117	3	2	2	2	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.5
C118	3	2.8	2.8	1.33	1.5	1.5	PO7	PO8	PO9	PO10	PO11	1.4
C201	3	3	2.6	2.2	1.2	PO6	PO7	PO8	PO9	PO10	PO11	1.8
C202	3	2.4	2.4	2.4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	3
C203	3	2.6	2.6	2	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2
C204	3	3	2.2	3	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.6
C205	2.6	2.6	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C206	2	PO2	2	PO4	PO5	1.6	PO7	PO8	PO9	PO10	PO11	PO12
C207	2.8	2.4	2.6	2	2	PO6	PO7	PO8	2	PO10	PO11	2
C208	3	2.33	2.33	PO4	PO5	PO6	PO7	PO8	3	PO10	PO11	2
C209	3	3	2.2	2.2	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.2
C210	2.6	3	2.6	2.25	2.5	PO6	PO7	PO8	PO9	PO10	PO11	2.6
C211	2.4	2.6	2.8	2.6	PO5	2.67	3	PO8	PO9	PO10	PO11	3
C212	3	2	2	2	PO5	PO6	PO7	PO8	PO9	PO10	1	1
C213	2.4	PO2	3	2.75	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.6
C214	2.75	2.75	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C215	3	3	3	3	PO5	PO6	PO7	PO8	3	PO10	PO11	3
C216	3	2.6	2.2	2	2	PO6	2	PO8	2	2	3	2
C217	3	3	2.75	2.25	PO5	PO6	PO7	PO8	PO9	PO10	PO11	3
C301	2.8	2.8	2.8	2.5	3	2.25	PO7	PO8	PO9	PO10	PO11	PO12
C302	2	2.8	1.6	2.6	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1
C303	2.4	2.25	3	1.8	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.25
C304	2.6	2.2	2.2	1.67	PO5	PO6	PO7	PO8	PO9	PO10	3	2
C305	2	2	2	2	2	2	PO7	PO8	1	1	PO11	PO12
C306	2.4	3	3	1	PO5	PO6	PO7	PO8	1	PO10	PO11	PO12
C307	3	3	3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C308	2.67	2	2.67	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C309	3	3	2.8	2.8	2	PO6	PO7	PO8	PO9	PO10	2	2
C310	2.8	3	2.6	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.2
C311	2.6	3	2.4	2	2	2	PO7	PO8	PO9	PO10	PO11	2.2
C312	1.67	3	2.6	2.4	3	PO6	PO7	PO8	PO9	PO10	2.4	2.6
C313	1	3	2	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2
C314	2.8	2	2	1.5	2	1	1	PO8	PO9	PO10	PO11	PO12
C315	2.2	2.25	2	2	2	2	2	PO8	2	PO10	2.25	2.2
C316	2.75	2	2.75	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401	2	3	2.5	PO4	2	2	PO7	PO8	PO9	PO10	PO11	PO12
C402	2.8	3	3	1.4	1	1.2	PO7	PO8	PO9	PO10	PO11	2
C403	2.6	2	2	PO4	PO5	2	2	1	2	1.33	2.5	PO12

C404	2	2.5	2	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C405	PO1	PO2	PO3	PO4	PO5	1.8	1.8	PO8	2	1.8	2.2	2
C406	2	2	3	3	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C407	2	2.33	2	2.67	3	PO6	PO7	PO8	PO9	PO10	PO11	2
C408	2	2	2.6	2.6	1.6	1.2	1	PO8	PO9	PO10	PO11	2
C409	3	2.5	2.5	1.5	2	1	1.5	3	2.5	3	1.33	2.67

Course	PSO1	PSO2	PSO3
C101	PSO1	PSO2	3
C102	PSO1	PSO2	PSO3
C103	PSO1	PSO2	PSO3
C104	2.4	2.4	PSO3
C105	PSO1	PSO2	PSO3
C106	PSO1	PSO2	2.5
C107	PSO1	PSO2	1
C108	1	1	1
C109	2	1.5	2.12
C110	PSO1	PSO2	3
C111	2.8	PSO2	2
C112	1.67	1.5	2
C113	1.75	1.6	PSO3
C114	2	1	3
C115	PSO1	PSO2	1
C116	3	1	PSO3
C117	2	1	PSO3
C118	2	1.5	2.12
C201	2	3	3
C202	3	PSO2	3
C203	2	3	3
C204	2	2	2
C205	PSO1	PSO2	PSO3
C206	PSO1	2.33	PSO3
C207	2.4	3	3
C208	2.33	3	PSO3
C209	PSO1	2.6	2.6
C210	2.6	2	3
C211	PSO1	3	3
C212	PSO1	1	PSO3
C213	2.8	3	3
C214	PSO1	PSO2	PSO3
C215	3	3	3
C216	3	3	3
C217	PSO1	3	PSO3
C301	3	PSO2	2
C302	2	3	3
C303	2	3	3
C304	2	2	3
C305	2	3	2
C306	PSO1	1	3
C307	2.8	PSO2	3
C308	2.67	PSO2	2
C309	2	3	3
C310	3	2.6	PSO3
C311	PSO1	2	2
C312	2.8	2.8	2
C313	PSO1	1	1

C314	2	2	3
C315	1.8	2	2
C316	2.75	PSO2	2
C401	3	2	2.2
C402	3	2	2.6
C403	2	3	2
C404	PSO1	1	3
C405	PSO1	PSO2	PSO3
C406	PSO1	3	2
C407	2	2	PSO3
C408	3	2.5	3
C409	3	PSO2	PSO3

3.2 Attainment of Course Outcomes (75)   Total Marks 75.

Institute Marks : 10.

For the Evaluation of attainments CO's both direct and indirect assessment methods are used. The 80% weightage is considered for direct assessment which includes internal assessments (like Mid-examinations, Assignments, Classroom tests, Day to Day Evaluations, etc) and Semester end examinations. The remaining 20% weightage is based on course-end survey.

Internally developed excel spreadsheets are used for direct assessment. Feedback forms based on CO's were framed for each class and the feedback was taken from students for indirect assessment.

CO attainment process

The curriculum comprises of various types of courses like Theory Courses, Laboratory Courses, Mini-Project, Internship, Seminar, and Mandatory courses.
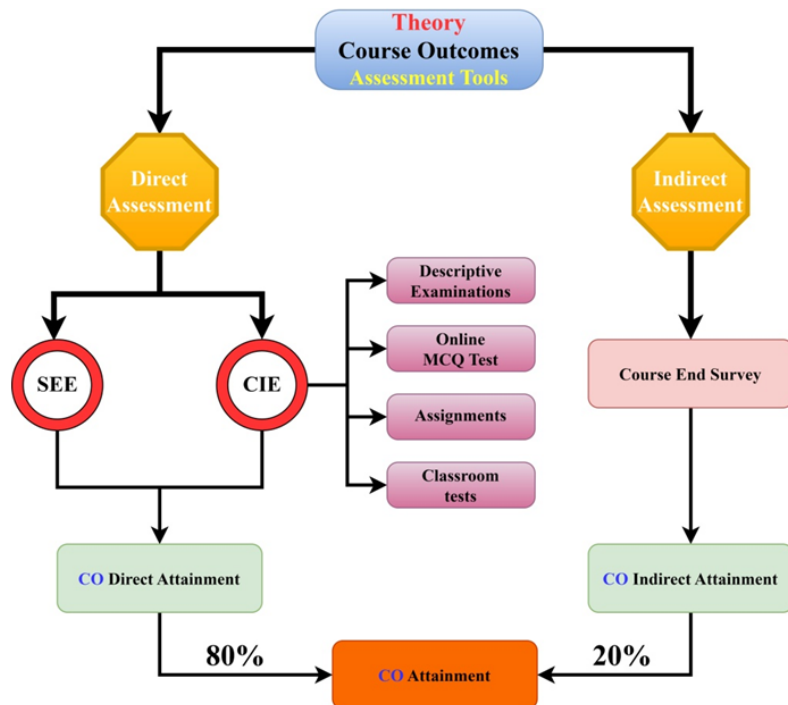
Theory Attainment Process

Theory:

Mid-Examinations: Two mid-examinations are conducted for each semester. Mid-examinations serve to encourage students to keep up with course content covered. The Mid examination is of 120 minutes for 20 marks. The questions are framed in such a way that they should map Bloom's taxonomy, whereas each question is mapped to the respective course outcomes, which was evaluated based on the set attainment levels. The Multiple choice questions of 10 marks is also evaluated in both mid's of each course.

Assignments: Students are assigned course-related work and their submissions are evaluated on the basis of work quality. A total of 5 assignments are given per course where each assignment carries 5 Marks.

Classroom Test: Students are assigned course-related work and their class room performance is evaluated. A total of 5 classroom tests are given per course where each test carries 5 Marks.

Semester-End Examination: The semester-end examination is 180 minutes duration of 60 marks and covers the entire syllabus of the course. The questions are framed in such a way that they should satisfy Bloom's taxonomy, where as each question is mapped to the concurred course outcomes of the course. The CO's are evaluated based on the set attainment levels.

All direct assessment such as Mid-examinations, Assignments, Classroom test & Semester end examinations covers 80% of weightage and Indirect assessment consists of a course-end survey which comprises 20% of weightage.

Laboratory Attainment Process:
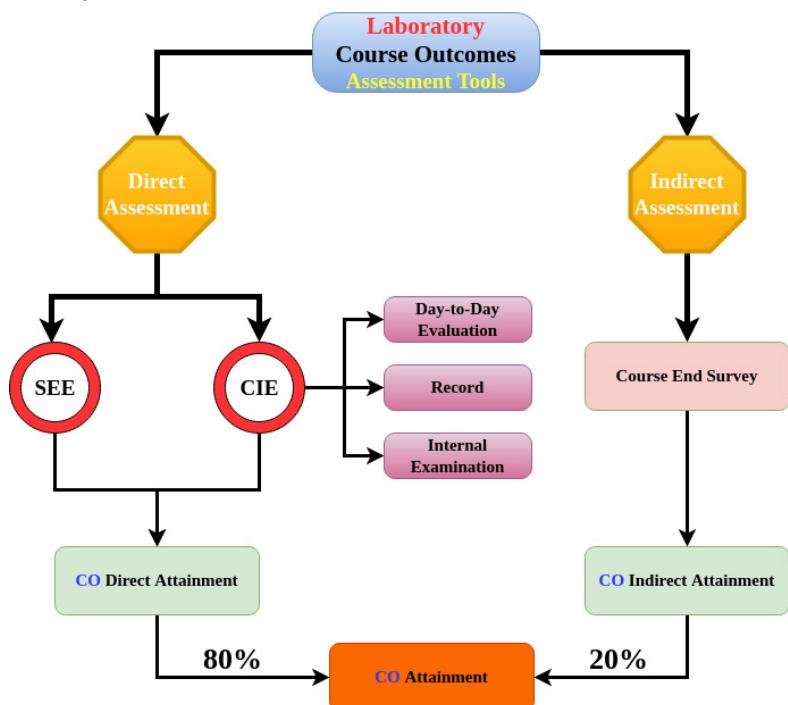
Laboratory Courses:

For a total of 100 marks, continuous internal evaluation is 40 marks which comprises mainly day-to-day evaluation (20marks), Record (5marks), Internal Examinations (15 marks) and Semester end examinations of 60 marks which cover 80% weightage of laboratory assessment and remaining 20% weightage for course end survey.

Internship/Mini-Project Attainment Process:
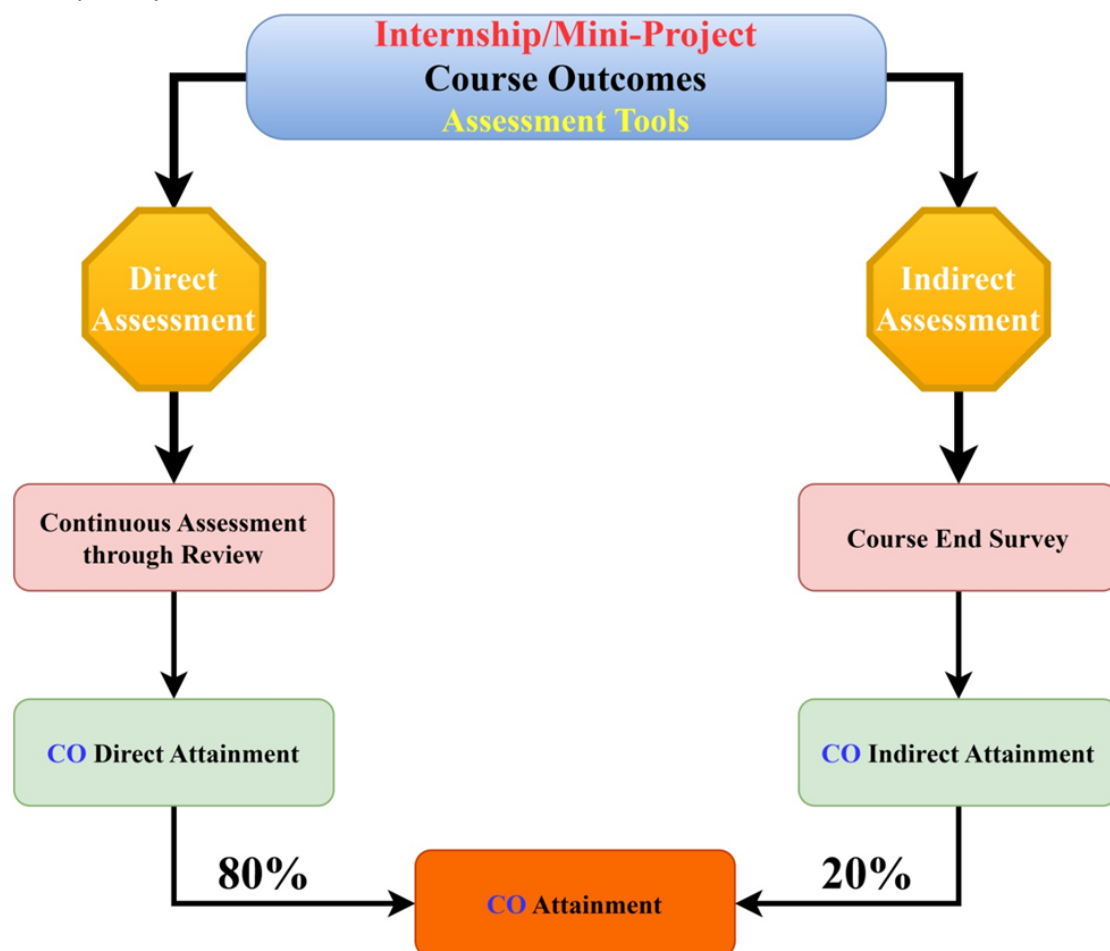
Internship/Mini-Project Courses:

As per curriculum internship/mini project course rubrics are assessed on internal examination procedures for 100 marks which carries 80% weightage and course end survey carries 20% weightage.

Mandatory Course Attainment Process:

Mandatory Courses:

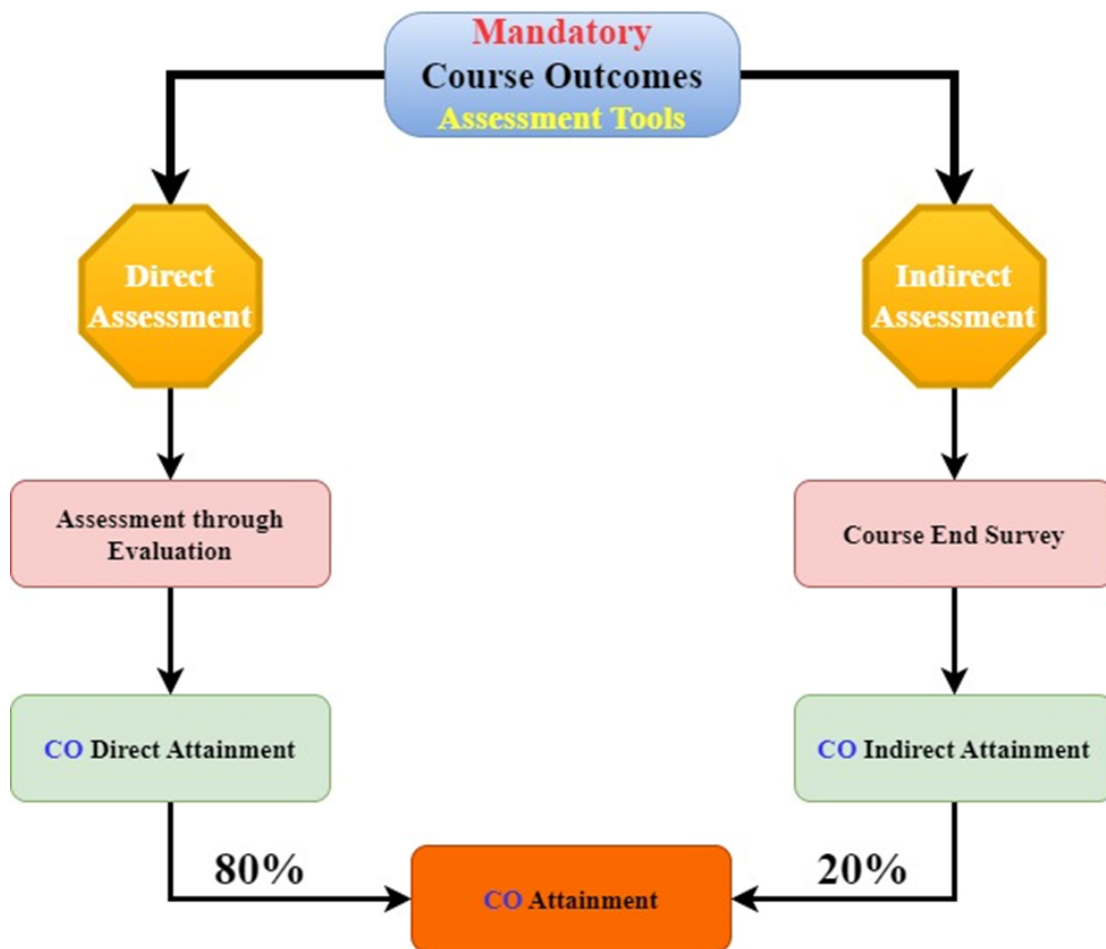As per curriculum Mandatory course rubrics are assessed on internal examination procedures for 100 marks which carries 80% weightage and course end survey carries 20% weightage.

Project Attainment Process:
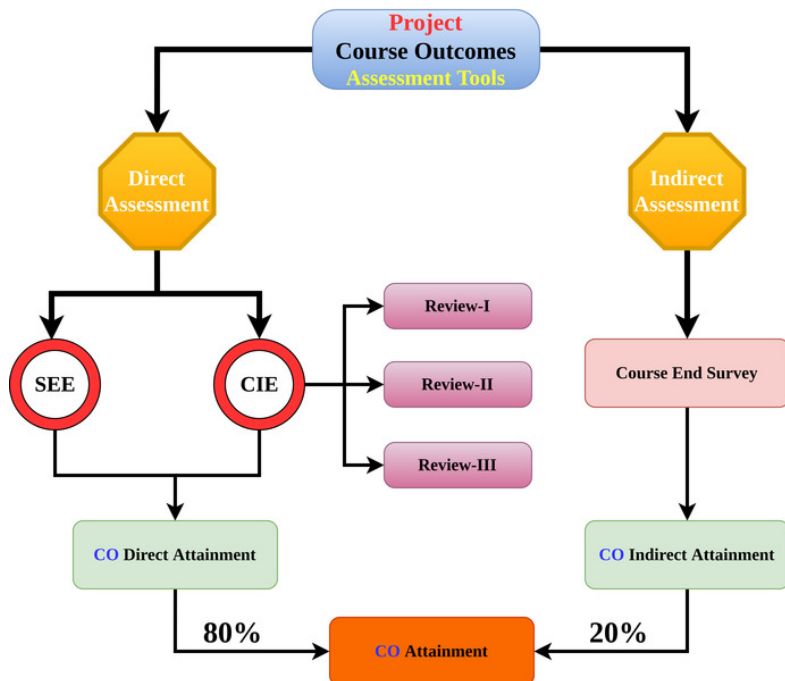
Project Work:

Project work is carried out by students of IV - B. Tech, II – Semester. According to the curriculum, the internal marks allocated for project work is 80 marks, external evaluation marks are 120 which carries 80% weightage and course end survey carries 20% weightage.

Course End Survey is collected at the end of course from the students about their attainment level of COs. Feedback is collected with closed ended questions with options as

    4- Excellent

    3- Very Good

    2- Good

    1-Average

    0-Poor

There response will be converted into percentage

$$\% \text{ of attainment} = \frac{\sum \text{Grade} \times \text{Number of responses to that grade}}{\text{Total respnses}} \times 100$$

Depending on the level of attainment grade was decided as mentioned below.

% of attainment	Grade
More than or equal to 80%	3
More than or equal to 70% and less than 80%	2
More than or equal to 60% and less than 70%	1
Less than 60%	0

3.2.2 Record the attainment of Course Outcomes of all courses with respect to set attainment levels (65)   Institute Marks : 65.

$$\% \text{ of attainment} = \frac{\sum \text{Grade} \times \text{Number of responses to that grade}}{\text{Total respnses}} \times 100$$

Depending on the level of attainment grade was decided as mentioned below.

As the 2018 admitted batch was the first autonomous batch, the threshold for internal and external exams was calculated based on the previous two batches (2016 & 2017) pass percentages in the course having the same/similar syllabus.

For 2018 admitted batch

2016 admitted & 2017 admitted batch average pass percentage	Internal Threshold	External Threshold
Less than 50%	55	40
More than or equal to 50% and less than 60%	57.5	42.5
More than or equal to 60% and less than 70%	60	45
More than or equal to 70% and less than 80%	62.5	47.5
More than or equal to 80%	65	50
If the course does not exist in R16	60	45

The percentage of students who secured more than the threshold was calculated. Grades were given on the % of students who secured more than the threshold value

Percentage of students secured more than the threshold	Grade
More than or equal to 80%	3
Less than 80% and more than or equal to 70%	2
Less than 70% and more than or equal to 60%	1
Less than 60%	0

Depending upon the percentage of students secured more than the threshold, the next batch threshold was decided by the same course as follows.

Next batch threshold for internal courses:

% of students secured more than the threshold value	Action
More than or equal to 95% and less than 100%	Change Threshold to Min (Present batch Thresold+10%, 70)
More than or equal to 90% and less than 95%	Change Threshold to Min (Present batch Thresold+7.5%,70)
More than or equal to 85% and less than 90%	Change Threshold to Min (Present batch Thresold+5%,70)
More than or equal to 80% and less than 85%	Change Threshold to Min (Present batch Thresold+2.5%,70)
Less than 80%	No Change in the threshold is required.

Theory attainment sample

Continuous Internal Evaluation:

PACE Institute of Technology and Sciences, Ongole
Course Outcome Attainment Sheet Internal (B.Tech-R18)

Programme Specilization:	EEE
Year :	II
Sem	I
Course Name:	ELECTRICAL CIRCUIT ANALYS
Course Code:	C201
A.Y:	2019-20
Batch:	2018-22
Course Type:	Non-Elective

Roll No	MID-1				MID-2				Assignment					Class Room Test					Online Test		Course Outcomes Attaiment (CIE)				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	A1	A2	A3	A4	A5	C1	C2	C3	C4	C5	MCQ-1	MCQ-2	CO1	CO2	CO3	CO4	CO5
Max Marks	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	10	10	CO1	CO2	CO3	CO4	CO5
19KQ5A0255	3	3	3	2	2	3	3	2	5	5	0	0	0	0	0	0	0	0	3	4.5	46.67	48.42	27.08	28.33	25.26
19KQ1A0256	5	4	3	4	3	3	4	1	5	5	5	5	5	5	5	5	5	5	4	6.5	85.83	82.11	75.42	69.17	87.37
19KQ1A0257	5	4	3	4	3	3	5	1	5	5	5	5	5	5	5	5	5	5	5.5	7.5	88.33	85.26	77.92	71.67	95.79
19KQ1A0258	4	3	3	3	3	3	2	3	5	5	5	5	5	5	5	5	5	5	4.5	7.5	78.33	77.89	76.67	79.17	78.95

INTERNAL		CO1	CO2	CO3	CO4	CO5
	Threshold Internal	60	60	60	60	60
	%students	95.24	90.48	84.92	86.51	88.1
	Internal Grade	3	3	3	3	3
	Next A.Y	70	67.5	62.5	65	65

Semester-End Examination:

PACE Institute of Technology and Sciences, Ongole
Course Outcome Attainment Sheet External (B.Tech-R18)

Programme	EEE
Year :	II
Sem:	I
Course Name:	ELECTRICAL CIRCUIT ANALYS
Course Code:	C201
A.Y:	2019-20
Batch:	2018-22
Course Type:	Non-Elective

SL NO	CO1	CO2	CO3	CO4	CO5	CO1	CO2	CO3	CO4	CO5
121	8	9	4	6	11	66.67	75.00	33.33	50.00	91.67
122	2	5	5	2	8	16.67	41.67	41.67	16.67	66.67
123	9	6	6	8	6	75.00	50.00	50.00	66.67	50.00
124	7	4	4	4	8	58.33	33.33	33.33	33.33	66.67
125	10	7	2	9	9	83.33	58.33	16.67	75.00	75.00

EXTERNAL						
	Threshold	45	45	45	45	45
	%students	84	69.6	59.2	76.8	88
	External Grade	3	1	0	2	3
	Next A.Y Target	47.5	45	45	45	50

CO Overall Attainment:

CO WISE ATTAINMENT						
Particulars		C201.1	C201.2	C201.3	C201.4	C201.5
INTERNAL	Threshold Internal	60	60	60	60	60
	%students secured more than Threshold	94.62	90	84.62	86.15	87.69
	Internal Grade	3	3	3	3	3
	Next A.Y. Threshold	67.5	67.5	62.5	65	65
EXTERNAL	Threshold External	45	45	45	45	45
	%students secured more than Threshold	84	69.6	59.2	76.8	88
	External Grade	3	1	0	2	3
	Next A.Y. Target Threshold	47.5	45	45	45	50
Indirect Attainment		88.52	87.45	92.45	94.13	82.15
Indirect Grade		3	3	3	3	3
Overall Attainment		3.00	2.04	1.56	2.52	3.00

Lab attainment sample:

Year :	II
Sem	I
Course Name:	ELECTRICAL CIRCUITS
Course Code:	C207
A.Y:	2019-20
Batch:	2018-22
Course Type:	LAB

Roll No	Day to Day Evolution										Record										Internal		External		Course Outcomes Attainment (CIE)				
	1	2	3	4	5	6	7	8	9	10	1 2 3 4 5 6 7 8 9 10										CO	Marks	CO	Marks	CO1	CO2	CO3	CO4	CO5
Max Marks	20	20	20	20	20	20	20	20	20	20	5 5 5 5 5 5 5 5 5 5										15		60						
CO	1	1	2	2	3	3	4	4	5	5	1 1 2 2 3 3 4 4 5 5										Mixed		Mixed		1	2	3	4	5
19KQ5A0255	20	20	20	20	20	20	20	20	20	20	5 5 5 5 5 5 5 5 5 5										0	0	3	55	100.00	100.00	100.00	100.00	100.00
19KQ5A0256	20	20	20	20	20	20	20	20	20	20	5 5 5 5 5 5 5 5 5 5										3	15	5	57	100.00	100.00	100.00	100.00	100.00
19KQ5A0257	20	20	20	20	20	20	20	20	20	20	5 5 5 5 5 5 5 5 5 5										5	12	5	60	100.00	100.00	100.00	100.00	95.38
19KQ5A0258	20	20	20	20	20	20	20	20	20	20	5 5 5 5 5 5 5 5 5 5										4	13	4	58	100.00	100.00	100.00	96.92	100.00

	Particulars	C207.1	C207.2	C207.3	C207.4	C207.5
INTERNAL	Threshold	65	65	65	65	65
	%students	95.56	95.56	95.56	95.56	98.43
	Internal Grade	3	3	3	3	3
	Next A.Y	70	70	70	70	70
EXTERNAL	Threshold	50	50	50	50	50
	%students	100	100	100	100	100
	External Grade	3	3	3	3	3
	Next A.Y Target	60	60	60	60	60

Lab CO Overall Attainment:

CO WISE ATTAINMENT						
	Particulars	C207.1	C207.2	C207.3	C207.4	C207.5
INTERNAL	Threshold Internal	65	65	65	65	65
	%students secured more than Threshold	95.56	95.56	95.56	95.56	98.43
	Internal Grade	3	3	3	3	3
	Next A.Y Threshold	70	70	70	70	70
EXTERNAL	Threshold External	50	50	50	50	50
	%students secured more than Threshold	100	100	100	100	100
	External Grade	3	3	3	3	3
	Next A.Y Target Threshold	60	60	60	60	60
	Indirect Attainment	88.52	87.45	92.45	94.13	82.15
	Indirect Grade	3	3	3	3	3
	Overall Attainment	3.00	3.00	3.00	3.00	3.00

3.3 Attainment of Program Outcomes and Program Specific Outcomes (75)   Total Marks 75.

3.3.1 Describe assessment tools and processes used for measuring the attainment of each Program Outcome and Program Specific Outcomes (10)   Institute Marks : 10.

Course Outcomes (CO) are the statements that declare what students should be able to do at the end of a course. At the end of each course, the Program Outcomes (CO)/Program Specific Outcomes (PSO) assessment is done from the CO attainment. Each course has defined with set of Course Outcomes and corresponding evaluation criteria. The COs are mapped to the POs and PSOs under scale of 3, 2, 1 and '-', which are used to provide the quantitative measurement of how well the Pos and PSOs are mapped.

Level	Correlation level
3	Substantial (High) Correlation
2	Moderate (Medium) Correlation
1	Slight (Low) Correlation
-	Indicates there is no correlation.

The performance of the students in the all assessment methods during the semester in each course is used to compute the level of attainment of the COs. The CO attainment and CO-PO/PSO mappings are used to measure the attainment of POs and PSOs.

PO/PSO assessment is done by giving 80% weightage to direct assessment and 20% weightage to indirect assessment. Direct assessment is based on CO attainment from the process described in 3.2.1. Direct methods display the students' knowledge and skills from their performance in the various academic activities like Continuous Internal Evaluation (CIE), Semester End Examinations (SEE), Laboratory's, Internships, Mini-Project, seminar, and project. These methods provide a sampling of what students know and/or can do and provide strong evidence of student learning. Average of CO-PO/PSO attainment of all the courses is considered as direct assessment tool for PO/PSO attainment.

Surveys like Student Exit Survey, Employer Survey and Faculty Survey are considered as indirect attainment tools for PO/PSO attainment. Student Exit Survey is collected at the end of program from students about their attainment level of POs and PSOs. Employer survey is collected from the employer about students PO/PSOs level of attainment. Staff Survey is collected from the staff regarding students PO/PSOs level of attainment.

Feedback is collected with closed ended questions with options as

4- Excellent

3- Very Good

2- Good

1-Average

0-Poor

There response will be converted into percentage

$$\% \text{ of attainment} = \frac{\sum \text{Grade} \times \text{Number of responses to that grade}}{\text{Total respnses}} \times 100$$

Depending on the level of attainment grade was decided as mentioned below.

% of attainment	Grade
More than or equal to 80%	3
More than or equal to 70% and less than 80%	2
More than or equal to 60% and less than 70%	1
Less than 60%	0

PO/PSO attainment Process:

Sample PO/PSO Attainment for a Course:

PACE Institute of Technology and Sciences, Ongole
Coursewise PO, PSO Attainment Sheet (B.Tech-R18)

Programme Specilization:	EEE
Year :	II
Sem:	I
Course Name:	ELECTRICAL CIRCUIT ANALYS
Course Code:	C201
A.Y:	2019-20
Batch:	2018-22
Course Type:	Non-Elective

CO-PO, PSO MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO-Avg
C201.1	3	3	3	1	1	-	-	-	-	-	1	2	2	3	3	2.20
C201.2	3	3	3	1	1	-	-	-	-	-	1	2	2	3	3	2.20
C201.3	3	3	2	2	2	-	-	-	-	-	1	2	2	3	3	2.30
C201.4	3	3	2	1	1	-	-	-	-	-	1	2	2	3	3	2.10
C201.5	3	3	2	2	1	-	-	-	-	-	1	1	2	3	3	2.10
Avg	3.00	3.00	2.40	1.40	1.20	-	-	-	-	-	1.00	1.80	2.00	3.00	3.00	2.18

CO WISE ATTAINMENT

	Particulars	C201.1	C201.2	C201.3	C201.4	C201.5
INTERNAL	Threshold Internal	60	60	60	60	60
	%students secured more than Threshold	94.62	90	84.62	86.15	87.69
	Internal Grade	3	3	3	3	3
	Next A.Y. Threshold	67.5	67.5	62.5	65	65
EXTERNAL	Threshold External	45	45	45	45	45
	%students secured more than Threshold	84	69.6	59.2	76.8	88
	External Grade	3	1	0	2	3
	Next A.Y. Target Threshold	47.5	45	45	45	50
	Indirect Attainment	88.52	87.45	92.45	94.13	82.15
	Indirect Grade	3	3	3	3	3
	Overall Attainment	3.00	2.04	1.56	2.52	3.00

PO, PSO ATTAINMENT

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	CO-Avg
C201.1	3.00	3.00	3.00	1.00	1.00	-	-	-	-	-	1.00	2.00	2.00	3.00	3.00	2.20
C201.2	2.04	2.04	2.04	0.68	0.68	-	-	-	-	-	0.68	1.36	1.36	2.04	2.04	1.50
C201.3	1.56	1.56	1.04	1.04	1.04	-	-	-	-	-	0.52	1.04	1.04	1.56	1.56	1.20
C201.4	2.52	2.52	1.68	0.84	0.84	-	-	-	-	-	0.84	1.68	1.68	2.52	2.52	1.76
C201.5	3.00	3.00	2.00	2.00	1.00	-	-	-	-	-	1.00	1.00	2.00	3.00	3.00	2.10
Avg	2.42	2.42	1.95	1.11	0.91	0.00	0.00	0.00	0.00	0.00	0.81	1.42	1.62	2.42	2.42	1.75

3.3.2 Provide results of evaluation of each PO & PSO (65)

Institute Marks : 65.

PO Attainment

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	2	2.33	PO11	2
C102	1.37	1.49	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C103	1.40	1.60	2.20	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.80
C104	1.75	1.65	1.54	1.54	1.54	PO6	PO7	PO8	PO9	1.04	0.78	0.58
C105	1.55	1.10	1.45	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C106	1	PO2	2	PO4	PO5	PO6	2	PO8	2	1	1	3
C107	3	PO2	PO3	3	2	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C108	0.93	1.23	1.13	0.64	0.62	PO6	PO7	PO8	PO9	PO10	PO11	0.68
C109	3	2.8	2.8	1.33	1.5	1.5	PO7	PO8	PO9	PO10	PO11	1.4
C110	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	1.04	1.37	PO11	1.04
C111	1.31	1.55	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C112	1.34	1.23	1.11	0.66	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.76
C113	1.46	1.46	1.46	1.04	1.25	0.91	PO7	PO8	PO9	PO10	PO11	0.83
C114	1.39	1.88	1.39	PO4	PO5	PO6	0.79	PO8	PO9	PO10	PO11	PO12
C115	0.60	0.2	0.2	PO4	PO5	0.2	0.2	0.4	PO9	PO10	PO11	0.2
C117	3	2	2	2	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.5
C118	2.81	2.63	2.63	1.23	1.40	1.42	PO7	PO8	PO9	PO10	PO11	1.31
C201	2.42	2.42	2.15	1.85	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.42
C202	1.46	1.17	1.17	1.17	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.04
C203	2.71	2.41	2.60	1.76	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.81
C204	2.14	2.14	1.53	2.14	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.12
C206	1.46	PO2	1.52	PO4	PO5	1.15	PO7	PO8	PO9	PO10	PO11	PO12
C207	2.8	2.4	2.6	2	2	PO6	PO7	PO8	2	PO10	PO11	2
C208	3	2.33	2.33	PO4	PO5	PO6	PO7	PO8	3	PO10	PO11	2
C209	1.34	1.36	1.01	1.01	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.01
C210	1.42	1.8	1.42	1.41	1.54	PO6	PO7	PO8	PO9	PO10	PO11	1.48
C211	1.67	1.91	1.93	1.91	PO5	2.38	2.68	PO8	PO9	PO10	PO11	2.1
C212	2.62	1.74	1.74	1.74	PO5	PO6	PO7	PO8	PO9	PO10	0.87	0.87
C213	1.09	PO2	1.28	1.14	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.12
C214	1.22	1.19	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C215	3	3	3	3	PO5	PO6	PO7	PO8	3	PO10	PO11	3
C216	3	2.6	2.2	2	2	PO6	2	PO8	2	2	3	2
C217	3	3	2.75	2.25	PO5	PO6	PO7	PO8	PO9	PO10	PO11	3
C301	1.65	1.65	1.65	1.78	2.52	1.41	PO7	PO8	PO9	PO10	PO11	PO12
C302	1.43	2.05	1.19	1.84	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.71
C303	2.21	2.01	2.81	1.61	PO5	PO6	PO7	PO8	PO9	PO10	PO11	2.01
C304	1.63	1.41	1.38	1.15	PO5	PO6	PO7	PO8	PO9	PO10	2.52	1.21
C305	1.57	1.47	1.29	1.29	0.4	0.4	PO7	PO8	0.64	0.64	PO11	PO12
C306	2.4	3	3	1	PO5	PO6	PO7	PO8	1	PO10	PO11	PO12
C307	3	3	3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C308	2.49	1.82	2.49	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C309	2.42	2.42	2.22	2.22	1.52	PO6	PO7	PO8	PO9	PO10	1.52	2
C310	1.84	1.94	1.74	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.5
C311	1.69	1.88	1.54	1.07	1.07	1.23	PO7	PO8	PO9	PO10	PO11	1.39
C313	PO1	PO2	PO3	PO4	PO5	1.72	2.47	PO8	PO9	PO10	PO11	2.47
C314	2.8	2	2	1.5	2	1	1	PO8	PO9	PO10	PO11	PO12
C315	2.2	2.25	2	2	2	2	2	NB8	2	PO10	2.25	2.2
C316	2.75	2	2.75	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401	1.3	2.04	1.78	PO4	1.04	1.2	PO7	PO8	PO9	PO10	PO11	PO12
C402	1.58	1.75	1.75	0.86	0.52	0.69	PO7	PO8	PO9	PO10	PO11	1.17
C403	2.31	1.84	1.84	PO4	PO5	1.57	2	0.92	1.84	1.17	2.26	PO12
C404	1.49	1.82	1.49	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C405	PO1	PO2	PO3	PO4	PO5	1	1	PO8	1.15	1	1.29	1.15

C406	2	2	3	3	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C407	2	2.33	2	2.67	3	PO6	PO7	PO8	PO9	PO10	PO11	2
C408	1.68	1.68	2.25	2.15	1.34	1.04	0.84	PO8	PO9	PO10	PO11	1.68
C409	3	2.5	2.5	1.5	2	1	1.5	3	2.5	3	1.33	2.67
C205	1.7	1.69	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C312	0.96	1.96	1.56	1.5	1.72	PO6	PO7	PO8	PO9	PO10	1.44	1.62
C116	1.67	1.54	1.47	PO4	PO5	2	2	2	1.87	PO10	PO11	PO12

PO Attainment Indirect

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
STUDENT I	3	3	3	3	3	3	3	3	3	3	3	3
EMPLOYEF	3	3	3	3	3	3	3	3	3	3	3	3
STAFF SUF	3	3	3	3	3	3	3	3	3	3	3	3

PO Attainment Level

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
InDirect Attainment	3	3	3	3	3	3	3	3	3	3	3	3
Direct Attainment	1.96	1.93	1.92	1.67	1.57	1.25	1.58	1.58	1.86	1.51	1.66	1.60

PSO Attainment

Course	PSO1	PSO2	PSO3
C101	PSO1	PSO2	3
C102	PSO1	PSO2	PSO3
C103	PSO1	PSO2	PSO3
C104	1.38	1.38	PSO3
C105	PSO1	PSO2	PSO3
C106	PSO1	PSO2	2.5
C107	PSO1	PSO2	1
C108	0.62	0.62	0.62
C109	2	1.5	2.12
C110	PSO1	PSO2	1.8
C111	1.55	PSO2	1.1
C112	0.55	0.41	0.62
C113	0.91	0.83	PSO3
C114	1.57	0.79	2.36
C115	PSO1	PSO2	0.2
C116	2.81	0.94	PSO3
C117	2	1	PSO3
C118	1.89	1.42	1.99
C201	2.02	2.42	2.42
C202	1.6	PSO2	1.6
C203	1.81	2.71	2.71
C204	1.42	1.42	1.42
C205	PSO1	PSO2	PSO3
C206	PSO1	1.91	PSO3
C207	2.4	3	3
C208	2.33	3	PSO3
C209	PSO1	1.14	1.14
C210	1.48	1.04	1.56
C211	PSO1	2.1	2.1
C212	PSO1	0.87	PSO3
C213	1.21	1.3	1.3
C214	PSO1	PSO2	PSO3
C215	3	3	3
C216	3	3	3
C217	PSO1	3	PSO3
C301	1.75	PSO2	1.17
C302	1.43	2.14	2.14
C303	1.87	2.81	2.81

C304	1.21	1.3	1.82
C305	1.29	1.93	1.29
C306	PSO1	1	3
C307	2.8	PSO2	3
C308	2.49	PSO2	1.82
C309	1.62	2.42	2.42
C310	1.94	1.61	PSO3
C311	PSO1	1.25	1.25
C312	1.7	1.7	1.21
C313	PSO1	PSO2	PSO3
C314	2	2	3
C315	1.8	2	2
C316	2.75	PSO2	2
C401	2.2	1.26	1.46
C402	1.75	1.17	1.54
C403	1.79	2.68	1.79
C404	PSO1	0.74	2.23
C405	PSO1	PSO2	PSO3
C406	PSO1	3	2
C407	2	2	PSO3
C408	3	1.94	2.52
C409	3	PSO2	PSO3

PSO Attainment Indirect

Survey	PSO1	PSO2	PSO3
STUDENT EXIT SURV	3	3	3
EMPLOYER SURVEY	3	3	3
STAFF SURVEY	3	3	3

PSO Attainment Level

Course	PSO1	PSO2	PSO3
Direct Attainment	1.90	1.75	1.93
InDirect Attainment	3	3	3

4 STUDENTS' PERFORMANCE (100)   Total Marks 79.6

Institute Mark

Table 4.1

Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)	2022-23 (CAY)	2021-22 (CAYm1)	2020-21 (CAYm2)	2019-20 (CAYm3)	2018-19 (CAYm4)	2017-18 (CAYm5)	2016-17 (CAYm6)
Sanctioned intake of the program(N)	120	120	120	120	120	60	60
Total number of students admitted in first year minus number of students migrated to other programs/ institutions plus No. of students migrated to this program (N1)	131	120	100	122	69	54	51
Number of students admitted in 2nd year in the same batch via lateral entry (N2)	0	19	25	12	58	17	15
Separate division students, If applicable (N3)	0	0	0	0	0	0	0
Total number of students admitted in the programme(N1 + N2 + N3)	131	139	125	134	127	71	66

Table 4.2

Year of entry	Total No of students admitted in the program (N1 + N2 + N3)	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
2022-23 (CAY)	131				
2021-22 (CAYm1)	139	68			
2020-21 (CAYm2)	125	25	36		
2019-20 (CAYm3)	134	29	34	33	
2018-19 (LYG)	127	38	50	48	48
2017-18 (LYGm1)	71	16	16	13	11
2016-17 (LYGm2)	66	10	10	4	4

Table 4.3

Year of entry	Total No of students admitted in the program (N1 + N2 + N3)	Number of students who have successfully graduated in stipulated period of study) [Total of with Backlog + without Backlog]			
		I year	II year	III year	IV year
2022-23 (CAY)	131				
2021-22 (CAYm1)	139	74			
2020-21 (CAYm2)	125	71	75		
2019-20 (CAYm3)	134	108	113	102	
2018-19 (LYG)	127	62	115	112	106
2017-18 (LYGm1)	71	41	50	47	37
2016-17 (LYGm2)	66	27	36	26	26

4.1 Enrolment Ratio (20)

Total Marks 20.

Institute Marks : 20.

	N (From Table 4.1)	N1 (From Table 4.1)	Enrollment Ratio [(N1/N)*100]
2022-23 (CAY)	120	131	109.17
2021-22 (CAYm1)	120	120	100.00
2020-21 (CAYm2)	120	100	83.33

Average [(ER1 + ER2 + ER3) / 3] : 97.50

Assessment : 20.00

4.2 Success Rate in the stipulated period of the program (20)

Total Marks 5.

4.2.1 Success rate without backlogs in any semester / year of study (15)

Institute Marks : 3.

Item	Latest Year of Graduation, LYG (2018-19)	Latest Year of Graduation minus 1, LYGm1 (2017-18)	Latest Year of Graduation minus 2 LYGm2 (2016-17)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	127.00	71.00	66.00
Y Number of students who have graduated without backlogs in the stipulated period	48.00	11.00	4.00
Success Index [SI = Y / X]	0.38	0.15	0.06

Average SI [(SI1 + SI2 + SI3) / 3] : 0.20

Assessment [15 * Average SI] : 3.00

4.2.2 Sucess rate in stipulated period (5)

Institute Marks : 2.

Item	Latest Year of Graduation, LYG (2018-19)	Latest Year of Graduation minus 1, LYGm1 (2017-18)	Latest Year of Graduation minus 2 LYGm2 (2016-17)
X Number of students admitted in the corresponding First year + admitted in 2nd year via lateral entry and seperated division, if applicable	127.00	71.00	66.00
Y Number of students who have graduated in the stipulated period	106.00	37.00	26.00
Success Index [SI = Y / X]	0.83	0.52	0.39

Average SI[(SI1 + SI2 + SI3) / 3]: 0.58

Assessment [5 * Average SI] : 2.90

Note : If 100% students clear without any backlog then also total marks scored will be 20 as both 4.2.1 & 4.2.2 will be applicable simultaneously.

4.3 Academic Performance in Second Year (10)

Total Marks 6.

Institute Marks : 6.

Academic Performance	CAYm2 (2020-21)	CAYm3 (2019-20)	LYG (2018-19)
Mean of CGPA or mean percentage of all successful students(X)	6.79	6.97	6.75
Total number of successful students (Y)	75.00	113.00	115.00
Total number of students appeared in the examination (Z)	96.00	120.00	120.00
API [X * (Y/Z)]	5.30	6.56	6.47

Average API [(AP1 + AP2 + AP3)/3] : 6.11

Assessment [AverageAPI] : 6.11

4.4 Placement, Higher Studies and Entrepreneurship (30)

Total Marks 27.

Institute Marks : 27.

Item	LYG(2018-19)	LYGm1(2017-18)	LYGm2(2016-17)
Total No of Final Year Students(N)	112.00	47.00	26.00
No of students placed in the companies or goverment sector(X)	88.00	40.00	24.00
No of students admitted to higher studies with valid qualifying scores(GATE or equivalent State or National Level tests, GRE, GMAT etc.) (Y)	4.00	4.00	2.00
No of students turned enterpreneur in engineering/technology (Z)	0.00	0.00	0.00
Placement Index [(X+Y+Z)/N] :	0.82	0.94	1.00

Average Placement [(P1 + P2 + P3)/3] :   0.92

Assessment [30 * Average Placement] :   27.60

Program Name : Electrical and Electronics Engineering
Assessment Year : 2021-22 (CAYm1)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	ADDANKI SAI CHANDANA	18KQ1A0201	TCS	DT20218214211&12-11-2021
2	CHINTHAM VENKATA SRI SAILAJA RAMANI	18KQ1A0202	WIPRO	23258069&26-04-2022
3	GUDE NAVYA	18KQ1A0203	DXC	10-01-2023
4	KINNERA ANUSHA	18KQ1A0205	DXC	12-01-2023
5	KOTU YASASWINI	18KQ1A0206	TCS	DT20218222887 &24-01-2022
6	MACHAVARAM SATWIKA	18KQ1A0207	WIPRO	24107079&22-03-2022
7	MANAM TEJASWINI	18KQ1A0209	WIPRO	24213151&01-04-2022
8	MIDASALA MOUNIKA	18KQ1A0210	WIPRO	24441388&22-04-2022
9	MUTLURI HEMA	18KQ1A0211	HCL	18-11-2022
10	PALLAPOLU KRISHNA SREE	18KQ1A0212	QUALIZEAL	07-11-2022
11	PULI NAGA THRIVENI	18KQ1A0214	HCL	28-10-2022
12	SHAIK NEELIMA	18KQ1A0217	TCS	DT20218215960&26-01-2022
13	SIKAKOLLI SIVA BHAVANA	18KQ1A0218	DXC	26-05-2022
14	DODDI STANLEY ABHISHEK	18KQ1A0228	BRISTLECONE	10-11-2022
15	GOWTHAM PRINCE PILLI	18KQ1A0229	WIPRO	23002411&26-01-2022
16	KASUKURTHI THARUN	18KQ1A0231	WIPRO	24141549&10-06-2022
17	KEERTHIPATI VENKATARAO	18KQ1A0233	WIPRO	24106993&22-03-2022
18	KOCHERLA VENKATA SAI PAVAN KUMAR	18KQ1A0234	VIRTUSA	10-06-2022
19	KONDA VENKATESWARLU	18KQ1A0235	DELLOITE	0FE4736B-3737-44D1-B222-45153AE2E045&27-08-2022
20	MANIKONDA JESWANTH	18KQ1A0239	MINDTREE	80029517&20-02-2022
21	NAKKA VENKATA KARTHIK	18KQ1A0240	WIPRO	23002220&17-01-2022
22	ORSHU NAGA SAI	18KQ1A0241	CAPGEMINI	2201230&26-02-2022
23	PIDATHALA HARI KRISHNA	18KQ1A0242	WIPRO	24141783&25-03-2022
24	PAYYAVALA VENKATA KANISHK	18KQ1A0244	INFOSYS	1003421779&02-02-2022
25	SHAIK ABDUL RASOOL	18KQ1A0248	DXC	26-05-2022
26	VATHALA NAGI REDDY	18KQ1A0251	TCS	DT20218215831&12-11-2021
27	BINKAM NAGA BHUVANA	18KQ1A0260	TCS	DT20218085251&14-11-2021
28	BETHAMSETTY TEJA SRI GREESHMA	18KQ1A0263	MINDTREE	80029959&10-05-2022
29	JADAPALLI SURESH	18KQ1A0264	CAPGEMINI	2201320&12-02-2022
30	THOTTEMPUDI PRASANTH	18KQ1A0266	VIRTUSA	02-06-2022
31	KANNETI BHASKAR	19KQ5A0201	VIRTUSA	10-06-2022
32	KALLURI SREENU	19KQ5A0202	WIPRO	23002224&25-01-2022
33	GARIKAPATI SIVA SANKAR	19KQ5A0206	CAPGEMINI	1942784&28-02-2022
34	RACHA NITHEESHA	19KQ5A0208	RNTBCI	17425&10-10-2022
35	NALAMALPU SRAVANI	19KQ5A0210	TCS	DT20218216186&12-11-2021
36	KANAMARLAPUDI SAMYUKTHA	19KQ5A0212	TCS	DT20218222658&14-11-2021
37	JUTURI LAKSHMITEJASWINI	19KQ5A0214	WIPRO	23282961&21-01-2022
38	VANAPALLI PRATHYUSHA	19KQ5A0217	WIPRO	24143331&26-03-2022
39	YALLALA ALEKHYA	19KQ5A0218	TCS	DT20218223018&28-03-2022
40	KONDURU YASHASVINI	19KQ5A0220	TCS	DT20218215119&24-01-2022
41	MURAMALA SRINIVAS	19KQ5A0225	WIPRO	23003966&24-01-2022
42	RMANATHAM NAGASAI	19KQ5A0228	HCL	22-09-2022
43	MUDDA MANOJ KUMAR	19KQ5A0229	TCS	DT20218215793&12-11-2021
44	BALLA JAYALAKSHMI	19KQ5A0231	WIPRO	22993189&22-01-2022
45	KUMMARI GOPI KRISHNA	19KQ5A0238	MINDTREE	80030474&22-04-2022
46	TANGUTURI VENKATA SOMANADH SAI	19KQ5A0244	WIPRO	24141219&26-03-2022
47	GANDLA LAKSHMI JAHNAVI	19KQ5A0248	INFOSYS	1003425325&22-06-2022
48	CHANDA GOWTHAM SAI	19KQ5A0256	CAPGEMINI	1947248&13-02-2022
49	KAMIREDDY SRAVANI	18KQ1A0204	TCS	DT20218215836&16-11-2021
50	MALLAVARAPU KAVITHA	18KQ1A0208	TCS	DT20218085257&14-11-2021
51	PARUCHURI AMBIKA	18KQ1A0213	INFOSYS	1003421879&03-02-2022
52	SHAIK HASEENA BEGUM	18KQ1A0215	INFOSYS	1003421979&23-06-2022
53	SHAIK MANISHA	18KQ1A0216	WIPRO	23258067&28-04-2022
54	SINGAMSETTY PRASANNA LAKSHMI	18KQ1A0219	WIPRO	24107179&25-01-2022
55	VANAPARTHI ISHWARYA	18KQ1A0222	WIPRO	22998416&03-04-2022
56	VANKAYALAPATI SAHAJALIDEY	18KQ1A0223	WIPRO	24106998&25-04-2022
57	ALATURTHI VENKATA SAI	18KQ1A0224	GRIDX	23-08-2022
58	KATTA VASANTH KUMAR	18KQ1A0232	DXC	23-11-2022

59	KUMMARI SAI BRAHMAM	18KQ1A0237	HCL	02-06-2022
60	MADDIREDDY VAMSI KRISHNA REDDY	18KQ1A0238	TCS	DT20218215836&10-05-2022
61	PURAM LOHITH KUMAR	18KQ1A0246	TCS	DT20218085383&22-04-2022
62	RAYAPATI VEDAKUMAR	18KQ1A0247	HYOSEONG ELECTRIC INDIA	03-08-2021
63	SHAIK JANI BASHA	18KQ1A0249	INFOSYS	1003421679&23-06-2022
64	TANIKONDA PRASANTH	18KQ1A0253	WIPRO	23002230&27-01-2022
65	KORRAPATI MANI CHANDU	18KQ1A0256	WIPRO	23002234&08-06-2022
66	KUNCHALA RUCHITHA	18KQ1A0261	HCL	20-03-2022
67	UMMADISETTY ASWITHA	18KQ1A0262	HCL	19-01-2022
68	PUTTA EDUKONDALU	18KQ1A0268	GRIDX	20-08-2022
69	UBBARAPU SABARINADH	19KQ5A0207	DXC	28-05-2022
70	PALLA SIVA LAVANYA	19KQ5A0211	HCL	11-05-2022
71	TOKA SANDHYA RANI	19KQ5A0213	TCS	DT20218215931&18-11-2021
72	SATHIKALA UMA MAHESWARI	19KQ5A0215	TCS	DT20218085283&14-11-2021
73	NEKKANTI SAIKIRAN	19KQ5A0216	HYOSEONG ELECTRIC INDIA	03-08-2021
74	GADDAM NAGA SARANYA	19KQ5A0219	INFOSYS	1003421659&24-06-2022
75	BOLLEDDU MOHAN KUMAR	19KQ5A0222	DXC	22-03-2022
76	PATHAKOTA VINAY KUMAR	19KQ5A0224	DXC	19-01-2022
77	YEDDULA YAMANI	19KQ5A0230	WIPRO	24141291&26-03-2022
78	RAVURI BHUVANESH	19KQ5A0232	GRIDX	20-08-2022
79	BATHULA DINESH KUMAR	19KQ5A0236	DXC	28-04-2022
80	NIDAMANURI HANUMANTHA RAO	19KQ5A0240	HCL	23-04-2022
81	GANJELLA KURUVA MAHESH	19KQ5A0241	TCS	DT20218215864 &19-11-2021
82	PALLEBOYINA VENKATESH	19KQ5A0242	TCS	DT20218085262& 10-11-2021
83	DARLA NAGENDRA BABU	19KQ5A0243	HYOSEONG ELECTRIC INDIA	03-08-2021
84	JUTURI ANUSHA	19KQ5A0247	HYOSEONG ELECTRIC INDIA	03-08-2021
85	MACHARLA DILEEP KUMAR	19KQ5A0249	HCL	24-01-2022
86	PUNUGOTI NAGA CHANDU	19KQ5A0251	HCL	20-01-2022
87	BADDIPUDI SHALEM	19KQ5A0253	HCL	23-03-2022
88	KOTA NARENDRA	19KQ5A0254	GRIDX	20-08-2022

Assessment Year : 2020-21 (CAYm2)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	ALAKUNTA YAMUNA	17KQ1A0201	WIPRO	24144881&26-03-2022
2	ARUMULLA SRILATHA	17KQ1A0203	RIGHTWORKZ	19-12-2022
3	ATTULURI LAVANYA	17KQ1A0204	WIPRO	24144818&02-02-2022
4	BOGGAVARAPU DIVYA	17KQ1A0205	TCS	DT20219199159&18-12-2021
5	BYNEEDI VENKATA APUROOPA	17KQ1A0206	TECHGENE SOLUTIONS	07-04-2022
6	GUNTURI PAVITHRA	17KQ1A0207	DXC	24-10-2021
7	KOMMURI VYUHITHA	17KQ1A0209	WIPRO	23272083&06-03-2022
8	KONURI VASUDHA BHARGAVI	17KQ1A0210	TCS	DT20219199510&20-12-2021
9	KUMMITHA SRAVANI	17KQ1A0211	MPHASIS	01-02-2022
10	MALLADI GEETHANJALI	17KQ1A0212	TCS	DT20222109144&04-04-2021
11	MATTIGUNTA RAMYA KRISHNA	17KQ1A0214	HCL	26-03-2022
12	NARISETTY HARINI	17KQ1A0215	WIPRO	24144186&06-01-2022
13	NARRAVULA LAKSHMI MANASA PRIYANKA	17KQ1A0216	TCS	DT20219158507&16-12-2021
14	PATTON RUKSANA	17KQ1A0218	DXC	24-09-2021
15	PODILI VENKATA SIVA KANAKA MARUTHI	17KQ1A0219	DXC	02-12-2021
16	POTHURAJU VINEETHA	17KQ1A0220	INFOSYS	1002022666&13-08-2021
17	SHAIK REENA TAJ	17KQ1A0224	INFOSYS	1002434132&18-09-2021
18	ALURI SARATH	17KQ1A0227	HCL	24-03-2022
19	BURSU MALAKONDA RAYUDU	17KQ1A0230	TCS	DT20219199510&17-12-2021
20	CHIMALADINNE LOKESH	17KQ1A0232	WIPRO	22720386&02-03-2022
21	DASARI PRADEEP	17KQ1A0233	HCL	26-02-2022
22	M MAHENDRA	17KQ1A0240	INFOSYS	1002428625&15-03-2022
23	MUTHYALA BRAHMAIAH	17KQ1A0241	INFOSYS	1003289555&04-03-2022
24	PALLE ANAND	17KQ1A0244	HCL	26-03-2022
25	PATHAKOTA MURALI KRISHNA	17KQ1A0246	DXC	04-11-2021
26	PIKKILI V M CHAKRADHAR	17KQ1A0248	DXC	02-09-2021
27	UPPUTURI NAGA CHANDU	17KQ1A0251	HCL	21-03-2022
28	VALLEPU MADHU	17KQ1A0252	DXC	20-09-2021
29	SK SANDHANI	17KQ1A0254	WIPRO	22720839&15-02-2022
30	SOLASA VENKATA SRIKANTH	18KQ5A0201	WIPRO	24144389&26-01-2022
31	KONNE VENU	18KQ5A0202	DXC	24-09-2021
32	JEMUDUGANI PRAVEEN	18KQ5A0203	HCL	20-01-2022
33	PANTHAGANI DIVYA	18KQ5A0204	TCS	DT20219199145&20-11-2021
34	VANAPARTHI SRAVANI	18KQ5A0205	WIPRO	22720639&26-02-2022
35	LAKKA GOPI CHANDU	18KQ5A0206	DXC	28-09-2021
36	KONGALA PRAVEEN KUMAR	18KQ5A0207	WIPRO	24144168&22-03-2022
37	DHAMMALAPATI ANJANACHARI	18KQ5A0208	DXC	22-12-2021
38	VEMULA HARI BABU	18KQ5A0209	TCS	DT20219158705&14-01-2022
39	BUSSAREDDY ANIL	18KQ5A0211	HCL	02-01-2022
40	BANDI SRI KRISHNA	18KQ5A0213	WIPRO	22720336&22-02-2022

Assessment Year : 2019-20 (CAYm3)

S.No	Student Name	Enrollment No	Employee Name	Appointment No
1	BADDEPUDI ELIZABETH RANI	16KQ1A0201	SYRMA	29-08-2019
2	BANDARU VIJAYALAKSHMI	16KQ1A0202	SYRMA	29-08-2019
3	BATTULA KEERTHI SAI	16KQ1A0203	MINDTREE	80012109 & 30-10-2019
4	DASARI SRAVYA	16KQ1A0206	GLOBAL EDGE	17-05-2020
5	GAVINI MALLIKA	16KQ1A0207	TCS	DT20195380679 & 16-08-2020
6	GOGINENI RAJYA LAKSHMI	16KQ1A0208	CGI	20-10-2020
7	MANDHADI SOWNDARYA	16KQ1A0211	HCL	29-08-2020
8	MEDA KEERTHANA	16KQ1A0212	INFOSYS	1000543568& 16-11-2020
9	NATTA AMRUTHA	16KQ1A0213	WIPRO	9403432& 21-06-2020
10	NUGULA SOWJANYA LAKSHMI	16KQ1A0214	TCS	DT20195380579 & 13-04-2020
11	PENDYALA BHARGAVI	16KQ1A0216	SYRMA	29-08-2019
12	PENIGANDALA NAGADEEPTHI	16KQ1A0217	SYRMA	29-08-2019
13	SEELAM DIVYA	16KQ1A0219	SYRMA	29-08-2019
14	SETTY RAJASREE	16KQ1A0221	SYRMA	29-08-2019
15	SHAIK RESHMA	16KQ1A0222	SYRMA	29-08-2019
16	SIDDARAPU NAGALAKSHMI	16KQ1A0223	SYRMA	29-08-2019
17	SURE CHANDANA	16KQ1A0224	COGNIZANT	16112394 &22-04-2021
18	UPPUTURI KALYANI	16KQ1A0226	HYOSEONG ELECTRIC INDIA	29-02-2020
19	VAKA SWATHI	16KQ1A0227	TCS	DT20195380578 & 13-04-2020
20	VEMPARALA VENKATA LAKSHMI SRAVANI	16KQ1A0228	HYOSEONG ELECTRIC INDIA	29-02-2020
21	YALLAMRAJU SIVA KEERTHI	16KQ1A0229	SYRMA	29-08-2019
22	YALLANTI ANUSHA	16KQ1A0230	SYRMA	29-08-2019
23	DEVARAKONDA ANIL KUMAR	16KQ1A0236	INFOSYS	1000543572 & 16-11-2020
24	DHANYASI MANOJ	16KQ1A0237	WORKSBOT APPLICATIONS	20-07-2019
25	KODURI MALAKONDAREDDY	16KQ1A0240	WORKSBOT APPLICATIONS	20-07-2019
26	MADDIREDDY SRINIVASULAREDDY	16KQ1A0241	WORKSBOT APPLICATIONS	20-07-2019
27	NIDAMANURI VENKATASAI	16KQ1A0244	VEDHIK TECHNOLOGIES	03-01-2021
28	YADLAPALLI SAMYELU	16KQ1A0249	HCL	08-07-2020
29	YENDLUEI SUNIL KUMAR	16KQ1A0251	DXC	12-09-2020
30	KOVILAMPATI MANJULA	17KQ5A0202	SYRMA	29-08-2019
31	ALUGUPALLI SIVAKRISHNA	17KQ5A0203	WORKSBOT APPLICATIONS	20-07-2019
32	BOJJA CHINNA ANJANEYULU	17KQ5A0204	DXC	14-09-2020
33	CHITTIBOTALA GANGADHAR	17KQ5A0205	TCS	DT20195380598 & 12-01-2021
34	GALAM DURGA PRASAD	17KQ5A0207	WORKSBOT APPLICATIONS	20-07-2019
35	GRANDHI SOMASEKHAR	17KQ5A0208	WORKSBOT APPLICATIONS	20-07-2019
36	KAKI RAJ KUMAR	17KQ5A0209	HCL	24-10-2020
37	KANDIPATI SUKUMAR	17KQ5A0210	HCL	15-08-2020
38	PAIDAKULA SUMANTH	17KQ5A0212	WORKSBOT APPLICATIONS	20-07-2019
39	THIMMASAMUDRAM SAI CHANDU	17KQ5A0213	ACCENTURE	18-03-2021
40	VARIKUNTLA ASHOK	17KQ5A0214	WORKSBOT APPLICATIONS	20-07-2019
41	KAMMA VIJAYALAKSHMI	17KQ5A0215	HCL	28-09-2020

4.5 Professional Activities (20)   Total Marks 20.

4.5.1 Professional societies/chapters and organizing engineering events (5)

Institute Marks : 5.

4.5.1 Professional societies/chapters and organizing engineering events (5)

Institute Marks : 5.

Institution Engineers of India (IEI)

The Institution Engineers of India (IEI) is the largest professional body of engineers established in 1920 with its headquarters located in Kolkata. The Department of EEE opened an IEI Student chapter for II-year students in the year 2019. Total of 53 students registered for this IEI student chapter. The Department of EEE conducted various programs under this student chapter.

Indian Society for Technical Education (ISTE)

The Indian Society for Technical Education is a national, professional, non-profit Society registered under the Indian Societies Registration Act of 1860. The ISTE Student Chapter of the EEE Department regularly conducts various events for the benefit of student members. It arranges technical talks by prominent speakers in different fields of engineering & technology.

Academic Year	Student Chapter	Total number of Events#
2022-23 (Till Feb-2023)	ISTE	6
2021-22	ISTE	3
	IE(I)	6
2020-21	IE(I)	5

\#   In addition to this national-level and institute-level events department regularly conducts aptitude tests, guest lectures, industrial tours, paper presentations, and poster presentations like events at the department level.

Academic Year: 2022-23

S. No	Date	Name of the event	Student Chapter	Number of participants
1	27-07-2022	A webinar on "MATLAB applications"	ISTE	94
2	28-09-2022	A one-day national-level webinar on "Renewable energy sources"	ISTE	115
3	20-10-2022	A one-day national-level webinar on "what core industry expects"	ISTE	87
4	14-12-2022	A one-day national-level webinar on "smart grid"	ISTE	112
5	08-02-2023	A one-day national-level webinar on "solar panels"	ISTE	68
6	14-03-2023	Awareness program on Abroad studies	ISTE	106

Academic Year: 2021-22

S. No	Date	Name of the event	Student Chapter	Number of participants
1	04-06-2021	Paper Presentation	IE(I)	53
2	19-06-2021	A One Day National level webinar on 'Electric vehicles	IE(I)	640
3	03-07-2021	A One Day National level webinar on 'Entrepreneurial and employability skills for engineers	IE(I)	53
4	26-10-2021 to 30-10-2021	A Five-Day national level online technical test	IE(I)	348
5	10-02-2022	Aptitude Test	IE(I)	60
6	14-03-2022	A One Day National level webinar on "Abroad Studies"	IE(I)	40
7	28-01-2022	Modern Techniques in Smart power systems	ISTE	80
8	09-03-2022	Technical Quiz	ISTE	78
9	08-04-2022	A one-day national webinar on "Electric Vehicles"	ISTE	115

Academic Year: 2020-21

S. No	Date	Name of the event	Student Chapter	Number of participants
1	20-11-2020	Technical Quiz	IE(I)	49
2	14-12-2021	Awareness program on GATE	IE(I)	50
3	29-12-2020	Aptitude Test	IE(I)	53

4	06-02-2021	A One Day National level webinar on 'Grid Technology for Renewable Power Integration	IE(I)	144
5	15-05-2021	Online Technical Test	IE(I)	51

4.4.2 Publication of technical magazines, newsletters, etc. (5)   Institute Marks : 5.

The Department of Electrical and Electronics Engineering publishes a magazine regularly once every Academic Year. This magazine covers a wide range of topics like department, student, and faculty participation & achievements, major events conducted by the department, list of academic toppers to motivate the students. It is also useful to spread the department vision, mission, PEOs, and PSOs to the stakeholders.

In addition to this the dept. of EEE publishes a newsletter at regular intervals to keep the stakeholders up to date about the department's activities.

The students of the department play a key role in publishing the technical magazine starting from gathering the data to publishing it.

S. No	Name of the Magazine	Academic Year	Name of the editors
1	MAGNET -2K22	2021-22	• Mr. K V Narayana (Asst. Prof.) • Mr. K Sowjan Kumar (Asst. Prof.) • P. Naga Varshini (III B.Tech. Student) • Ch. Usha (III B.Tech. Student) • J. Sravani (II B.Tech. Student) • B. Vishnu Vardhan Reddy (II B.Tech. Student)
2	MAGNET -2K21	2020-21	• Mr. B. Nagaraju (Asst. Prof.) • Mr. B. Vijaychandra (Asst. Prof.) • L. Vasavi (III B.Tech. Student) • Sd. Parvez (III B.Tech. Student) • S. Maneesha (II B.Tech. Student) • Ch. Om kiran Reddy (II B.Tech. Student)
3	MAGNET -2K20	2019-20	• Mr. D. Prasad (Asst. Prof.) • Mr. K Venkateswarlu, (Asst. Prof.) • A.Sarath (III B.Tech. Student) • P.Vineetha (III B.Tech. Student) • K.Gopikrishna (II B.Tech. Student) • T.Sandhy (II B.Tech. Student)

4.4.3 Participation in inter-institute events by students of the program of study (10)   Institute Marks : 10.

The department of EEE PACE IT&S (Autonomous) Ongole Andhra Pradesh has encourages students to participate various co-curricular and extra curricular activities.The following are the list of activities participated by students.

STUDENT PARTICIPATION:

S NO	ACADEMIC YEAR	TOTAL NO OF PARTICIPATION CERTIFICATES	NO OF PARTICIPATION CERTIFICATES FROM WITH IN THE STATE	NO OF PARTICIPATION CERTIFICATES FROM OTHER STATE
1	2022-23	180	167	13
2	2021-22	204	182	22
3	2020-21	190	175	15
4	2019-20	104	93	11

STUDENT ACHIEVEMENT:

S NO	ACADEMIC YEAR	TOTAL NO OF ACHIEVEMENT CERTIFICATES	NO OF ACHIEVEMENT CERTIFICATES FROM WITH IN THE STATE	NO OF ACHIEVEMENT CERTIFICATES FROM OTHER STATE
1	2022-23	30	28	2
2	2021-22	28	24	4
3	2020-21	18	16	2
4	2019-20	22	20	2

5 FACULTY INFORMATION AND CONTRIBUTIONS (200)

Total Marks 182.8

Sr. No	Name	PAN No.	University Degree	Date of Receiving Degree	Area of Specialization	Research Paper Publications	Ph.D Guidance	Faculty receiving Ph.D during the assessment year	Current Designation	Date (Designated as Prof / Assoc. Prof.)	Initial Date of Joining	Association Type	At present working with the Instituti (Yes / N
1	DR.K.VENKATESWARLU	AKWPK9698Q	ME/M. Tech and PhD	31/08/2015	Power systems	16	0	0	Professor		02/03/2020	Regular	Yes
2	DR.RAJASELVAN.C	AFKPR9227B	ME/M. Tech and PhD	16/06/2015	Power systems	02	0	0	Professor	08/06/2018	04/12/2017	Regular	Yes
3	DR.JEYAKUMAR.K	ARGPJ4288G	ME/M. Tech and PhD	03/01/2011	Power Electronics and Drives	03	0	0	Professor		02/03/2020	Regular	Yes
4	DR.Y.PRAKSH	ABFPY2684L	ME/M. Tech and PhD	05/09/2016	Power systems	03	0	0	Professor	04/02/2019	16/06/2016	Regular	Yes
5	DR.C.RAJALINGAM	AJDPR0149R	ME/M. Tech and PhD	20/03/2017	Power Electronics Drives	03	0	0	Associate Professor	02/06/2018	02/06/2018	Regular	Yes
6	DR.R.SHANKAR	BLCPS2142H	ME/M. Tech and PhD	12/07/2017	Power Electronics Drives	03	0	0	Associate Professor	04/12/2017	04/12/2017	Regular	Yes
7	DR.K.PRAKASAM	AOYPP4273J	ME/M. Tech and PhD	12/05/2017	Power Electronics and Drives	03	0	0	Associate Professor		02/03/2020	Regular	Yes
8	DR.M.LAXMANA RAO	AEPPL3953E	ME/M. Tech and PhD	24/03/2017	Power Electronics Drives	2	0	0	Associate Professor		02/03/2020	Regular	Yes
9	D. PRASAD	AXYPD0848A	M.E/M.Tech	30/03/2009	Power Electronics	16	0	0	Assistant Professor		24/08/2009	Regular	Yes
10	K VENKATESWARLU	BAKPK7510G	M.E/M.Tech	30/11/2012	Power System Control and automation	10	0	0	Assistant Professor		17/12/2012	Regular	Yes
11	K.V. NARAYANA	BTMPK6997E	M.E/M.Tech	30/12/2009	High Voltage Engineering	08	0	0	Assistant Professor		10/06/2010	Regular	Yes
12	S. KAVITHA	CYYPS7032J	M.E/M.Tech	12/01/2015	Power Electronics Drives	05	0	0	Assistant Professor		07/12/2015	Regular	Yes
13	B.SURESH KUMAR	BFXPB3561G	M.E/M.Tech	12/03/2014	Power Electronics	06	0	0	Assistant Professor		02/06/2014	Regular	Yes
14	B.VIJAYA CHANDRA	AQBPB4249H	M.E/M.Tech	19/04/2013	Power Electronics	05	0	0	Assistant Professor		02/06/2014	Regular	Yes
15	K.NARESH	BQRPK6995A	M.E/M.Tech	31/12/2014	Power Electronics	06	0	0	Assistant Professor		26/12/2016	Regular	Yes
16	A.SRAVANI	ATSPA8238K	M.E/M.Tech	17/12/2013	Power Electronics	04	0	0	Assistant Professor		29/06/2015	Regular	Yes
17	JEEVANA KOTTE	CTNPK9399E	M.E/M.Tech	15/12/2017	Power Systems	02	0	0	Assistant Professor		01/08/2020	Regular	Yes
18	KOTTE SOWJAN KUMAR	CMOPK6563Q	M.E/M.Tech	17/06/2010	Power Systems	15	0	0	Assistant Professor		01/09/2020	Regular	Yes
19	B.NAGARAJU	AEUPN6044H	M.E/M.Tech	21/03/2009	Power systems	12	0	0	Assistant Professor		28/09/2020	Regular	Yes
20	N. RAGHUNADH	BJPPN6943J	M.E/M.Tech	29/11/2019	Power Systems and Automation	10	0	0	Assistant Professor		28/09/2020	Regular	Yes
21	V GOPINADH	ABFPU0525H	M.E/M.Tech	18/10/2012	Power Electronics and Electrical Drives	02	0	0	Assistant Professor		01/12/2020	Regular	Yes
22	K. Hari	ACQPH7649G	M.E/M.Tech	20/11/2017	Power Electronics	02	0	0	Assistant Professor		01/09/2020	Regular	Yes
23	K VENKATA SIVAREDDY	BHNPK2491L	M.E/M.Tech	22/02/2013	Electrical Power Systems	06	0	0	Assistant Professor		01/06/2021	Regular	Yes
24	P MASTHANAMMA	AIEPL9489N	M.E/M.Tech	12/12/2013	Power Electronics	01	0	0	Assistant Professor		01/07/2022	Regular	Yes
25	M MALLIKARJUN	DZZPM7176N	M.E/M.Tech	24/11/2016	Electrical Power Systems	01	0	0	Assistant Professor		01/07/2022	Regular	Yes
26	U KALYANI	AEQPU2949Q	M.E/M.Tech	30/03/2021	Power Electronics and industrial Drives	01	0	0	Assistant Professor		09/02/2022	Regular	Yes
27	K GRACE MARY	DZJPK8007C	M.E/M.Tech	30/11/2016	Power System Engineering	01	0	0	Assistant Professor		09/02/2022	Regular	Yes
28	B VENKATESH	BKTPB0210R	M.E/M.Tech	13/05/2013	Power Systems	06	0	0	Assistant Professor		04/08/2022	Regular	Yes

29	DR.G.V.K.MURTHY	APXPG6609P	ME/M. Tech and PhD	19/12/2014	Power systems	42	0	0	Professor		09/11/2018	Regular	Yes
30	S. Renuka	LXTPS1390A	M.E/M.Tech	22/02/2013	Power Electronics	02	0	0	Assistant Professor		02/03/2020	Regular	No
31	D.Laxma reddy	BSGPD0075B	M.E/M.Tech	26/11/2016	Power Systems	02	0	0	Assistant Professor		02/03/2020	Regular	No
32	K.Venkata ramana	CJAPR4204C	M.E/M.Tech	13/05/2013	Power systems	02	0	0	Assistant Professor		02/03/2020	Regular	No
33	T Aruna kumari	AZRPT7316G	M.E/M.Tech	20/03/2012	Power System engineering	02	0	0	Assistant Professor		16/03/2020	Regular	Yes
34	R GOPINAIK	CAQPR1030K	M.E/M.Tech	18/06/2013	Power Electronics & Electrical Drives	02	0	0	Assistant Professor		16/03/2020	Regular	Yes

5.1 Student-Faculty Ratio (SFR) (20)   Total Marks 20.

Institute Marks :

UG

No. of UG Programs in the Department 1

ELECTRICAL AND ELECTRONICS ENGINEERING								
Year of Study	**CAY**		**CAYm1**		**CAYm2**			
	(2022-23)		**(2021-22)**		**(2020-21)**			
	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students	Sanction Intake	Actual admitted through lateral entry students		
2nd Year	120	7	120	0	120	6		
3rd Year	120	0	120	6	120	7		
4th Year	120	6	120	7	60	11		
Sub-Total	**360**	**13**	**360**	**13**	**300**	**24**		
Total	**373**		**373**		**324**			
Grand Total	373		373		324			

PG

No. of PG Programs in the Department 0

Grand Total			

SFR

No. of UG Programs in the Department 1

No. of PG Programs in the Department 0

Description	CAY(2022-23)		CAYm1 (2021-22)		CAYm2 (2020-21)	
Total No. of Students in the Department(S)	373	**Sum total of all (UG+PG) students**	373	**Sum total of all (UG+PG) students**	324	**Sum total of all (UG+PG) students**
No. of Faculty in the Department(F)	31	**F1**	29	**F2**	28	**F3**
Student Faculty Ratio(SFR)	12.03	**SFR1=S1/F1**	11.57	**SFR2=S2/F2**	12.86	**SFR3=S3/F3**
Average SFR	12.15	**SFR=(SFR1+SFR2+SFR3)/3**				
F=Total Number of Faculty Members in the Department (excluding first year faculty)						

Note: All the faculty whether regular or contractual (except Part-Time), will be considered. 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 Faculty Student Ratio. However, following will be ensured in case of contractual faculty:

1. Shall have the AICTE prescribed qualifications and experience.

2. Shall be appointed on full time basis and worked for consecutive two semesters during the particular academic year under consideration.

3. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during NBA visit

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(2022-23)	31	0
CAYm1(2021-22)	29	0
CAYm2(2020-21)	28	0

Average SFR for three assessment years :   12.15

Assessment SFR :   20

5.2 Faculty Cadre Proportion (20)   Total Marks 20.

Institute Marks : 20.

Year	Professors		Associate Professors		Assistant Professors	
	Required F1	Available	Required F2	Available	Required F3	Available
CAY(2022-23)	2.00	5.00	4.00	4.00	12.00	22.00
CAYm1(2021-22)	2.00	5.00	4.00	4.00	12.00	20.00
CAYm2(2020-21)	1.00	5.00	3.00	4.00	10.00	19.00
Average Numbers	1.67	5.00	3.67	4.00	11.33	20.33

Cadre Ratio Marks [(AF1 / RF1) + [(AF2 / RF2) * 0.6] + [(AF3 / RF3) * 0.4]] * 10 :   20.00

5.3 Faculty Qualification (20)   Total Marks 19.

Institute Marks : 19.

	X	Y	F	FQ = 2 x [(10X + 4Y) / F)]
2022-23(CAY)	9	22	18.00	19.78
2021-22(CAYm1)	9	20	18.00	18.89
2020-21(CAYm2)	9	19	16.00	20.75

Average Assessment :   19.81

5.4 Faculty Retention (10)   Total Marks 8.

Institute Marks : 8.

Description	2021-22 (CAYm1)	2022-23 (CAY)
No of Faculty Retained	25	25
Total No of Faculty	28	28
% of Faculty Retained	89	89

Average :   89.00

Assessment Marks :   8.00

5.5 Faculty competencies in correlation to Program Specific Criteria (10)   Total Marks 10.

Institute Marks : 10.

e - NBA

5.5.1. Faculty competencies in correlation to Program Specific Criteria (10)

A) Specialization:

The program specific criteria for B. Tech (ELECTRICAL AND ELECTRONICS ENGINEERING) Program at PACE Institute of Technology& Sciences are designed as per the guidelines specified by CSI. The curriculum includes wide variety of courses that involves the following Design, Programming, and Research. Faculties are specialized in different streams of domains, as it includes designing the course survey effectively.

Table 5.8 : Faculty Specialization

Sl. No.	Faculty Name	Specialization	Research Specialization
1	Dr.K.Venkateswarlu	PS	Power Systems
2	Dr.Rajaselvan.C	PSE	Power Systems
3	Dr.G.V.K.Murthy	PS	Renewable Energy Sources
4	Dr.Jeyakumar.K	PE&D	Power System Quality
5	Dr.Y.Praksh	PE&D	Power System Quality
6	Dr.C.Rajalingam	PS	Renewable Energy Sources
7	Dr.R.Shankar	PE&D	Smart Grids& Micro Grid
8	Dr.K.Prakasam	PE&D	Control Systems
9	Dr.M.Laxmana rao	PE&D	Energy Conservations
10	Mr. D. Prasad	PE	Facts & Power Electronics Controller
11	Mr. K Venkateswarlu	PID	Industrial Drives
12	Mr. K.V. Narayana	HVE	Control Systems
13	Mrs. S. Kavitha	PED	Industrial Drives
14	Mr. B.Suresh Kumar	PE	Facts & Power Electronics Controller
15	Mr. B.Vijaya Chandra	PE	Facts & Power Electronics Controller
16	Mr. K.Naresh	PS	Advanced Machines And Controller
17	Mrs. A.Sravani	PE	Facts & Power Electronics Controller
18	Mrs. T.Aruna kumari	PSE	Power Systems
19	Mrs. Jeevana Kotte	PS	Facts & Power Electronics Controller
20	Mr. Kotte Sowjan Kumar	PS	Smart Grids& Micro Grid
21	Mr. B.Nagaraju	PS	Advanced Machines And Controller
22	Mr. N. Raghunadh	PS&A	Energy Conservations
23	Mr. R Gopinaik	PE&ED	Facts & Power Electronics Controller
24	Mr. V Gopinadh	PE&ED	Power Systems
25	Mr. S Bhanusiva Viswanath	PE	Advanced Machines And Controller
26	Mr. K Venkata Sivareddy	EPS	Smart Grids& Micro Grid
27	Mrs. P Masthanamma	PE	Advanced Machines And Controller
28	Mr. M Mallikarjun	EPS	Electrical Market Trading
29	Miss. U Kalyani	PID	Electrical Market Trading
30	Miss. K Grace Mary	PSE	Smart Grids& Micro Grid
31	Mr. B Venkatesh	PS	Smart Grids& Micro Grid

A) Research Publications:

Faculties interested in specific domains of research for publishing their ideas.

Table: Research Interest

Sl. No.	Research Domain	Faculty Names	No. Papers Published
1	Power Systems	1. Dr Y.Prakash 2. Dr.K.Venkateswarlu 3. Mrs. T.Aruna kumari 4. Mr. V Gopinadh	05
2	Renewable Energy Sources	1. Dr C.Rajaselvan 2. Dr C.Rajalingam	20
3	Power System Quality	1. Dr .Jeya kumar 2. Dr G.V.K.Murthy	10
4	Smart grids& micro grid	1. Dr R.Shankar 2. Mr. Kotte Sowjan Kumar 3. Miss. K Grace Mary 4. Mr. B Venkatesh 5. Mr. K Venkata Sivareddy	15
5	Control systems	1. Mr. K.V. Narayana 2. Dr. K.Prakasam	3
6	Energy conservations	1. Mr. N. Raghunadh 2. Dr. M Lakshmana Rao	8
7	Electrical market trading	1. Mr. M Mallikarjuna 2. Miss. U. Kalyani	2

8	Facts & power electronics controller	1. Mr. D. Prasad 2. Mr. B.Vijaya Chandra 3. Mr. B Suresh Kumar 4. Mrs. A.Sravani 5. Mrs. Jeevana Kotte 6. Mr. R Gopinaik 7. Mr. K. Naresh	8
9	Advanced machines and controller	1. Mr. B.Nagaraju 2. Mrs. P Masthanamma 3. Mr. S Bhanusiva Viswanath	5
10	Industrial drives	1. Mr. K Venkateswarlu 2. Mrs. S Kavitha	5

Faculty Correlated with various categories of Fundamentals of Computing, Analysis, Design, Programming, and Research:
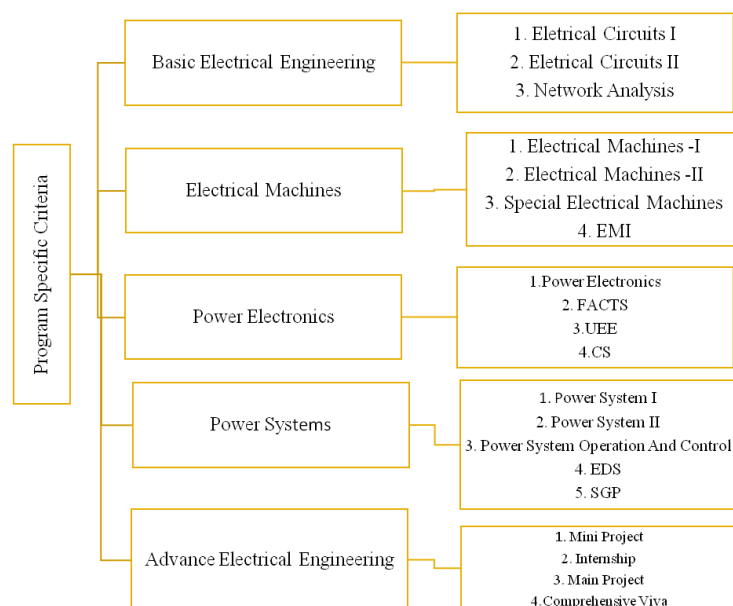
Fig 5.1: Specific Criterion Related Subject's
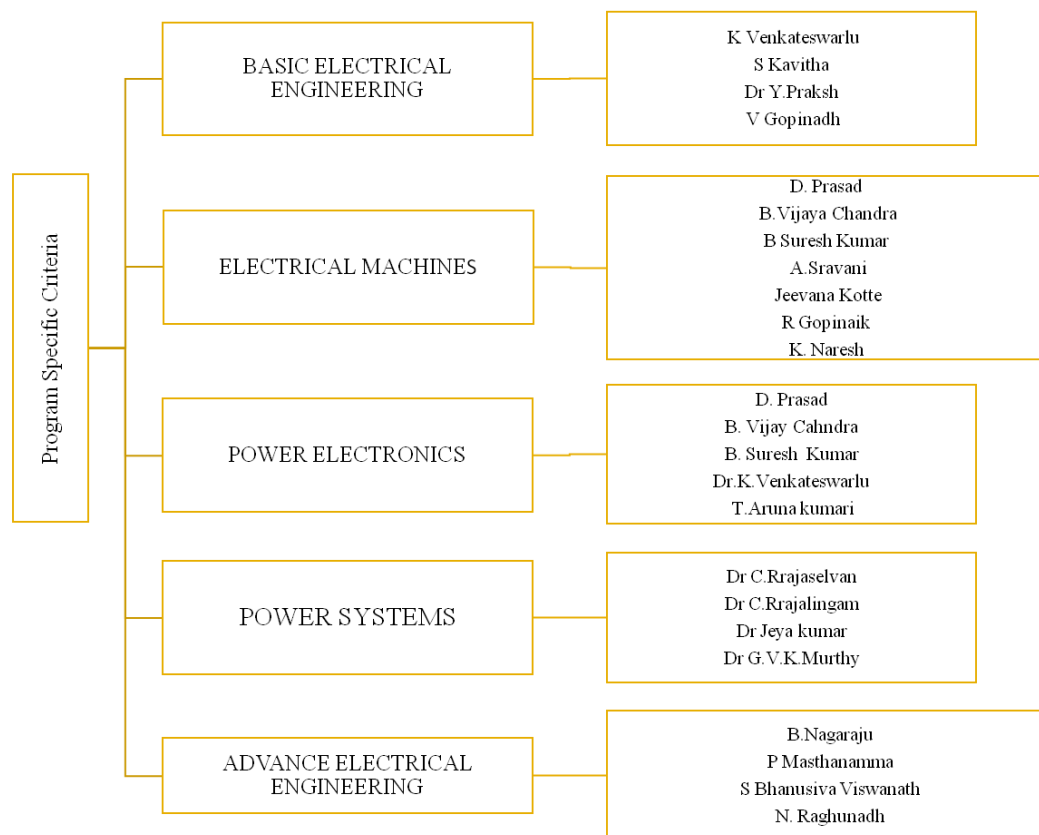
Fig.5.2: Faculty Correlated with Specific criterion

C) COURSE DEVELOPMENT R18

Sl. NO.	Sub Code	Sub Name	Year/Sem	Faculty Name 1	Faculty Name 2
1	P18EST04	Basic Electrical and Electronics Engineering	I-II	Mr. B Venkatesh	Mrs. S. Kavitha
2	P18EET01	Electrical Circuit Analysis	II-I	Mr. K.V. Narayana	Mr. M Mallikarjuna
3	P18EET02	Electromagnetic Fields	II-I	Mr. B.Vijaya Chandra	Miss. K Grace Mary
4	P18EET03	Electrical Machines - I	II-I	Dr.K.Venkateswarlu	Mrs. S. Kavitha
5	P18EET04	Electrical Machines - II	II-II	Mr. B.Nagaraju	Mr. R Gopinaik
6	P18EET05	Control Systems	II-II	Mr. K.V. Narayana	Mr. B.Vijaya Chandra
7	P18EET06	Power Systems -I	II-II	Dr.Rajaselvan.C	Mrs. A.Sravani
8	P18EET07	Electrical Measurements and Instrumentation	III-I	Mr. Kotte Sowjan Kumar	Mr. M Mallikarjuna
9	P18EET08	Power Systems -II	III-I	Dr.K.Venkateswarlu	Mr. B Venkatesh
10	P18EET09	Power Electronics	III-I	Dr.Jeyakumar.K	Mr. B.Suresh Kumar
11	P18EEE01	Renewable Energy Sources	III-I	Mr. N. Raghunadh	Mr. B Venkatesh
12	P18EEE02	Electrical Machine Design	III-I	Mr. R Gopinaik	Mr. V Gopinadh
13	P18EEE03	Digital Control Systems	III-I	Mr. B.Nagaraju	Miss. U Kalyani
	P18EEE04	Advanced Control Systems		Dr.G.V.K.Murthy	Mrs. Jeevana Kotte
14	P18EET10	Power System Analysis	III-II	Mr. K.Naresh	Mr. B.Vijaya Chandra
15	P18EET11	Power Semiconductor Drives	III-II	Dr.Y.Praksh	Mr. K.V. Narayana
16	P18EET12	Power System Operation and Control	IV-I	Dr.C.Rajalingam	Mr. K.Naresh
17	P18EET13	Utilization of Electrical Energy	IV-I	Mr. V Gopinadh	Mr. K Venkata Sivareddy
18	P18EET14	Switch Gear and Protection	IV-I	Mr. K Venkata Sivareddy	Mr. K.Naresh
19	P18EEE05	High Voltage Engineering	IV-I	Mr. S Bhanusiva Viswanath	Mr. M Mallikarjuna
20	P18EEE06	Electrical Distribution Systems	IV-I	Mr. M Mallikarjuna	Mr. S Bhanusiva Viswanath
21	P18EEE07	Energy Audit, Conservation & Management	IV-I	Dr.Jeyakumar.K	Mrs. P Masthanamma
22	P18EEE08	Special Electrical Machines	IV-I	Dr.G.V.K.Murthy	Mr. R Gopinaik
23	P18EEE09	Flexible AC Transmission Systems	IV-I	Dr.R.Shankar	Mr. Kotte Sowjan Kumar
24	P18EEE10	Smart Grid Technologies	IV	Dr.M.Laxmana rao	Mr. K Venkateswarlu
25	P18EET15	HVDC Transmission	IV-II	Mr. K Venkateswarlu	Mr. D. Prasad
26	P18EEE11	Power Quality	IV-II	Mr. D. Prasad	Mrs. T.Aruna kumari
27	P18EEE12	Electric and Hybrid Vehicles	IV-II	Mr. Kotte Sowjan Kumar	Mr. S Bhanusiva Viswanath

COURSE DEVELOPMENT R21

Sl. No.	Sub Code	Sub Name	Year/Sem	Faculty Name 1	Faculty Name 2
1	P21EST06	Electrical Circuts Analysis-I	I-II	Mr. B Venkatesh	Mrs. S. Kavitha
2	P21EET01	Electrical Circuit Analysis – II	II-I	Mr. K.V. Narayana	Mr. M Mallikarjun
3	P21EET02	Electro Magnetic Fields	II-I	Mr. B.Vijaya Chandra	Miss. K Grace Mary
4	P21EET03	Electrical Machines - I	II-I	Dr.K.Venkateswarlu	Mrs. S. Kavitha
5	P21EET04	Power Systems –I	II-I	Mr. B.Nagaraju	Mr. R Gopinaik
6	P21EET05	Electrical Machines - II	II-II	Mr. K.V. Narayana	Mr. B.Vijaya Chandra
7	P21EET06	Power Systems - II	II-II	Dr.Rajaselvan.C	Mrs. A.Sravani
8	P21EET07	Electrical Measurements & Instrumentation	II-II	Mr. Kotte Sowjan Kumar	Mr. M Mallikarjuna

5.6 Innovations by the Faculty in Teaching and Learning (10)   Total Marks 10.

To keep up in pace with the technology development and various innovative teaching and learning pedagogies, continuous faculty capacity-building programs play a vital role to maintain the reputation of the institution. Having said that, the Institute has started introducing several best practices to enhance the quality of education offered and create an enabling environment for both teachers and students for their holistic growth. Having all these challenges in mind in the last decade, several initiatives were introduced to motivate faculty members and promote the philosophy of continuous professional development. A policy document with a well-defined SOP has been brought into existence enabling all the faculty members to get aligned with the system. The following activities contribute to the innovations in teaching and learning and assessment methods.

Cohesive Teaching Learning Practices With regard to the Teaching – learning process, to break the monotony of the regular lecture-based teaching model, an innovative Student centric teaching – learning (T – L) model viz. Cohesive Teaching Learning Practices (CTLP) are introduced to align the classroom delivery in accordance with Outcome Based Education (OBE). Before the commencement of the class work, the academic calendar is prepared well in advance and compliance is periodically reviewed and ensured by the members of IQAC with the help of various committees (Academic Monitoring Committee) to ensure the systems and process are intact. Nearly 50 courses in-line with CTLP materials are made available to the students in the portal http://192.168.0.252/moodle (http://192.168.0.252/moodle)

Video Lectures

In supplement with the classroom delivery, the faculty members are motivated towards developing E-content in the video format. In one of the initiatives of IQAC, it was incentivized and regularly monitored and now, the members are volunteering to see the impact of these video courses among the students during the COVID-19 season when the education system realized the importance of digital learning. The students who are unable to attend a particular class due to valid reasons and those who are preparing for backlog examination will be getting benefited by learning using the video lecture available in the portal. A complete set-up for capturing the video lecture and editing software is available. The video capturing is organized in a scheduled manner based on the availability of resources.

ICT tools

Faculty are well versed in the usage of ICT tools such as Graphic tablets, Projectors, Active-pen, Interactive projectors, etc., to facilitate easy learning and to present the information in different interactive modes. This visually attractive method of teaching becomes appealing to students. The students can easily relate the concepts with the animated visuals and the audio-visual senses of students are targeted to grab the information effectively.

Activity-based learning

Co-curricular and extracurricular activities are conducted every weekend to motivate the students and to improve problem-solving capabilities, leadership abilities, cooperation in teamwork, the consciousness of professional ethics, and administering critical situations. These activities include webinars, Aptitude Training, Social Welfare Camps, Problem-solving, Entrepreneurship Development Programs, Critical Thinking, and Group Discussions. etc.

Tutorial sessions for Analytical and Programming subjects

Tutoring programs can help the students to develop study and learning skills that will help set up for their lifetime success. There are many advantages of tutoring services:

Individual and unique learning experience, One-on-one attention, improves academic performance, improves attitude towards learning, encourages self-paced and self-directed learning, improves self- esteem and confidence, encourages independence and responsibility, helps overcome learning obstacles and encourages the freedom to ask questions.

Assignments

Assignments are given based on the real-time engineering problems to the students to understand and come out with the solutions. Group assignments are also given to improve the self-learning and teamwork of students.

Project-based learning

The Department frames its curriculum in such a way that students acquire the skills to design and create complex hardware solutions through various activities including main and mini projects and hobby projects. Project based learning also tends to encourage the teamwork among the students.

Seminars and Technical Presentation

Students are encouraged to give presentation on any technical topic in their area of interest in various National and International Technical Events, which will serve for knowledge transfer and to overcome stage fear, which in turn improve their communication skills which play a significant role in their career growth.

Value Added Course

Apart from the core curriculum, these courses are conducted by department to give key knowledge to students in a specific advance in core field. It improves the employability skills and promote profession and life-oriented skills of the students.

Internship

Full Semester Internship is introduced in the curriculum to bridge the gap between theoretical learning and practical training in a real-time environment. The students are able to understand the industrial practices and organizational hierarchy during the training.

5.7 Faculty as participants in Faculty development/training activities/STTPs (15)   Total Marks 15.

Name of the faculty	Max 5 Per Faculty		
	2021-22(CAYm1)	2020-21(CAYm2)	2019-20(CAYm3)
Dr G.V.K.Murthy	5.00	5.00	5.00
Y PRAKSH	5.00	5.00	5.00
D Prasad	5.00	5.00	5.00
Mr. K Venkateswarlu	5.00	5.00	5.00
K.V. Narayana	5.00	5.00	5.00
B Venkatesh	5.00	5.00	5.00
Mrs. S Kavitha	5.00	5.00	5.00
Mr. B.Vijaya chandra	5.00	5.00	5.00
Mr. B.Suresh Kumar	5.00	5.00	5.00
Dr.Jeyakumar.K	5.00	5.00	5.00
Dr.Rajaselvan.C	5.00	5.00	5.00
Dr.C.Rajalingam	5.00	5.00	5.00
Dr.R.Shankar	5.00	5.00	5.00
Dr.K.Prakasam	5.00	5.00	5.00
Dr.M.Laxmana rao	5.00	5.00	5.00
K.Naresh	5.00	5.00	5.00
Dr.K.Venkateswarlu	5.00	5.00	5.00
T.Aruna kumari	5.00	5.00	5.00
Jeevana Kotte	5.00	5.00	5.00
Kotte Sowjan Kumar	5.00	5.00	5.00
B.Nagaraju	5.00	5.00	0.00
N. Raghunadh	5.00	5.00	0.00
R Gopinaik	5.00	5.00	0.00
S Bhanusiva Viswanath	5.00	5.00	5.00
K Venkata Sivareddy	5.00	5.00	0.00
U kalyani	5.00	5.00	0.00
K Grace Mary	5.00	5.00	0.00
Sum	135.00	135.00	105.00
RF = Number of Faculty required to comply with 20:1 Student Faculty Ratioas per 5.1	18.00	18.00	16.00
Assessment [3*(Sum / 0.5RF)]	45.00	45.00	39.38

Average assessment over 3 years: 15.00

5.8 Research and Development (75)   Total Marks 60.

5.8.1 Academic Research (20)   Institute Marks : 20.

5.8 RESEARCH DEVELOPMENTS
A) Academic Research (20)

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. (15)
- Ph.D.. guided /Ph.D. awarded during the assessment period while working in the institute

Papers published

Sl.No.	Academic Year	Total No. of Journals/ Conferences	Total No. of Book Chapters	Total No. of Patents
1.	2022-23	43	0	0
2.	2021-22	30	19	13
3.	2020-21	22	6	2
Total		95	25	15

5.8.2 Sponsored Research (20)   Institute Marks : 5.

2021-22 (CAYm1)

Project Title	Duration	Funding Agency	Amount(in Rupees)
advanced power electronics	2	aicte	1632000.00
			Total Amount(X): 1632000.00

2020-21 (CAYm2)

Project Title	Duration	Funding Agency	Amount(in Rupees)
0	0	0	0.00
			Total Amount(Y): 0.00

2019-20 (CAYm3)

Project Title	Duration	Funding Agency	Amount(in Rupees)
0	0	0	0.00
			Total Amount(Z): 0.00
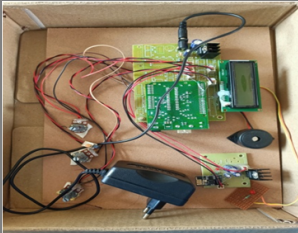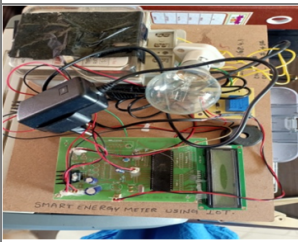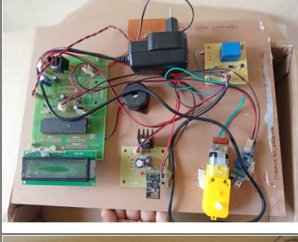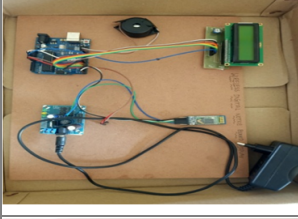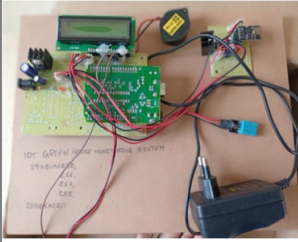
Cumulative Amount(X + Y + Z) =   1632000.00
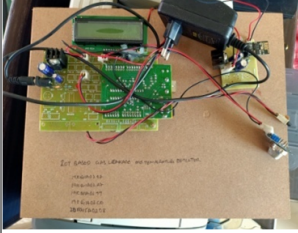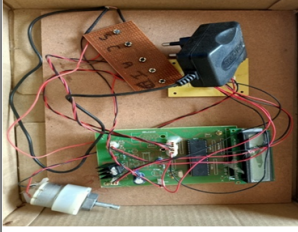
5.8.3 Development activities (15)   Institute Marks : 15.

Product Development

S.No	Dept.	Academic year	Title of the project/Product	Guide Name	Working Models
1	EEE	2021-22	SSL: Smart street lamp based on fog computing for smart cities.	Dr.K. Venkateswarlu	
2	EEE	2021-22	Development of an solar powered mini robotic electric vehicle charging station.	Dr Y.Prakash	
3	EEE	2021-22	Development Of Automatic Irrigation System Based On IoT	Dr C.Rajaselvan	
4	EEE	2021-22	Weather and Agriculture Field Monitor, Auto Control over Wireless Network IoT	Mr. K Sowjan Kumar	
5	EEE	2021-22	Pulse Width Modulation(PWM) based DC Motor Closed loop Speed Controller	Dr.G.V.K.Murthy	
6	EEE	2021-22	Design And Implementation Of Solar Based Smart Street Lightning System	Dr.y.praksh	
7	EEE	2021-22	Design and Fabrication of Underground Fault Distance Locator using Microcontroller and IOT.	Dr.C.Rajalingam	

8	EEE	2021-22	A novel approach to provide protection for women by using smart security device	Dr.R.Shankar	
9	EEE	2021-22	Touch screen based AC motor speed Monitoring and control system	Dr.K.Prakasam	
10	EEE	2021-22	Iot based solar powered agri biotech for irrigation and farm monitoring.	Dr.M.Laxmana rao	
11	EEE	2021-22	Implementation Of Room Automation Energy Meter Consumption Monitoring System	Mr. D. Prasad	
12	EEE	2021-22	smart energy meter using IOT	Mr. K.Venkateswarlu	
13	EEE	2021-22	smart detection of various fault dips using iot	Mr. K.V. Narayana	
14	EEE	2020-21	Implementation of a smart grid wireless communication system	Mr. B Nagaraju	
15	EEE	2020-21	Multi-sensor Integrated system for wireless monitoring of green house environment	Mr. Kotte Sowjan Kumar	

16	EEE	2020-21	Energy theft Detection in advanced metering infrastructure and monitoring on IOT	Dr.G.V.K.Murthy	
17	EEE	2020-21	torque control of switched reluctance drive of universal motors using triac	Mr. N Raghunath	
18	EEE	2020-21	Google android smart phone operated motor control system	Kotte Sowjan Kumar	
19	EEE	2020-21	IOT based low cost gas leakage and temperature detector	B Nagaraju	
20	EEE	2020-21	Industrial/ Power grid electrical data acquisition system through wireless technology	Jeevana Kotte	
21	EEE	2020-21	Efficiency Of Photovoltaic Sun Tracking Systems Using manual mode	Kotte Sowjan Kumar	

5.8.4 Consultancy (from Industry) (20)   Institute Marks : 20.

2021-22 (CAYm1)

Project Title	Duration	Funding Agency	Amount(in Rupees)
construction of	1	SREE ARUND.	300000.00
			Total Amount(X): 300000.00

2020-21 (CAYm2)

Project Title	Duration	Funding Agency	Amount(in Rupees)
construction of	3	crystal power s	300000.00
			Total Amount(Y): 300000.00

2019-20 (CAYm3)

Project Title	Duration	Funding Agency	Amount(in Rupees)
construction smart grid	3	legrand power	1000000.00
			Total Amount(Z): 1000000.00

Cumulative Amount(X + Y + Z) = 1600000.00

5.9 Faculty Performance Appraisal and Development System (FPADS) (10)

Total Marks 10.

Institute Marks : 10.

The institute has a thorough and well-defined mechanism for evaluating teacher performance and professional growth. The self-appraisal form is only collected once a year at the end of the academic year, after which the department head analyzes and passes it on to the principal. The management forms an expert panel to assess the effectiveness of the faculty and offer recommendations for future development.

All the criteria are given points, and each faculty is assessed according to the points they have earned. They should meet the basic standards for all relevant heads, including teaching, research and consultancy, rewards and recognitions, departmental activities, and campus administrative activities.

List of contents consider for evaluation are listed below

   I. Academic and Career Profile
  II. Contribution to Teaching and Learning

  1. Academic Contributions
  2. Use of participatory and innovative Teaching-Learning methodologies/ICT facilities used; updating of subject content, course improvement etc.
  3. Content beyond syllabus covered for the Subject/Laboratory taught during the assessment period.
  4. Percentage of student pass and feedback in the subjects/Laboratory taught during the assessment period.
  5. UG/PG projects guided during assessment period
  6. Research and academic contribution during the assessment period includes

  7. Refresher courses, STTP, Orientation courses, Teaching & Learning evolution programs, soft skills development programs, FDPs attended.
  8. Professional development activities organized such as FDP's, Seminars, Conferences and STTP's etc.
  9. Contribution to the development of Department/Institution through participation in academic and administrative comities and responsibilities.
 10. Contribution to the Academics and Examinations (Question papers setting, evolution of answer scripts, invigilation and observer duty) during the assessment period.
 11. Membership on professional bodies.
 12. Any other contribution during the assessment period.

5.10 Visiting/Adjunct/Emeritus Faculty etc. (10)

Total Marks 10.

Institute Marks : 10.

5.10 Visiting /Adjunct/Emeritus Faculty:

Experts from various industries have been utilized to impart a good blend of theoretical and practical input to the students on latest technology used in Industries.
This has helped students in securing placements in core companies. Details of Adjunct faculty members from various industries are listed below.

S. No	Name of The Visiting/Adjunct/Emeritus Faculty	Designation	Company/ Institution
1	Dr Emmoji	R&D Application Engineer	General Electric Pvt ltd hyd
2	Mr. M. Ramesh Babu	Sr Project Manager	Bhavya Constructions
3	Mr. N. Narsimha Reddy	Project Manager	Bhavya Constructions

S. NO	NAME OF THE FACULTY	HOURS TAKEN		
		2020-2021	2021-22	2022-23
1	Dr Emmoji	60	50	22
2	Mr. M. Ramesh Babu	50	50	22
3	Mr. N. Narsimha Reddy	50	60	22
	Total	**160**	**150**	**66**

S. NO	NAME OF THE FACULTY	HOURS TAKEN	MODULE	SUBJECT NAME	YEAR & SEM	ACADEMIC YEAR
1	Dr Emmoji	60	Electrical Machines	EM-1	II Year I Sem	2020-21
2	Mr. M. Ramesh Babu	50	Power Systems	PS-1	II yearI Sem	2020-21
3	Mr. N. Narsimha Reddy	50	Electrical Measurements	EMI	III Year I Sem	2020-21
4	Dr Emmoji	50	Electrical Machines	EM-1	II Year I Sem	2021-22
5	Mr. M. Ramesh Babu	50	Power Systems	PS-1	II Year I Sem	2021-22
6	Mr. N. Narsimha Reddy	60	Electrical Measurements	EMI	III Year I Sem	2021-22
7	Dr Emmoji	22	Electrical Machines	EM-1	II Year I Sem	2022-23
8	Mr. M. Ramesh Babu	22	Power Systems	PS-1	II Year I Sem	2022-23
9	Mr. N. Narsimha Reddy	22	Electrical Measurements	EMI	III Year I Sem	2022-23

6 FACILITIES AND TECHNICAL SUPPORT (80)

Total Marks 80.0

6.1 Adequate and well equipped laboratories, and technical manpower (40)

Total Marks 40.

Institute Marks : 40.

Sr. No	Name of the Laboratory	Number of students per set up(Batch Size)	Name of the Important Equipment	Weekly utilization status(all the courses for which the lab is utilized)	Technical Manpower Support		
					Name of the Technical staff	Designation	Qualification
1	Electrical Circu	5	Regulated Pow	12 hours	G.SRIPADMAV	Lab instructor	B.TECH, ITI
2	Electrical Mach	5	Rectifier Unit, D	12 hours	B.SATYANARA	Lab instructor	DIPLOMA
3	Electrical Mach	5	AC Machines,	12 hours	B.SATYANARA	Lab instructor	DIPLOMA
4	Control System	5	P,PI,PID contro	12 hours	SK.KALESHAV	Lab instructor	B.TECH
5	Power Electron	5	CRO's, Experir	12 hours	B.SATYANARA	Lab instructor	DIPLOMA, ITI
6	Electrical Meas	5	Experiment kits	12 hours	SK.KALESHAV	Lab instructor	B.TECH
7	Electrical Simu	1	Computers ,UF	12 hours	G.SRIPADMAV	Lab instructor	B.TECH
8	Power systems	5	Dielectric oil Te	12 hours	SK.KALESHAV	Lab instructor	B.TECH
9	Basic Electrica	5	Regulated Pow	12 hours	G.SRIPADMAV	Lab instructor	B.TECH

6.2 Laboratories maintenance and overall ambiance (10)

Total Marks 10.

Institute Marks : 10.

Institute Marks : 10.

The maintenance and ambiance of all the laboratories in the Department of Electrical Engineering are carried out in a proper way

<u>Maintenance:</u>

- Technical staff is available for maintenance of equipment's and software's, Regular preventive maintenance of equipment is carried out before the commencement of the each semester.
- Minor repairs are carried out by the Laboratory instructor.
- Major repairs are outsourced as per the procedure of the institution.
- Laboratory equipment's calibration &servicing are done frequently.
- A register is maintained in each lab to monitor the repair and servicing of each equipment/Instrument.
- Stock Register maintained.
- Software up gradation and scrap disposal done before commencement of semester.
- First Aid kit and Fire extinguishers are available in the laboratories.
- Maintain the proper dress code to avoid colour blindness.
- Glosses and mats are provided to avoid the electric shocks and earthling.
- If any equipment is required inform to higher officials with proper estimations

<u>**Ambiance:**</u>

- Conduct a periodic inspection of laboratory electrical equipment to be sure it is in good condition. Remove equipment for service if in poor conditin and replace or have it repaired by a qualified repair person.
- Portable power supplies are commonly used in the lab. These devices are extremely high electrical energy sources and must be used carefully. Never attach an exposed connector such as an alligator clip to a power supply.
- Inspect power cords to be sure they are not frayed or have exposed wiring.
- Name plate details are mentioned from every machine to do experiment without any short circuits.
- Keep mention the AC and DC switches on main boards and their respective boards to avoid the complications.
- Every time it has to check 3- phase supply to avoid short circuits.
- All laboratories are equipped with necessary equipment/ software to meet the requirements of curriculum.
- In all laboratories, sufficient instructional area and working place is available
- Sufficient artificial lighting system is available, along with the natural light in every corner of the rooms.
- Labs are furnished with white/black boards.
- Vision, Mission, PEOs, PSOs and faculty in charge boards are displayed in all the laboratories.
- Lab layout, List of experiment, Do's and Don'ts boards are displayed.
- Safety instruction charts are displayed

Sl.No.	Type of Maintenance	Description
1	Preventive Maintenance	Preventive Maintenance (PM) is a fundamental, planned activity designed to improve equipment life.The activities included here are as follows · Systematic Inspection · Fault Detection · Minor Fault Correction · Prevention of incipient failures
2	Periodic Maintenance	Periodic Maintenance is a time based maintenance Activity which occurs periodically. Here, the activities included are as follows: · Servicing · Cleaning Equipment · Replacing Fault / malfunctioned Components.
3	Breakdown Maintenance	It is a on demand maintenance activity.It includes: Upon sudden breakdown of equipment, all sorts of required repair work shall be carried out, only by skilled and authorized service representative.

ELECTRICAL CIRCUITS LAB

ELECTRICAL MACHINES LAB – I

ELECTRICAL ENGINEERING WORKSHOP

ELECTRICAL MACHINES LAB – II

CONTROL SYSTEMS LAB

ELECTRICAL MEASUREMENTS LAB

POWER ELECTRONICS LAB

6.3 Safety measures in laboratories (10)

Total Marks 10.

Sr. No	Laboratory Name	Safety Measures
1	Electrical Circuits Lab	• Students are instructed to wear apron and shoes. • Safety guidelines chart is displayed. • Fire extinguisher • Rubber floor mats are arranged
2	Electrical Machines-I Lab	• Guidelines and Instructions are displayed in the laboratory. • Before starting of the laboratory session, students are instructed with necessary safety and precautionary measures to be adopted in electrical laboratory. • Electrical Earthling is well maintained. • Availability of First aid kit and a dry type fire extinguisher. • Power supply terminals connected to any circuit are only energized with the presence of the Instructor or Lab Staff. • Emergency power shutdown facility provided. • • Rubber floor mats are arranged. • Students are instructed to wear apron, shoes
3	Electrical Machines-II Lab	• Guidelines and Instructions are displayed in the laboratory. • Before starting of the laboratory session, students are instructed with necessary safety and precautionary measures to be adopted in Electrical laboratory. • Electrical Earthling is well maintained. • Availability of First aid kit and a dry type fire extinguisher are maintained. • Power supply terminals connected to any circuit are only energized with the presence of the Instructor or Lab. Staff. • Emergency power shutdown facility provided. • Rubber floor mats are arranged. • Students are instructed to wear apron and shoes
4	Control Systems Lab	• Guidelines and Instructions are displayed in the laboratory. • Before starting of the laboratory session, students are instructed with necessary safety and precautionary measures to be adopted in electrical laboratory. • Electrical Earthing is well maintained. • Availability of First aid kit and a dry type fire extinguisher are maintained. Power supply terminals connected to any circuit are only energized with the presence of the Instructor or Lab. Staff. • Emergency power shutdown facility is provided. • Rubber floor mats are arranged. • Students are instructed to wear apron and shoes
5	Power Electronics Lab	• Guidelines and Instructions are displayed in the laboratory. • Before starting of the laboratory session, students are instructed with necessary safety and precautionary easures to be adopted in Electrical laboratory. • Electrical Earthing is well maintained. • Availability of First aid kit and a dry type fire extinguisher are maintained. • Power supply terminals connected to any circuit are only energized with the presence of the Instructor or Lab. Staff. • Emergency power shutdown facility is provided. • Students are instructed to wear apron and shoes.
6	Power systems Lab	• Guidelines and Instructions are displayed in the laboratory • Before starting of the laboratory session, students are instructed with necessary safety and precautionary measures to be adopted in Electrical laboratory. • Electrical Earthing is well maintained. • Availability of First aid kit and a dry type fire extinguisher are maintained. • Power supply terminals connected to any circuit are only energized with the presence of the Instructor or Lab. Staff. • Emergency power shutdown facility is provided. • Rubber floor mats are arranged. •Students are instructed to wear apron and shoes.
7	Electrical Measurements Lab	• Guidelines and Instructions are displayed in the laboratory • Before starting of the laboratory session, students are instructed with necessary safety and precautionary measures to be adopted in Electrical laboratory. • Electrical Earthing is well maintained. • Availability of First aid kit and a dry type fire extinguisher are maintained. • Power supply terminals connected to any circuit are only energized with the presence of the Instructor or Lab Staff. • Emergency power shutdown facility is provided. • Rubber floor mats are arranged. • Students are instructed to wear apron and shoes.
8	Electrical Simulation Lab	• Safety Guidelines and Instructions are displayed in the laboratory. • Electrical and Computer Networks are well designed in view of safety Air Conditioners are installed for temperature control. • Availability of First aid kit and CO2 or a dry type fire extinguisher in each of lab. • All Systems are supported with UPS facility
9	Electrical Workshop	• Students are instructed to wear apron and shoes. • Safety guidelines chart is displayed. • Fire extinguisher • Rubber floor mats are arranged

6.4 Project laboratory (20)   Total Marks 20.

Institute Marks : 20.

Institute Marks : 20.

The department of Electrical Engineering has a project laboratory equipped with basic resources and software's for conduction of project works.

Details of the available facilities in project laboratory

Sl. No.	Name of the facilities	Utilization
1.	MATLAB	In project work MATLAB software is used to build the electrical circuits in the different configurations in different fields.
2.	HOMER/ PV SYST	In project work HOMER/ PV SYST is used for extensively renewable energy resources based research.
3.	Aurdino AND Raspberry pi	It is used in mini and main project implementation.
4.	Computer Systems	Computer systems with all electrical software's are installed.
5.	Solar power plant	In the college roof top will provide the solar power plants to analyse the power production in real time, student can apply any advances in renewable energy systems if possible.

Research Papers Published by the Faculty Members

A.Y - 2021-22

S.No.	Name of the Faculty	Title	Name of the Journal	ISSN No.	Issue/ Volume	Page No.	Year
1	Dr. G V K Murthy	Performance evaluation of different structures of power system stabilizers	IJECE (SCOPUS)	2088-8708	Vol:11 No. 1	114-123	Feb 2021
2	Dr. G V K Murthy, D Prasad,K Venkateswarlu K V Narayana	Dynamic Modeling of a multi terminal fuzzy logic controller for electric vehicle charging plants based on hybrid energy system	EJMCM (SCOPUS)	2515-8260	Volume: 7 Issue: 4	793-803	Oct 2020
3	B.Suresh kumar, D. Prasad,G. V. K Murthy	Dynamic Modeling and Control of Micro grid Renewable Energy Sources	EJMCM (SCOPUS)	2515-8260	Volume: 07 Issue: 8	2362-2378	2020
4	D Prasad, G.V.K. Murthy,	An Advanced Power Control Method of A Hybrid AC/DC Micro Grids	EJMCM (SCOPUS)	2515-8260	Volume: 07 Issue: 8	2379-2389	2020
5	K. Sowjan Kumar GVK Murthy	Determination of Short Circuit Fault Current Ratings in Wind Turbine System Connected To Utility Using ETAP Software	Ilkogretim Online - Elementary Education Online (SCOPUS)	-	Volume: 20 Issue: 4	1478-1485	Mar 2021
6	K Sowjankumar, G V K Murthy, N Raghunadh, D Prasad "	Energy Management of Smart Homes Equipped with Energy Storage Systems Considering The par Index Based On Real-Time Pricing"	Bulletin Monumental (Web of science)	ISSN/E-ISSN 007-473X			
7	D Prasad	A Review On Position Estimation Of Switched Reluctance Motor For Automotive Applications" Turkish Journal of Physiotherapy and Rehabilitation, 2021	Turkish Journal of Physiotherapy and Rehabilitation (Web of science/scopus)	ISSN 2651-4451	32(3)	3715-3723	2021

A.Y. - 2020-21

S.No.	Name of the Faculty	Title	Name of the Journal	ISSN No.	Issue/ Volume	Page No.	Year
1	Dr. G V K Murthy	Performance evaluation of different structures of power system stabilizers	IJECE (SCOPUS)	2088-8708	Vol:11 No. 1	114-123	Feb 2021
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7	D Prasad	A Review On Position Estimation Of Switched Reluctance Motor For Automotive Applications" Turkish Journal of Physiotherapy and Rehabilitation, 2021	Turkish Journal of Physiotherapy and Rehabilitation (Web of science/ scopus)	ISSN 2651-4451	32(3)	3715-3723	2021

Patents Published By Faculty Members

Name of the Faculty	Working Model Title	Patent Number	Date of Issued

1	Raghunath Narayanam, Kotte Sowjan Kumar, Dr G V K Murthy,	Anti Theft Alert System For Motoors In Agricultural Field By Using Gps And Gsm	202241009817	04/03/2022
2	K.Sowjan Kumar, Kv Narayana, B Nagaraju, D Prasad, Raghunath Narayana, Dr G V K Murthy,	Smart Street Light Operation Of The Object Motion Detection Using Passive Infard Qand Light Dependint Resistance	202241022546	13/05/2022
3	Dr G V K Murthy K Sowjan Kumar,	Temprature Sensor To Reduce The Spread Of Covid-19	202241025469A	13/05/2022
4	D Prasad	Sensorless Control Of Switched Reluctance Motor	202241016609	Patent Published

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7 CONTINUOUS IMPROVEMENT (75)   Total Marks 75.0

7.1 Actions taken based on the results of evaluation of each of the COs, POs & PSOs (30)   Total Marks 30.

Institute Marks : 30.

POs Attainment Levels and Actions for Improvement- (2021-22)

POs	Target Level	Attainment Level	Observations
PO 1 : Engineering Knowledge			
PO 1	2.1	2.17	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.25 Action 2: Basic concepts were discussed frequently through extra classes and also guest lectures were planned for a better understanding of concepts Action 3: Students who are facing difficulty in understanding the basics concept of science and mathematics are identified, and remedial classes are conducted			
PO 2 : Problem Analysis			
PO 2	2.1	2.14	Target achieved, still there is scope for enhancing.
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.2 Action 2: Peer learning method advised to solidify their knowledge. Action 3: Expert lectures were arranged which covers numerical problems and students were given additional assignments for problem solving capabilities in various courses.			
PO 3 : Design/development of Solutions			
PO 3	2.1	2.13	Target achieved, still there is scope for enhancing
Action 1:As the target was achieved for this batch, for the forthcoming batch target level is set to 2.2 Action 2: Encourage the students to participate in various technical events like paper presentations and publications on the design and development of products. Action 3: Conducted Hand-on workshops, seminars, industrial visits, and innovation competitions to gain knowledge on design solutions.			
PO 4 : Conduct Investigations of Complex Problems			
PO 4	2.1	1.94	There is a gap of 0.16 identified between the target and attainment.
Action 1: As the target was not achieved for this batch, the target level remains the same for the next batch as 2.1 Action 2: Conducted guest lectures, workshops, and conferences to improve research-based knowledge. Action 3: Conducted technical symposium to enhance and enrich the knowledge Action 4: Students were encouraged to publish their investigation of complex problems to peer-reviewed journals/conferences.			
PO 5 : Modern Tool Usage			
PO 5	2.1	1.86	There is a gap of 0.24 identified between the target and attainment.
Action 1: As the target was not achieved for this batch, the target level remains the same for the next batch as 2.1 Action 2: Conducted a Hands-on Training program on MATLAB and motivated them to use Design tools to implement their technical skills into practice. Action 3: Industrial MOUs Were signed with various industries to encourage students to know about cutting-edge technologies. Activities like an industrial visit, internship, and guest lecture further exposed students to advanced tools for Electrical and Electronics Engineering.			
PO 6 : The Engineer and Society			
PO 6	1.8	1.6	There is a gap of 0.2 identified between the target and attainment.
Action 1: As the target was not achieved for this batch, the target level remains the same for the next batch as 1.8 Action 2: Students are encouraged to participate in social activities like NSS, blood donation camps, etc. Action 3: Students are encouraged to act as volunteers for the awareness programs on Energy Conservation and Waste to Energy Conversion Programs in rural areas. Action 4: To understand the safety concerns and social aspects, students are visiting industries to expand their practical knowledge with the effect of improved practices in engineering.			
PO 7 : Environment and Sustainability			
PO 7	1.8	1.86	Target achieved, still there is scope for enhancing.
Action 1: As the target achieved for this batch, for forthcoming batch target level set to 1.95 Action 2: Expert lectures will be planned to address environmental and sustainability issues in engineering. Action 3: Students were encouraged to do their project work in Renewable energy sources. Electrical vehicles, Smart grids...etc			
PO 8 : Ethics			
PO 8	1.8	1.86	Target achieved, still there is scope for enhancing.
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.95 Action 2:Guest Lectures were arranged on topics related to professional ethics. Action 3: Ethics was inculcated into the students by conducting extracurricular and cocurricular activities. A career readiness program and motivational talks were arranged			
PO 9 : Individual and Team Work			
PO 9	1.8	2.09	Target achieved, still there is scope for enhancing.
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.15 Action 2: Students are mentored and guided to do projects for various social and real-time issues. Action 3: More sessions of soft-skill training are given to the students. Action 4: Students are motivated to participate in various club activities both as individuals and as team members in a group.			
PO 10 : Communication			
PO 10	1.8	1.81	Target achieved, still there is scope for enhancing.
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.9 Action 2: Students are trained to write effective reports and make effective presentations on their projects. Soft skills training is imparted to students to enhance various aspects of communication/technical talks through group discussions and presentations. Action 3: Students have been seamlessly encouraged to participate in classroom presentations and national/international events			
PO 11 : Project Management and Finance			
PO 11	1.8	1.93	Target achieved, still there is scope for enhancing.
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.0 Action 2: The cost estimation has been included as a part of the project assessment that helps the students to improve their knowledge of project management and finance. Action 3: Leadership qualities will be inculcated in students by allowing them to participate in project expos and other technical events. Action 4: The awareness created among the students regarding the management principles and managing projects. Action 5: Students are motivated to organize seminars, workshops, symposiums, and conferences			
PO 12 : Life-long Learning			
PO 12	1.8	1.88	Target achieved, still there is scope for enhancing.
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.95 Action 2: Library hours are properly utilized by monitoring the students to ensure the effective use of journals, Magazines, Technical articles, Reference Books, NPTEL videos, MOOCs..etc. Action 3: Internet facilities are provided to students to update the recent technological developments and emerging trends in industries and society. Action 4: Students encouraged to complete the MOOCs course to their self-learning capability which leads to lifelong learning.			

PSOs Attainment Levels and Actions for Improvement- (2021-22)

PSOs	Target Level	Attainment Level	Observations

PSO 1 : Ability to apply the professional core theories and process to choose the sustainable control, Measuring and drive circuitry for the specified upcoming fields.

PSO 1	2.1	2.12	Target achieved, still there is scope for enhancing.

Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.2 Action 2: Apart from the regular classes, guest lectures will be arranged on professional core theories. Action 3: Seminars will be arranged to motivate the students, and strongly encouraged by Mentors through frequent meetings.

PSO 2 : Ability to design, simulate and find optimal solutions for various industrial and societal Problems related to electrical and electronics engineering.

PSO 2	2.1	2	There is a gap of 0.1 identified between the target and attainment.

Action 1:As the target was not achieved for this batch, the target level remains the same for the next batch as 2.1 Action 2: Students were instructed to include the design part in their mini-project and final-year projects. Action 3: The design and modeling of the various test systems will be discussed and verified using MATLAB simulation tools. Action 4: Students are encouraged to do renewable energy source-based projects to gain more practical exposure.

PSO 3 : To prepare the students to succeed in competitive examinations for higher education and Employment related to Electrical and Electronics Engineering.

PSO 3	2.1	2.14	Target achieved, still there is scope for enhancing.

Action 1:As the target was achieved for this batch, for the forthcoming batch target level is set to 2.2 Action 2: Students are encouraged to participate in workshops and seminars to create awareness for higher education and employability in electrical and electronics engineering Action 3: Soft-skills training is imparted to students to enhance various aspects of communication/technical talks through group discussions, presentations, and new learning outcomes.

7.2 Academic Audit and actions taken thereof during the period of Assessment (15)

Total Marks 15.

Institute Marks : 15.

The purpose of the academic audit is to evaluate the performance of the various departments, and appreciated their achievements and give suggestions for further improvement in the quality of teaching, research, administration, curricular, and extra-curricular activities. It is to assess the academic performance of the both individual faculty and the whole department.

Academic audit has two types namely internal and external.

Internal Academic Audit:

Internal audit is an in-house operation for self-introspection. It evaluates at the end of the each semester. Academic audit team is assigned by the principal on the recommendations of convenor of the academic audit committee.

Following documents are verified at the time of audit.

- Syllabus Coverage
- Question Bank of all courses
- Counselling files
- Attendance Registers
- Course files of both Theory & Lab
- Class teacher file
- Department files

The audit team verifies all the documents and submits the report to audit committee. The academic audit committee convener prepares the consolidated report along with recommendations and submits to the principal. The principal implement all the recommendations through Internal Quality Assurance Cell (IQAC).

External Academic Audit:

External audit has more reliability. It evaluates after the completion of the each academic year. Institute invites two professors from the prominent institutes.

Following documents are verified at the time of audit.

- Curricular Aspects
- Teaching-Learning and Evaluation
- Research and Innovation
- Student Progression
- Curricular, and extra-curricular activities

The audit team verifies all the documents and prepares and submits the non-compliance report along with the suggestions to principal. The principal implement all the feasible suggestions through IQAC.

**7.3 Improvement in Placement, Higher Studies and Entrepreneurship** (10)

Total Marks 10.

○ **Placement:** number, quality placement, core industry, pay packages, etc.

Item	2021-22	2020-21	2019-20
Total No. of final year students (N)	125	67	61
No. of students placed in companies (X)	88	40	41
Placement Percentage index: ((X/N)*100)	0.70	0.60	0.67
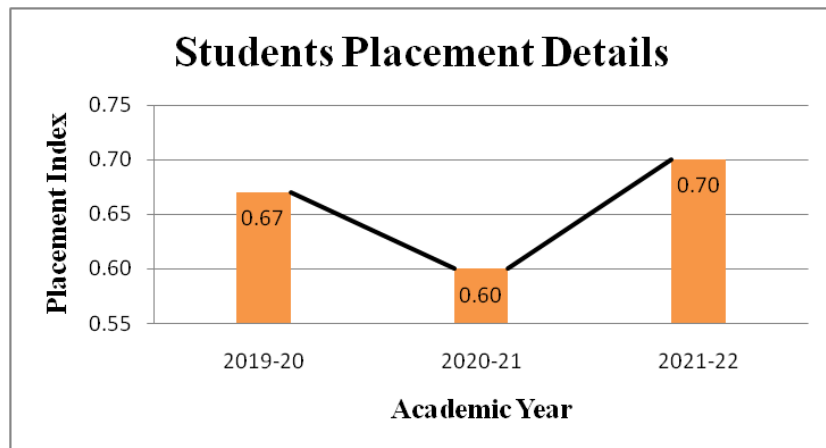
○ **Higher studies**: performance in GATE, GRE, GMAT, CAT, etc. and admissions in premier institutions.

Item	2021-22	2020-21	2019-20
Total No. of final year students (N)	125	67	61
No. of students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, GMAT, etc.) (Y)	4	4	2
Higher studies Percentage index: ((Y/N)*100)	0.03	0.06	0.03
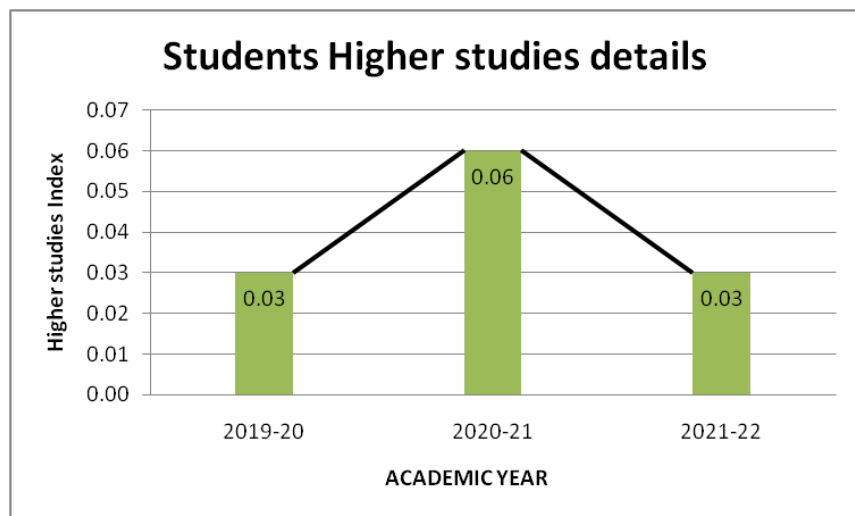
7.4 Improvement in the quality of students admitted to the program (20)   Total Marks 20.

Institute Marks : 20.

Item		2022-23	2021-22	2020-21
National Level Entrance Examination	No of students admitted	0	0	0
	Opening Score/Rank	0	0	0
	Closing Score/Rank	0	0	0
State/ University/ Level Entrance Examination/ Others APEAPCET	No of students admitted	131	120	100
	Opening Score/Rank	71971	73201	41673
	Closing Score/Rank	118423	110663	95958
Name of the Entrance Examination for Lateral Entry or lateral entry details APECET	No of students admitted	19	19	25
	Opening Score/Rank	1464	649	1804
	Closing Score/Rank	1464	840	3563
Average CBSE/Any other board result of admitted students(Physics, Chemistry&Maths)		68.735	73.13	69.05

8 FIRST YEAR ACADEMICS (50)   Total Marks 45.4

8.1 First Year Student-Faculty Ratio (FYSFR) (5)

Total Marks 5.

Please provide First year faculty information considering load

Name of the faculty member	PAN No.	Qualification	Date of Receiving Highest Degree	Area of Specialization	Designation	Date of joining	Teaching load (%)			Currently Associated (Yes / No)	Nature Of Association (Regular / Contract)	Date Of leaving(In case Currently Associated is 'No')
							CAY	CAYm1	CAYm2			
Y VEDASREE	AJUPY2895E	MA	30/04/2008	English	Assistant Professor	06/01/2017	100	100	100	Yes	Regular	
V.PRABHAKAF	AJHPV0671N	MA	30/11/2010	English	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	
M.PUSHPAVAT	CWXPM3431L	MA	30/06/2011	English	Assistant Professor	01/06/2019	100	100	100	Yes	Regular	
A.SUHASINI	BHAPA4544D	MA	31/05/2013	English	Assistant Professor	27/01/2020	100	100	100	Yes	Regular	
M.SANDHYA F	BCXBM6029F	MA	30/04/2005	English	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	
V.MADHAVA R	BIGPM8430B	MA	30/01/2016	English	Assistant Professor	17/09/2022	100	0	0	Yes	Regular	
Dr.S.RAMA MC	EQBPS2574G	M.Sc. and PhD	21/12/2019	Mathematics	Associate Professor	03/09/2022	100	0	0	Yes	Regular	
M.RAVEENDR	AYYPR2687L	M.Sc	30/10/2007	Mathematics	Assistant Professor	08/08/2011	100	100	100	Yes	Regular	
S.V.S.PHANEE	CMYPS2805K	M.Sc	30/04/1998	Mathematics	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	
J.SEETHA	JODPS8648N	M.Sc	30/04/2018	Mathematics	Assistant Professor	01/09/2022	100	0	0	Yes	Regular	
Dr.V.HIMAMAF	AXQPV3208G	M.Sc. and PhD	30/05/2018	Physics	Associate Professor	17/10/2019	100	100	100	Yes	Regular	
N.NARASIMH/	ATGPN3113Q	M.Phil	05/02/2012	Physics	Assistant Professor	01/06/2018	100	100	100	Yes	Regular	
K.SRIRANJAN	DSHPK9325L	M.Sc	30/04/2007	Physics	Assistant Professor	17/10/2019	100	100	100	Yes	Regular	
M.JANARDHA	AHSPJ8480G	M.Sc	30/04/2005	Physics	Assistant Professor	15/05/2017	100	100	100	Yes	Regular	
Dr.P.BRAHMAI	AYBPB6195Q	M.Sc. and PhD	01/08/2019	Zoology	Associate Professor	28/09/2020	100	100	100	Yes	Regular	
Dr.M MALLI K/	CGWPM7867E	M.Sc. and PhD	29/07/2017	Environmental sciences	Associate Professor	20/11/2017	100	100	100	Yes	Regular	
Dr.CH.VINUTH	AVZPV4660K	M.Sc. and PhD	29/01/2018	Chemistry	Associate Professor	05/04/2019	100	100	100	Yes	Regular	
CH.DV .SAI KL	BFJPC8845N	M.Sc	30/11/2015	Chemistry	Assistant Professor	19/09/2019	100	100	100	Yes	Regular	
B.ESWARI	BLSPB9968C	M.Sc	30/04/2011	Chemistry	Assistant Professor	28/09/2019	100	100	100	Yes	Regular	
S.LAKSHMI	CBCPG9870R	M.Sc	30/04/2004	Chemistry	Assistant Professor	01/11/2012	100	100	100	Yes	Regular	
Mr.P. Sreehari	BBWPP1598J	M.E/M.Tech	06/01/2012	CSE	Assistant Professor	03/05/2014	100	100	100	Yes	Regular	
Miss.M. Dedee	CYCPK7632N	M.E/M.Tech	05/01/2018	CSE	Assistant Professor	15/06/2018	100	100	100	Yes	Regular	
I.Meghana	AEAPI9420C	M.E/M.Tech	12/01/2020	CSE	Assistant Professor	18/10/2021	100	100	0	Yes	Regular	
S.Visweswara	EQIPS6158B	M.E/M.Tech	12/01/2017	CSE	Assistant Professor	06/01/2020	100	100	100	Yes	Regular	
J.Krishna Kish	JXZPK7024M	M.E/M.Tech	12/01/2012	CSE	Assistant Professor	17/06/2020	100	100	100	Yes	Regular	
P V Madhusud	BHSPP5372G	M.E/M.Tech	11/01/2012	CSE	Assistant Professor	07/10/2017	100	100	100	Yes	Regular	
M.Saramma	NRIPS7663R	M.E/M.Tech	15/03/2020	Power Electronics	Assistant Professor	01/08/2020	100	100	100	Yes	Regular	
D.Balaram Rec	BJJPD4900M	M.E/M.Tech	20/03/2015	Power Systems	Assistant Professor	03/03/2020	100	100	100	Yes	Regular	
S.Sreenu	GBKPS6548L	M.E/M.Tech	10/11/2013	High Voltage Engineering	Assistant Professor	20/08/2020	100	100	100	Yes	Regular	
P.Pedababu	BGBPG9945A	M.E/M.Tech	07/07/2018	Power Electronics	Assistant Professor	20/08/2020	100	100	100	Yes	Regular	
D. Syam Kuma	BSQPD4184H	M.E/M.Tech	30/01/2017	Machine Design	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	
Dr.K. Rajasekh	DGNPK0635M	ME/M. Tech and PhD	05/03/2022	Design	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	

K. Suresh Babu	DCAPK6527B	M.E/M.Tech	21/07/2008	CADCAM	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	
T.ANUSHA	AJMPT8181A	M.E/M.Tech	23/11/2013	CESP	Assistant Professor	21/10/2021	100	100	0	Yes	Regular	
CH.MANASA	BCOPC1422P	M.E/M.Tech	10/08/2017	DECS	Assistant Professor	01/10/2021	100	100	0	Yes	Regular	
T.RAMAIAH	AJAPT9596P	M.E/M.Tech	30/03/2015	VLSIES	Assistant Professor	23/11/2015	100	100	100	Yes	Regular	
P.KIRAN BABU	AVHPP8016F	M.E/M.Tech	28/12/2013	VLSIES	Assistant Professor	28/09/2020	100	100	100	Yes	Regular	
A.MURALI KRI	AICPA9358B	MA	30/05/1997	English	Assistant Professor	28/09/2020	50	50	50	No	Regular	31/12/2022
T.JHANSI LAK:	CMIPD6983M	MA	30/12/2018	English	Assistant Professor	01/06/2019	100	100	100	Yes	Regular	
G.RAMESH BA	AUJPG7243E	M.Sc	30/04/2005	Physics	Assistant Professor	03/03/2012	100	100	100	Yes	Regular	
Dr.P.GIDYONU	CVTPP7014B	M.Sc. and PhD	16/03/2021	Chemistry	Assistant Professor	01/09/2021	100	100	0	Yes	Regular	
B.KOTESH BA	BFOPB5835E	M.Sc	30/04/2003	Chemistry	Assistant Professor	18/12/2017	100	100	100	Yes	Regular	
M.HIMABINDU	CVOPM1277Q	M.Sc	30/04/2011	Chemistry	Assistant Professor	20/10/2021	100	100	0	Yes	Regular	
T.NAGENDRA	EVKPR4332D	M.Sc	30/12/2006	Chemistry	Assistant Professor	03/04/2020	100	100	100	Yes	Regular	
K.Anusha	BAPPK2246C	M.E/M.Tech	02/01/2016	CSE	Assistant Professor	01/09/2021	100	100	0	Yes	Regular	
Y. Sivaiah	AUTPY4534C	M.E/M.Tech	11/01/2021	CSE	Assistant Professor	12/06/2021	100	100	0	Yes	Regular	
D. Venkata Srir	CIUPD0964L	M.E/M.Tech	11/01/2021	CSE	Assistant Professor	12/06/2021	100	100	0	Yes	Regular	
M.Rajasekhar	DBOPM0341G	M.E/M.Tech	20/03/2019	EEE	Assistant Professor	03/03/2020	100	100	100	Yes	Regular	
M.KALYANI	CTTPK5698G	M.Sc	08/02/2021	Mathematics	Assistant Professor	12/07/2021	100	100	0	Yes	Regular	
Dr.P.RAMESH	ANSPP0160B	M.A and Ph.D	31/07/1996	English	Associate Professor	28/09/2020	0	100	100	No	Regular	02/07/2022
M.RAMA KOTA	CNBPM8008E	M.Sc	30/04/2010	Chemistry	Assistant Professor	28/09/2020	0	100	100	No	Regular	30/09/2022
Dr.M RAVI KUN	BWYPM5407N	M.Sc. and Ph.D. (Chemistry)	03/08/2015	Chemistry	Professor	28/09/2020	0	0	100	No	Regular	31/08/2021
M.Kranthi	ATUPM7900N	M.E/M.Tech	12/02/2013	CSE	Assistant Professor	05/01/2018	0	0	50	No	Regular	30/04/2021
Ms.AJP. SUVA	BGOPA3773P	MA	31/03/2006	English	Assistant Professor	03/08/2020	100	50	50	Yes	Regular	
T RAVINDRAN	AKCPT3054H	M.Sc	28/02/2015	Physics	Assistant Professor	01/06/2019	100	100	100	Yes	Regular	
B.MALLIKARJI	ANQPB4659M	M.Sc	30/04/1998	Mathematics	Assistant Professor	01/06/2019	100	100	100	Yes	Regular	
Dr.K.LAKSHMI	BTVPK0162L	M.Sc. and PhD	31/01/2017	Mathematics	Associate Professor	06/06/2017	100	100	100	Yes	Regular	
D KAVITHA	FJRPD1413F	M.E/M.Tech	10/08/2018	CE	Assistant Professor	22/11/2019	100	100	0	Yes	Regular	
Dr.B.PURNA C	BJYPP1806P	M.Sc. and PhD	31/07/2012	Physics	Professor	04/12/2017	0	0	50	No	Regular	31/05/2021
Dr.C.PAVAN KI	CSVPP4823M	M.Sc. and PhD	10/08/2016	Mathematics	Associate Professor	28/09/2019	0	0	100	No	Regular	05/07/2021
E.SIVA SAI	ADJPE1928R	M.Sc	02/09/2020	Mathematics	Assistant Professor	28/09/2020	0	0	100	No	Regular	31/07/2021
G.Subbarao	AJWPG3711B	M.E/M.Tech	19/05/2014	CSE	Assistant Professor	11/08/2018	100	100	100	Yes	Regular	
Dr.ENDLURI V	AAPPE4392N	ME/M. Tech and PhD	30/12/2020	CSE	Associate Professor	05/06/2017	100	100	100	Yes	Regular	
Dr.UDAYABHA	BZHPP6688J	ME/M. Tech and PhD	14/10/2020	ECE	Associate Professor	02/09/2019	100	100	0	Yes	Regular	
T.Silpa	BKEPT2774F	MA	31/12/2018	English	Assistant Professor	02/09/2019	100	60	100	Yes	Regular	
T.V SIVA NAGA	BCVPT7431A	M.Sc	30/04/2011	Mathematics	Assistant Professor	16/10/2020	100	100	100	Yes	Regular	
G.PAVANI	AYVPG7080R	M.Sc	30/04/2008	Mathematics	Assistant Professor	25/11/2021	100	100	0	Yes	Regular	

Name	ID	Qualification	Date	Department	Designation	Date	C1	C2	C3	Yes/No	Type	Leave Date
G.HARIPRIYA	BPMPG9604Q	M.Sc	30/04/2004	Chemistry	Assistant Professor	18/11/2022	100	0	0	Yes	Regular	
Dr.B.HARI BAE	ATZCB0248F	M.Sc. and PhD	13/06/2022	Mathematics	Assistant Professor	20/07/2009	100	100	100	Yes	Regular	
SD.NOUSHEE	HVLPS8403J	M.Sc	30/06/2020	Chemistry	Assistant Professor	10/11/2020	100	100	100	Yes	Regular	
K.BALA CHAN	APAPB4859D	M.Sc	28/04/2006	Mathematics	Assistant Professor	19/09/2013	0	100	100	No	Regular	16/08/2022
Dr.SD.RAFI	DWXPS1602A	M.Sc. and Ph.D. (Chemistry)	09/06/2022	Chemistry	Assistant Professor	22/12/2021	100	100	0	Yes	Regular	
V BALA GURA	GAGPR6914E	M.Sc	30/04/2018	Mathematics	Assistant Professor	28/09/2020	50	50	50	Yes	Regular	
R.KAVYA	HSNPK2265R	M.Sc	30/06/2022	Mathematics	Assistant Professor	03/09/2022	100	0	0	Yes	Regular	
U.MANJULA	DGEPM5547K	M.E/M.Tech	13/05/2017	ECE	Assistant Professor	22/03/2021	100	100	0	Yes	Regular	
M. Anusha	CWAPM3041D	M.E/M.Tech	19/12/2016	MECHANICAL ENGINERRING	Assistant Professor	29/12/2016	100	100	100	Yes	Regular	
T VENKATA PF	AUNPT0627K	M.E/M.Tech	04/10/2022	CIVIL ENGINERRING	Assistant Professor	14/10/2022	100	0	0	Yes	Regular	
O SRI ROOPA	ACIPO2890G	M.Sc	30/04/2008	Chemistry	Assistant Professor	08/10/2022	100	0	0	Yes	Regular	
A.SIVA RAM P	AWOPA7459D	M.Sc	13/04/2013	Mathematics	Assistant Professor	02/09/2013	100	50	100	Yes	Regular	
B.MAHALAKA:	BGCPB0519G	M.Sc	30/04/2016	Mathematics	Assistant Professor	28/09/2020	100	50	100	Yes	Regular	
CH.RATNA RA	AMKPC0569J	MA	31/03/1994	English	Assistant Professor	26/10/2020	100	50	50	Yes	Regular	
N VEERANJAN	ALSPN1594P	MA	30/04/2010	English	Assistant Professor	01/05/2018	0	50	100	No	Regular	22/04/2022
Dr.L KRISHNA	ADJPL5146L	M.Sc. and PhD	30/05/2015	Mathematics	Professor	08/01/2018	0	100	100	No	Regular	30/09/2022
K.GURAVA RE	BCSPK6664D	M.Sc	30/04/2008	Chemistry	Assistant Professor	05/01/2016	0	100	100	No	Regular	30/09/2022
Dr.M.GANAPA	ASQPG8287K	M.Sc. and PhD	30/06/2018	Mathematics	Associate Professor	07/01/2019	0	0	100	No	Regular	22/07/2021
K.SRINIVASUL	BKIPK5360A	M.Sc	30/04/1997	Mathematics	Assistant Professor	10/01/2013	0	50	50	Yes	Regular	
A.NAGAMALLI	ASLPA8302Q	M.Sc	28/08/2007	Mathematics	Assistant Professor	01/06/2019	100	50	100	Yes	Regular	
CH.V.SUBRAN	BDXPC8524L	M.Sc	31/03/2008	Mathematics	Assistant Professor	25/11/2021	50	50	0	No	Regular	31/01/2023
Mr.M.Venkata	GKOPP8634K	M.E/M.Tech	01/04/2019	CSE	Assistant Professor	04/09/2019	100	100	100	Yes	Regular	
K.MADHU BAE	DTKPK6602J	MA	30/04/2013	English	Assistant Professor	28/09/2020	0	0	100	No	Regular	30/08/2021
SK.NAZER HU	KQKPS8352D	MA	31/12/2009	English	Assistant Professor	02/09/2019	0	0	100	No	Regular	30/08/2021
B.VEERASHAI	BBWPB1382E	M.Sc	30/04/2007	Mathematics	Assistant Professor	03/08/2019	0	0	100	No	Regular	30/08/2021
L.SRINIVAS	ALFPL1306E	M.Sc	30/04/2007	Mathematics	Assistant Professor	03/08/2019	0	0	100	No	Regular	30/08/2021
V.VENKATA R/	AYVPV7786P	M.Sc	30/04/2007	PHYSICS	Assistant Professor	28/10/2020	0	0	100	No	Regular	30/08/2021
B.Thirumalarac	CLZPB5877N	M.E/M.Tech	01/08/2018	CSE	Assistant Professor	01/09/2018	0	50	100	No	Regular	06/06/2022
CH.KOTI REDI	AITPC0590Q	M.Sc	28/04/2006	Mathematics	Assistant Professor	17/10/2013	50	50	50	Yes	Regular	
K.SUBBA RAC	CKMPK5853K	M.Sc	30/11/2010	Mathematics	Assistant Professor	06/03/2014	50	50	50	Yes	Regular	
E.NARASAMM	AAZPE0839J	M.Sc	30/04/2007	Mathematics	Assistant Professor	01/06/2018	50	50	50	Yes	Regular	
A.RAJU	BFXPA9896P	M.Sc	30/04/2016	Physics	Assistant Professor	02/09/2019	100	100	100	Yes	Regular	
K.CHINA DEVI	DMIPK7448M	MA	30/04/2011	English	Assistant Professor	02/09/2019	100	100	100	Yes	Regular	
B.Ayyappa jyot	BLUPB4226M	MA	31/12/2018	English	Assistant Professor	02/09/2019	100	100	100	Yes	Regular	

Year	Number Of Students(approved intake strength) N	Number of Faculty members(considering fractional load) F	FYSFR (N/F)	*Assessment=(5*20)/FYSFR(Limited to Max.5)
2020-21(CAYm2)	1020	74	14	5
2021-22(CAYm1)	1020	76	13	5
2022-23(CAY)	1140	79	14	5
Average	1060	76	13	5

AverageFYSFR: 0.00

Assessment [(5 * 15) / AverageFYSFR]:   5.00

8.2 Qualification of Faculty Teaching First Year Common Courses (5)   Total Marks 3.67

Institute Marks : 3.67

Year	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)	Assessment Of Faculty Qualification [(5x + 3y) / RF]
2020-21	7	46	51	3.00
2021-22	9	55	51	4.00
2022-23	10	60	57	4.00

Average Assessment: 3.67

8.3 First Year Academic Performance (10)   Total Marks 6.79

Institute Marks : 6.79

Academic Performance	CAYm1(2021-22)	CAYm2(2020-21)	CAYm3 (2019-20)
Mean of CGPA or mean percentage of all successful students(X)	6.58	6.71	7.08
Total Number of successful students(Y)	117.00	98.00	122.00
Total Number of students appeared in the examination(Z)	117.00	98.00	122.00
API [X*(Y/Z)]	6.58	6.71	7.08

Average API[(AP1+AP2+AP3)/3] : 6.79

Assessment = Average API : 6.79

8.4 Attainment of Course Outcomes of first year courses (10)   Total Marks 10.00

8.4.1 Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year is done (5)   Institute Marks : 5.00

For the Evaluation of attainments CO's both direct and indirect assessment methods are used. The 80% weightage is considered for direct assessment which includes internal assessments (like Mid-examinations, Assignments, Day to Day Evaluations, etc) and Semester end examinations. The remaining 20% weightage is based on course-end survey.

Internally developed excel spreadsheets are used for direct assessment. Feedback forms based on CO's were framed for each class and the feedback was taken from students for indirect assessment.

CO attainment process

The first year curriculum comprises of various types of courses like Theory Courses, Laboratory Courses, and Mandatory courses.
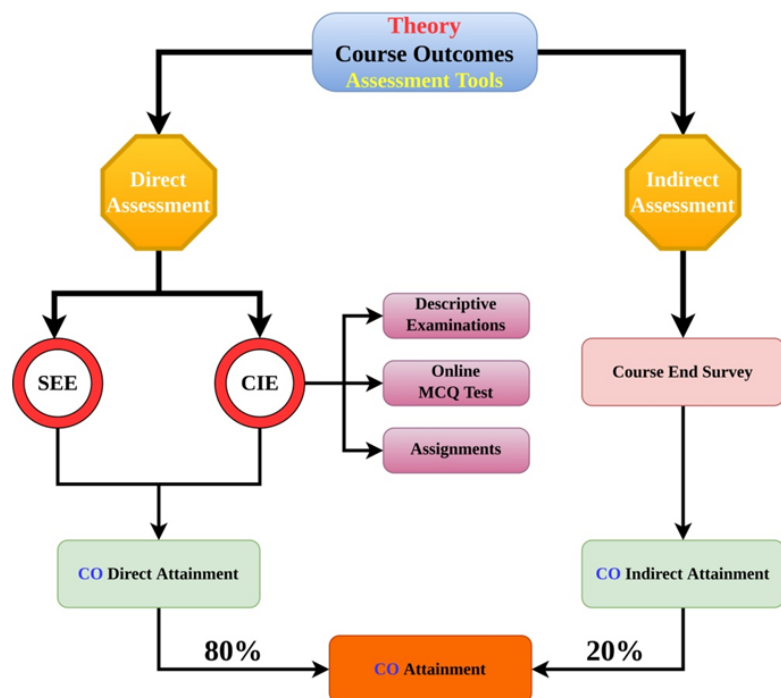
Theory Attainment Process

Theory:

Mid-Examinations: Two mid-examinations are conducted for each semester. Mid-examinations serve to encourage students to keep up with course content covered. The Mid examination is of 90 minutes for 15 marks. The questions are framed in such a way that they should map Bloom's taxonomy, whereas each question is mapped to the respective course outcomes, which was evaluated based on the set attainment levels. The Multiple choice questions of 10 marks is also evaluated in both mid's of each course.

Assignments: Students are assigned course-related work and their submissions are evaluated on the basis of work quality. A total of 2 assignments are given per course where each assignment carries 5 Marks.

Semester-End Examination: The semester-end examination is 180 minutes of 70 marks duration and covers the entire syllabus of the course. The questions are framed in such a way that they should satisfy Bloom's taxonomy, where as each question is mapped to the concurred course outcomes of the course. The CO's are evaluated based on the set attainment levels.

All direct assessment such as Mid-examinations, Assignments & Semester end examinations covers 80% of weightage and Indirect assessment consists of a course-end survey which comprises 20% of weightage.

Laboratory Attainment Process:
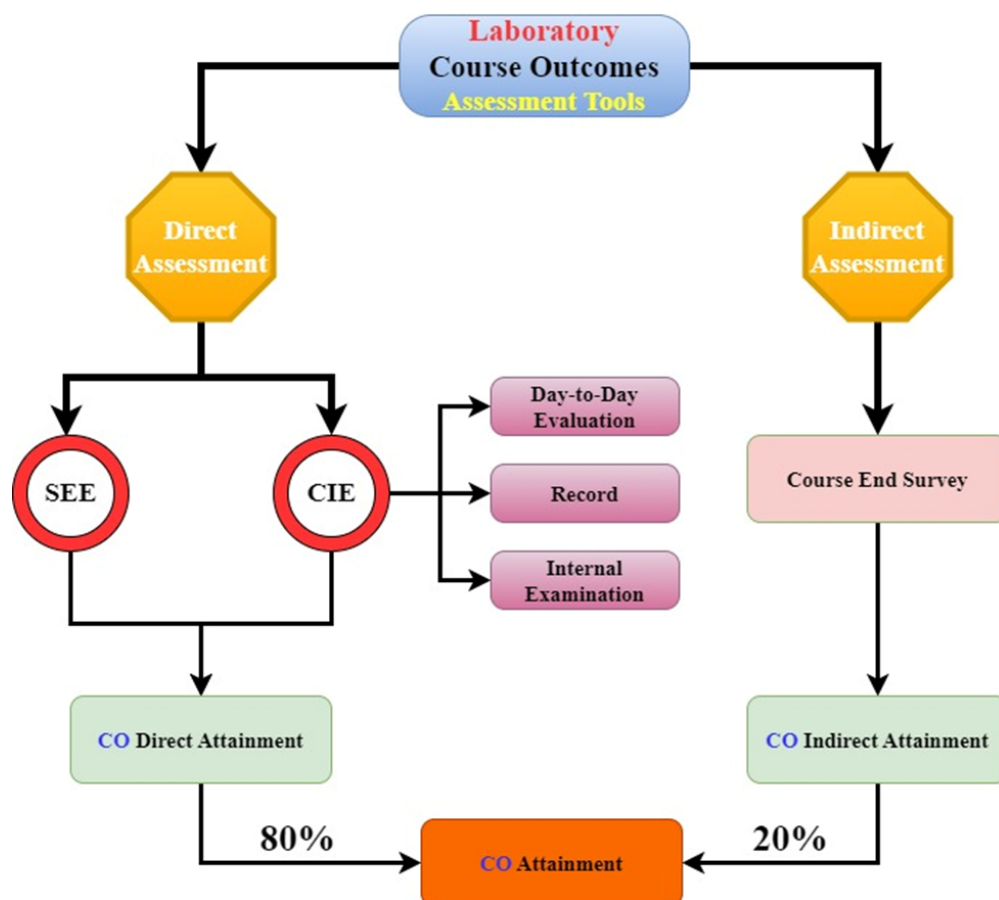
Laboratory Courses:

For a total of 50 marks, continuous internal evaluation is 15 marks which comprises mainly day-to-day evaluation (5 marks), Record (5 marks), Internal Examinations (5 marks) and Semester end examinations of 35 marks which cover 80% weightage of laboratory assessment and remaining 20% weightage for course end survey.

Mandatory Course Attainment Process:
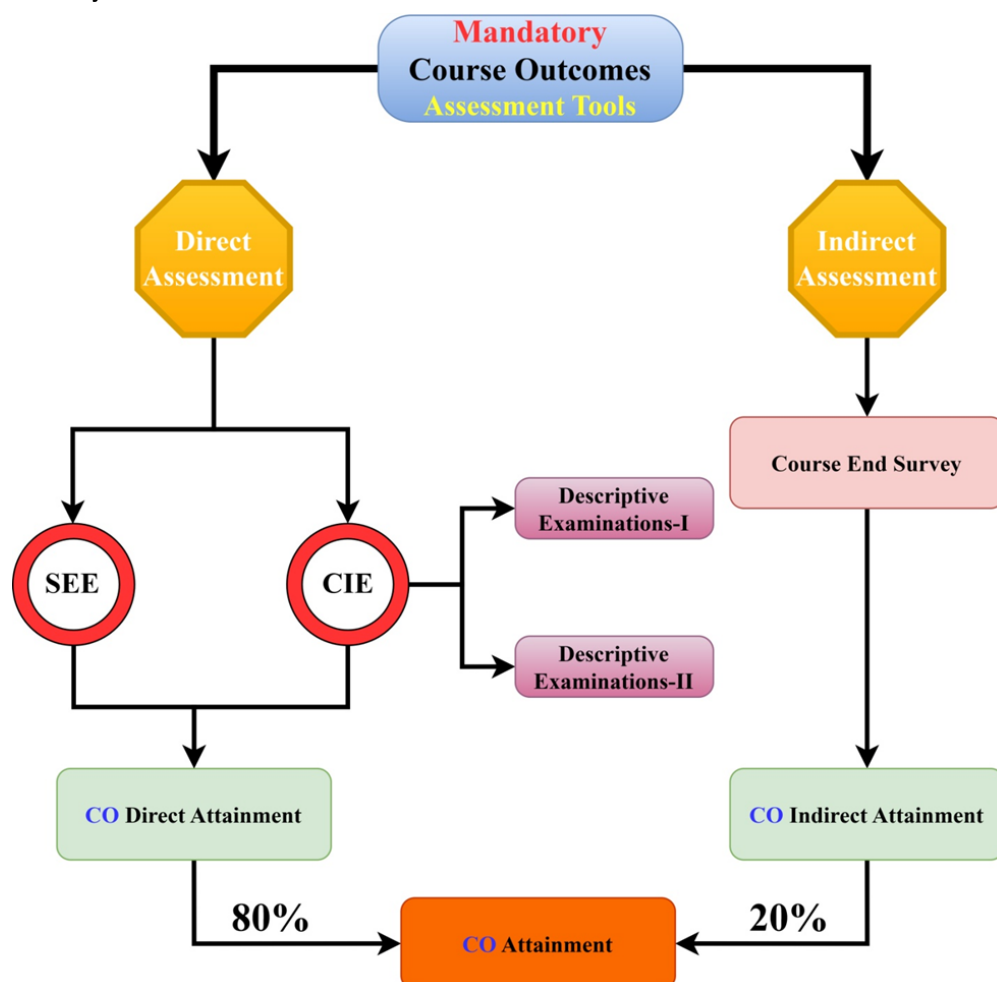
Mandatory Courses:

For a total of 100 marks, continuous internal evaluation is 30 marks which comprise two descriptive examinations, and Semester end examinations of 70 marks are conducted. All direct assessment covers 80% of weightage and Indirect assessment consists of a course-end survey which comprises 20% of weightage.

Indirect Attainment process

Course End Survey is collected at the end of the course from the students about their attainment level of COs.

Feedback is collected with closed-ended questions with options such as

4- Excellent

3- Very Good

2- Good

1-Average

0-Poor

Their responses will be converted into a percentage

$$\% \text{ of attainment} = \frac{\sum \text{Grade} \times \text{Number of responses to that grade}}{\text{Total respnses}} \times 100$$

Depending on the level of attainment grade was decided as mentioned below.

% of attainment	Grade
More than or equal to 80%	3
More than or equal to 70% and less than 80%	2
More than or equal to 60% and less than 70%	1
Less than 60%	0

8.4.2 Record the attainment of Course Outcomes of all first year courses (5)   Institute Marks : 5.00

As the 2021 admitted batch was introduced with new R21 regulations, the threshold for internal and external exams was calculated based on the previous two batches (2019& 2020) pass percentages in the course having the same/similar syllabus.

For 2018 admitted batch

2019 admitted & 2020 admitted batch average pass percentage	Internal Threshold	External Threshold
Less than 50%	55	40
More than or equal to 50% and less than 60%	57.5	42.5
More than or equal to 60% and less than 70%	60	45
More than or equal to 70% and less than 80%	62.5	47.5
More than or equal to 80%	65	50
If the course does not exist in R18	60	45

The percentage of students who secured more than the threshold was calculated. Grades were given on the % of students who secured more than the threshold value

Percentage of students secured more than the threshold	Grade
More than or equal to 80%	3
Less than 80% and more than or equal to 70%	2
Less than 70% and more than or equal to 60%	1
Less than 60%	0

Depending upon the percentage of students secured more than the threshold, the next batch threshold was decided by the same course as follows.

Next batch threshold for internal courses:

% of students secured more than the threshold value	Action
More than or equal to 95% and less than 100%	Change Threshold to Min (Present batch Thresold+10%, 70)
More than or equal to 90% and less than 95%	Change Threshold to Min (Present batch Thresold+7.5%,70)
More than or equal to 85% and less than 90%	Change Threshold to Min (Present batch Thresold+5%,70)
More than or equal to 80% and less than 85%	Change Threshold to Min (Present batch Thresold+2.5%,70)
Less than 80%	No Change in the threshold is required.

8.5 Attainment of Program Outcomes from first year courses (20)   Total Marks 20.00

8.5.1 Indicate results of evaluation of each relevant PO and/or PSO if applicable (10)   Institute Marks : 10.00

POs Attainment:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C101	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	0.83	1.47	PO11	1.36
C102	1.87	2.00	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C103	0.81	1.08	1.33	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.08
C104	1.93	2.20	1.57	PO4	2.16	PO6	PO7	PO8	PO9	PO10	PO11	2.23
C105	1.24	1.16	1.08	1.08	1.08	PO6	PO7	PO8	PO9	0.83	0.62	0.41
C106	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	2.00	2.67	PO11	PO12
C107	2.00	PO2	PO3	3.00	2.00	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C108	3.00	3.00	PO3	3.00	2.00	2.00	2.00	PO8	PO9	PO10	PO11	2.00
C109	1.56	1.46	1.25	0.69	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.94
C110	1.16	1.12	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C111	1.56	1.35	1.14	1.21	1.30	PO6	PO7	PO8	PO9	1.56	PO11	1.04
C112	1.30	1.30	0.87	1.30	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.66
C113	0.82	0.92	0.71	0.78	PO5	0.41	PO7	PO8	PO9	PO10	PO11	0.45
C114	3.00	2.00	2.00	2.00	PO5	PO6	PO7	PO8	PO9	PO10	PO11	1.50
C115	3.00	2.80	2.60	3.00	3.00	PO6	PO7	PO8	PO9	PO10	PO11	2.80
C116	3.00	3.00	2.75	2.25	PO5	1.50	PO7	PO8	PO9	PO10	PO11	1.50
C117	0.52	1.56	1.04	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	0.88

PO Attainment Level

PSOs Attainment:

Course	PSO1	PSO2	PSO3
C101	PSO1	PSO2	1.40
C102	PSO1	PSO2	0.68
C103	1.08	1.04	PSO3
C104	1.05	1.32	1.15
C105	0.99	0.99	PSO3
C106	PSO1	PSO2	2.50
C107	2.33	PSO2	2.00
C108	2.50	2.83	PSO3
C109	0.87	0.69	0.87
C110	PSO1	PSO2	0.43
C111	1.04	1.35	1.35
C112	0.97	0.87	0.87
C113	0.41	0.61	0.61
C114	2.00	1.00	PSO3
C115	2.20	2.60	PSO3
C116	2.33	2.00	2.00
C117	PSO1	0.52	0.52

PSO Attainment Level

Course	PO1	PO2	PO3
Direct Attainment	1.48	1.32	1.20
PSO Attainment	1.48	1.32	1.20

8.5.2 Actions taken based on the results of evaluation of relevant POs and PSOs (10)   Institute Marks : 10.00

POs Attainment Levels and Actions for Improvement- (2021-22)

POs	Target Level	Attainment Level	Observations
PO 1 : Engineering Knowledge			
PO 1	1.5	1.78	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.85 Action 2: Basic concepts were discussed frequently through extra classes			
PO 2 : Problem Analysis			
PO 2	1.5	1.78	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.85 Action 2: To write review of famous books on basic and engineering sciences Action 3: To give more home assignments for the purpose of enhancing understanding of subjects			
PO 3 : Design/development of Solutions			
PO 3	1.5	1.49	There is a gap of 0.01 identified between the target and attainment.
Action 1: Even though target not achieved there is only 0.01 gap the target for next batch is raised to 1.55 Action 2: The students are prompted to organize seminars and workshops to better understand engineering problems and provide appropriate solutions Action 3: To provide alternate solutions to various engineering problems Action 4: Hand-on workshops, seminars, industrial visits will be organized to gain knowledge on design solutions from II year onwords.			
PO 4 : Conduct Investigations of Complex Problems			
PO 4	1.5	1.83	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.90 Action 2: Create an enthusiasm among the students for research, encouraging them to develop efficient solutions from the various experiments conducted in laboratories. Action 3: Encourage to participate in seminars and presentations.			
PO 5 : Modern Tool Usage			
PO 5	1.5	1.92	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.00 Action 2: Conduct virtual classes and use ICT tools in classroom teachings Action 3:Students are encouraged to use simulation software to understand modeling of problems			
PO 6 : The Engineer and Society			
PO 6	1.5	1.30	There is a gap of 0.20 identified between the target and attainment.
Action 1: As the target was not achieved for this batch, the target level remains the same for the next batch as 1.50 Action 2: Students are encouraged to participate in cultural and societal activities Action 3: To motivate the students to join different activities on societal and health issues Action 4: To understand the safety concerns and social aspects, students will be encouraged to visit industries to expand their practical knowledge with the effect of improved practices in engineering.			
PO 7 : Environment and Sustainability			
PO 7	1.5	2.00	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 2.1 Action2: Students are exposed to the concept of sustainable development Action 3: Energy conservation is practiced by the installation of LED Lamps and LED tube light and energy efficient fans. Action 4: More emphasis on understanding environmental issues. Action 5: Make better awareness on environment and their importance , by using live demo in surroundings			
PO 8 : Ethics			
PO 8	0	0.00	There is no subject mapping PO8 in first year curriculum
Action 1: As there is no course mapping with PO8 target considered as a zero. and kept same for next batch too. Action 2: Students are motivated and made aware about the demands of engineering profession, duties towards society & fellow human beings and importance of honesty and ethics. Action 3: Students were trained in ethical principles & responsibilities in order to attain level. Action 4: To improve the students ethical principles and professional ethics will be conducted programs.			
PO 9 : Individual and Team Work			
PO 9	1.5	1.42	There is a gap of 0.08 identified between the target and attainment.
Action 1: Even though target not achieved there is only 0.08 gap the target for next batch is raised to 1.55 Action 2: Students to be motivated to organize and participate in quiz contest and group participation in events. Motivate to do teamwork in projects. Action 3: The laboratory work of the students is conducted by framing student groups so that students learn to work in a team environment. Action 4: To encourage the students improve their leadership qualities by the team work.			
PO 10 : Communication			
PO 10	1.5	1.63	Target achieved, still there is scope for enhancing
Action 1: As the target was achieved for this batch, for the forthcoming batch target level is set to 1.70 Action 2: Encourage to communication/technical talks by group discussions, presentations and also referred to language lab for improving their communication skills Action 3: To enhance Students personal development and communication skills by providing special courses			
PO 11 : Project Management and Finance			
PO 11	1.5	0.62	There is a gap of 0.88 identified between the target and attainment.
Action 1: As the target was not achieved for this batch, the target level remains the same for the next batch as 1.50 Action 2: The students study the principles of management. Action 3: Faculty to conduct exercises / group activity regarding the management principles and managing projects. Action 4: To encourage the students for the developing management skills and financial discipline by the project works			
PO 12 : Life-long Learning			
PO 12	1.5	1.30	There is a gap of 0.2 identified between the target and attainment.
Action 1: As the target was not achieved for this batch, the target level remains the same for the next batch as 1.50 Action 2: Expert talks were conducted in our institutions. Action 3: Give importance of the lifelong learning and updated modern technologies in teaching and also life.			

PSOs Attainment Levels and Actions for Improvement- (2021-22)

PSOs	Target Level	Attainment Level	Observations

PSO 1 : Ability to apply the professional core theories and process to choose the sustainable control, Measuring and drive circuitry for the specified upcoming fields.

PSO 1	1.5	1.48	Target is not Achieved

Action 1: Apart from the regular classes, guest lectures will be arranged on professional core theories. Action 2: Seminars will be arranged to motivate the students, and strongly encouraged by Mentors through frequent meetings.

PSO 2 : Ability to design, simulate and find optimal solutions for various industrial and societal Problems related to electrical and electronics engineering.

PSO 2	1.5	1.32	Target is not Achieved

Action 1: Students were instructed to include the design part in their mini project and final year project. Action 2: The design and modeling of the various test systems will be discussed and verified using MATLAB simulation tools. Action 3: Students are encouraged to do renewable energy source based projects to gain more practical exposure.

PSO 3 : To prepare the students to succeed in competitive examinations for higher education and Employment related to Electrical and Electronics Engineering.

PSO 3	1.5	1.20	Target is not Achieved

Action 1: Students are encouraged to participate in workshops and seminars to create awareness for higher education and employability in electrical and electronics engineering Action 2: Soft-skills training is imparted to students to enhance various aspects of communication/technical talks by group discussions, presentations and new learning outcomes.

9 STUDENT SUPPORT SYSTEMS (50)   Total Marks 50.00

9.1 Mentoring system to help at individual level (5)   Total Marks 5.00

Institute Marks : 5.00

A mentoring system can be an effective way to provide support and guidance at the individual level. Here are some key steps to implementing a successful mentoring system at PACE Institute of Technology & Sciences:

  i. All faculty and students are divided into mentor-mentee for every semester.
  ii. Mentoring of the students is our top priority.
  iii. Each mentor has been assigned 15-20 mentees in the same department. They would look into assigned students' academic progress, and participation in co-curricular & extracurricular activities.
  iv. At a minimum, mentors and mentees should meet regularly at least one hour per month.

- **Academic Guidance**

  i. Academic guidance is an essential component of academic success that can help students achieve their academic goals by providing support, advice, and resources. Whether it involves course selection, study skills, academic planning, career planning, or academic support, academic guidance can provide students with the tools they need to succeed academically.
  ii. Sharing information on academic planners, academic schedules, and e- learning resources. Students with poor attendance are identified and it is ensures that they improve their attendance by getting counselled in presence of a HoD and mentor representatives.
  iii. For a slow learner, mentor representative focuses mainly on their studies with the support of additional reading materials, model questions along with solutions.

- **Professional Guidance**

  i. The department are well equipped with knowledgeable human resources in the form of members of faculty who by keeping themselves updated of developments offer guidance to the prospective professionals in addition to the classroom teaching.
  ii. Professional guidance is an essential component of career development that can help individuals achieve their career goals by providing support, advice, and resources. Whether it involves career exploration, career planning, skill development, networking, or job search strategies, professional guidance can provide individuals with the tools they need to succeed in their chosen careers.

- **Career Advancement**

  i. Career advancement is an important component of professional success that can provide individuals with opportunities for growth, satisfaction, financial rewards, recognition, and networking. By developing new skills, gaining experience, taking on new responsibilities, and pursuing opportunities for growth and development, individuals can advance their careers and achieve their professional goals.
  ii. Encourage the students to take up online certification courses in order to build their careers.

- **Laboratory specific**

  i. It's important to provide specific details about the students laboratory work, including the day to day evaluation, lab record updating, and research works the tasks they have been involved in, and any additional responsibilities they have taken on. This can help future mentors or employers understand the students laboratory experience and potential for future success in the field.
  ii. Irregular students in laboratory classes are counselled to attend regularly and complete backlog experiments during specified extra hours.

- **All-round Development**

  i. An all-round development mentoring system should prioritize the needs and goals of individuals, and provide a supportive and nurturing environment for personal, academic, and professional growth.
  ii. This institution puts forward effort to realize all-round development and guides the student accordingly. In addition to academics, the students are encouraged to participate in literature, cultural, and sports activities which help to develop leadership qualities, decision-making abilities, team spirit, and socio-psychological awareness.

9.2 Feedback analysis and reward /corrective measures taken, if any (10)   Total Marks 10.00

Institute Marks : 10.00

Student feedback analysis involves gathering and analyzing feedback from students in order to improve teaching, learning, and the overall student experience. Here are some steps for conducting a student feedback analysis:

- **Collect Feedback**

Feedback collected from the students using surveys, focus groups, or other methods.

i. Twice a semester the feedback on all courses in collected. Along with that, department and institutional-level feedback also will be collected on facilities, the conduction of co-curricular and extracurricular activities, and maintenance of discipline in the department.
ii. The course end survey will be collected to understand the student level of course attainment.
iii. Feedback has been taken from the outgoing students as a part of the student exist survey to understand the student PO and PSO attainment status.
iv. Feedback on the curriculum and syllabus has been collected once a year from all the stakeholders
v. Student satisfaction survey will be collected once a year from all the students on Teaching Learning Evaluation.
vi. Staff exit survey is collected from the staff while he/she relieves the institution.

- **Analysis and Report Preparation**

i. Analysing and preparing a report on a student feedback system is a valuable process that can help identify areas of strength and areas for improvement, and provide recommendations for enhancing the overall student experience.
ii. The faculty who get less than the threshold percentage of 70% are asked to give an explanation and corrective measures are taken by the HoD for improvement.
iii. The student feedback is also given weightage in the staff appraisal form.
iv. Student course end survey is used as an indirect tool for the course outcomes attainment.
v. The student exit survey uses as an indirect tool for POs, and PSOs attainment.
vi. The stakeholder feedback is utilized for framing the curriculum and syllabus.
vii. The student satisfaction survey is used for the suggestion in the TLE process.
viii. Staff exist survey is used for the improvement institution and is useful for the increase in the retention of staff.

- **Reward / Corrective Measures Taken**

Head of the department analyzes the feedback of each faculty and will take necessary actions. Following things are considered for reward/correction measures

i. Induction programs are conducted for newly joined faculty members and continuing education programme for the experienced faculties. Those faculty who have not obtained good appraisals have a detailed discussion with the Head of the department on how to improve the teaching.
ii. Level of feedback is taken into account while evaluating the staff of promotion.
iii. Student feedback is one of the mandatory roles in the faculty award scheme.
iv. All the faculty members are evaluated yearly in even and odd semesters considering their contributions towards academic, research and administration.
v. Class committee meeting shall be conducted twice in every semester for each class. Committee members includes Head of the department, Academic Coordinator, class teacher, two faculty members teaching in the respective class, two student members from the class.

9.3 Feedback on facilities (5)   Total Marks 5.00

Institute Marks : 5.00

The feedback on the facilities has been initiated by the institute. The lab and library facility, training & placement facilities and general facilities will be rated by students via a survey conducted. This feedback helps to identify areas that need improvement and make improvements together with students.

i. **Teaching & Learning, Facilities / Activities, Curriculum, Career guidance / Employability (Student Exit Survey)**

Student Exit Survey

Dear students,

We would grateful if you could fill out and submit the following exit survey. We assure you that your feedback will be treated confidentially for our continuous improvement.

Name of the student :   **Branch** :

Mobile No :   **Email** :

Questionnaire	Excellent (5)	Very good (4)	Good (3)	Satisfactory (2)	Poor (1)
Teaching & Learning					
Teaching & learning methods adopted were					
Overall quality of teaching & learning activities in the college is					
The learning materials and resources provided were					
Facilities / Activities					
Infrastructure, Lab facilities & Library					
Students mentoring and guidance					
Internet / wifi facility					
Extracurricular activities					
Safety & Security					
Curriculum					
The curriculum of the program is well designed and promotes learning experience of the students					
Employability is given focus in the curriculum design					
The curriculum incorporates the recent technological					

ii. **Parents feedback**

FEEDBACK FROM PARENTS

a) Name of the Parent   :

b) Present Address   :

   Phone Number   :

   Email-ID   :

c) Name of the Student   :

d) Branch and Year   :

e) Please provide your comments on the following:

1.	College Infrastructure	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
2.	Teaching imparted to your ward	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
3.	Department Resources	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
4.	Faculties helpfulness	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
5.	Library Facilities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
6.	Computing and Internet Facilities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
7.	Sports, Extra Curricular Facilities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
8.	Personality/Communications Skills Development Facilities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
9.	Placement Opportunities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
10.	Transport Facilities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
11.	Mess/Canteen Facilities	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
12.	Feedback on ward's Progress	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
13.	Discipline standards in the College	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)
14.	Overall rating of the College	: ☐ Excellent(4) ☐ Good(3) ☐ Average(2) ☐ Fair(1)

e) Your Positive/Negative Comments:

f) Your suggestions for the Improvement of the Institution/Department:

Date: Signature.

9.4 Self-Learning (5)   Total Marks 5.00

Institute Marks : 5.00

A. Scope for self-learning

Self-learning refers to the process of acquiring knowledge or skills through independent study, research, and practice, without the guidance or supervision of a teacher or instructor.

PACE Institute of Technology & Sciences provides some of the areas where self-learning can be particularly useful include:

- · Academic subjects
- · Technical skills
- · Life skills
- · Extracurricular activities

B. The institution needs to specify the facilities, materials for learning beyond syllabus, Webinars, Podcast, MOOCs etc. and demonstrate its effective utilization

Providing facilities, materials, and opportunities for learning beyond the syllabus is essential for promoting self-learning and ensuring that students are well-prepared for their future careers.

PACE Institute of Technology & Sciences provides some steps that institutions can take to specify and demonstrate the effective utilization of these resources:

- · Self-learning courses under the category of elective courses wherein the students are provided with the flexibility of choosing courses available in online portals like MOOCs and popular e-learning portals like NPTEL SWAYAM, Spoken tutorials, EduSkills, Codetantra, NASSCOM, Coursera, Infosys Spring Board, CISCO, Microsoft Certification courses etc…
- · To enable the students to effectively utilization the library and to motivate for self-learning weekly one library hour is allocated in the timetable.

9.5 Career Guidance, Training, Placement (10)   Total Marks 10.00

Institute Marks : 10.00

A. Availability of career guidance facilities

Career guidance facilities are essential for students to make informed decisions about their future careers and to develop the skills and knowledge necessary to achieve their goals.

PACE Institute of Technology & sciences can make some ways of career guidance facilities available to their students:

· Soft skill training programmes from first year onwards

· Training on employability skills.

· Online tests to assess the students.

· Conduct of motivation lectures and mock interviews

· Technical training & guest lectures

· Enabling the students to resume preparation

· Arranging customized industry– oriented training

· Entrepreneurship and higher studies awareness programs

· Conduct of mock interviews.

B. Counseling for higher studies (GATE/GRE, GMAT, etc.)

Counseling for higher studies is an essential service that institutions can offer to their students who are considering pursuing advanced degrees or further education.

PACE Institute of Technology & sciences provides some ways in which institutions can provide counseling for higher studies:

· Workshops and Seminars

· Mock tests

· Practice materials

· Online Courses

· Personalized Coaching

C. Pre-placement training

Pre-placement training is a crucial service that institutions can offer to their students to help them prepare for job interviews and employment opportunities.

PACE Institute of Technology & sciences provides some ways in which institutions can provide pre-placement training:

· Resume building

· Interview skills training

· Soft skills training

· Online resources

D. Placement process and support

The placement process can be a challenging experience for students. Institutions can provide critical support to students by maintaining a company and job database, setting up a dedicated placement cell, offering career counseling, providing interview preparation services, and leveraging their alumni network.

PACE Institute of Technology & sciences provides some ways in which institutions can offer support to their students in the placement process:

· Company and job database

· Placement cell

· Career counseling

· Interview preparation

· Alumni network

9.6 Entrepreneurship Cell

Total Marks 5.00

Institute Marks : 5.00

A. Entrepreneurship initiatives

Entrepreneurship initiatives are a critical aspect of an institutions support system for students who want to start their own businesses.

PACE Institute of Technology & Sciences provides some ways in which institutions can offer entrepreneurship initiatives:

· Invited motivational talks

· Awareness programs on new business avenues

· Celebration of world's Entrepreneurship day

· Entrepreneurship courses

· Funding opportunities

· Guest lecture/Workshops with MOU companies

B. Data on students benefitted

S.No	Academic Year	Number of Entrepreneurs
1	2021-2022	2
2	2020-2021	3
3	2019-2020	4

9.7 Co-curricular and Extra-curricular Activities

Total Marks 10.00

Institute Marks : 10.00

A. Availability of sports and cultural facilities

Availability of sports and cultural facilities is an important aspect of an institutions support system for students.

PACE Institute of Technology & sciences provides some ways in which institutions can provide sports and cultural facilities:

    i.   Sports facilities: A variety of sports facilities such as outdoor and indoor sports fields, and fitness centers. These facilities can be used for a range of sports activities such as cricket, football, basketball, badminton, Volleyball, and more.

    ii.   Sports events: organize sports events such as intercollegiate tournaments, intra-college matches, and sports meets. These events can provide students with opportunities to showcase their skills and compete with other institutions.

    iii.   Cultural facilities: Institutions can offer facilities for cultural activities such as music, dance, drama, and other performing arts. These facilities can include theaters, and auditoriums etc

    iv.   Cultural events: Institutions can organize cultural events such as music festivals, dance competitions, and drama competitions.

B. NCC, NSS and other clubs

NCC and NSS are both student organizations that operate in PACE Institute of Technology & sciences.

·   The National Cadet Corps (NCC) is a youth development movement that aims to train young people in discipline, leadership, and patriotism through military-style training.

·   The National Service Scheme (NSS) is a community service program that encourages students to participate in various activities that contribute to the development of society. The NSS aims to develop the personality of students through community service, promote national integration and social harmony, and encourage students to work towards the betterment of society. NSS activities may include tree planting, blood donation camps, health and hygiene campaigns, and awareness programs on social issues.

·   Clubs and societies: Institutions can establish and support clubs and societies for sports and cultural activities. These clubs and societies can provide students with opportunities to meet other students who share similar interests and engage in sports and cultural activities together.

C. Annual student's activities

Annual student activities are an important part of the academic calendar in PACE Institute of Technology & sciences. These activities provide students with opportunities to showcase their talents, develop new skills, and build their confidence.

PACE Institute of Technology & sciences conducts some common annual student activities:

·   Annual sports day
·   Cultural festival
·   Science fair
·   Debate competition
·   Quiz competition
·   Annual day celebration
·   Charity events
·   Talent show
·   Career fair

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10 GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES (120)

Total Marks 120.00

10.1 Organization, Governance and Transparency (55)

Total Marks 55.00

10.1.1 State the Vision and Mission of the Institute (5)

Institution Vision:

Our vision is to impart futuristic technical education transforming the students technically superior, ethically strong and self-disciplined to serve the nation as a valuable resource.

Institution Mission:

M1	To inculcate quality education by implementing innovative teaching-learning methods and state-of-the-art facilities.
M2	To enrich the intellectual know-how, credibility and integrity of the students to necessitate industry.
M3	To recognize as scholarly and influential leaders in engineering education, to develop human power with creativity, advanced technology and passion for the betterment of future nation.

Availability of the Vision & Mission statements of the Institute:

To sensitize all the stakeholders about the Vision and Mission statements, display boards and Sign boards are arranged at:

- Institute website
- Principal Chamber
- each of the departments
- Library,
- Institute-level documents
- All major central facilities

10.1.2 Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (25)

Pace Institute of Technology and Sciences has formulated a dynamic strategic plan to achieve the Institutional Goals in this competitive world. Strategic Plan includes the targets and the strategies to achieve the targets. The plan is formulated based on the SWOC analysis of the institute. All the staff are fully committed to deliver high quality standards to the students by continuous learning and enhancing their skills.

The following are the targets that the strategic plan has identified for the upcoming years:

STRATEGIC PLAN IDENTIFIES THE FOLLOWING ROAD TARGETS FOR AY 2018-2028

- Implementation of Outcome Based Education.
- Establish at least 2 Research Centers by 2023.
- To attain NAAC A++ grade during 2nd Cycle Accreditation.
- To be ranked among TOP 200 engineering institutions in NIRF Ranking.
- To secure TOP 50 position in ARIIA Ranking 2025.
- Promote industry-institution collaboration with top MNCs.
- Establish Centers of Excellence in various departments.
- Incubate successful start-ups creating innovative products and business models using the knowledge and technologies   developed by the Institution.
- Provide an invigorating work environment for faculty and staff.
- Improve the involvement of alumni in all the aspects of Institutions development by collaborating with them in placements, guest lecture, mentoring students in various projects, mentoring incubate, research and development, consultancy.
- Collaboration with various industries in the field of Research & Development and consultancy.
- Collaboration with Institutions around the world to promote quality higher education and for supporting students/faculty   exchange programmes.

In view of achieving the above strategic plan the following key strategic issues are focused:

· **Create an institutional culture which equips the students with the skills required for the industry**

- Training programs are conducted for improving the communication skills and interpersonal skills from the first year onwards.
- Induction program is conducted for the students in the first year.
- Motivational programs are being conducted by the industry experts and successful alumni.
- Offers minors degree with inter-disciplinary open electives
- Internships for hands-on experience and community service are encouraged for the students.
- Student chapters are established for professional bodies and continuous activities are organized under the student chapters to enhance the leadership qualities.
- Entrepreneur Development Cell (EDC) works continuously to promote entrepreneurship.
- Add-on courses on latest technologies are conducted to enhance the placement opportunities.
- Students are encouraged to complete self-learning courses through MOOCs/Swayam NPTEL.

Continuous capacity building of the faculty and Promoting research culture among the students and faculty:

- Faculty development programs are organized by inviting subject experts from premier institutions and industry to enhance their technical skills and research skills.
- Training on course design, question paper setting and teaching pedagogy in-line with OBE philosophy are being conducted.
- All the faculty are encouraged to attend ATAL FDPs to improve their skills and expertise in latest technologies.
- Encouraging faculty members and students to participate in workshops, conferences and seminars by providing financial support
- Incentives for quality journal publications and sponsored research projects are given.
- Encouragement to pursue the Ph.D. (Part time, Full time) by providing support in terms of research facilities and academic leaves.
- Students are encouraged to participate in innovative project contests
- Students were encouraged to develop prototypes and apply for Patents

10.1.3 Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)

Governing body: Governing body is formulated to coordinate with all Academic and Administrative activities of the college.

Term: The Governing Body shall be reconstituted every three years except in the case of UGC nominee who shall have a term of five years.

Meetings: Meetings of the Governing Body shall be held at least twice a year.

Functions of the Governing Body: Subject to the existing provision in the bye-laws of respective college and rules laid down by the state government/parent university, the Governing Body shall:

- Guide the college while fulfilling the objectives for which the college has been granted autonomous status.
- Institute scholarships, fellowships, studentships, medals, prizes and certificates on the recommendations of the Academic Council
- Approve new programmes of study leading to degrees and/or diplomas.
- All recruitments of Teaching Faculty/Principal shall be made by the Governing Body/state government as applicable in accordance with the policies laid down by the UGC and State Government from time to time.
- To approve annual budget of the college before submitting the same at the UGC.
- Perform such other functions and institute committees, as may be necessary and deemed fit for the proper development of the college

Members of Governing Body:

S. No	Details of the Member	Representative in GB
1	Sri. M. Venu Gopala Rao Chairman, Srinivasa Educational Society	Chairman, Management
2	Sri. M. Sridhar Secretary & Correspondent, Srinivasa Educational Society	Member, Management
3	Sri. M. Vasu Babu Vice-Chairman, Srinivasa Educational Society	Member, Management
4	Smt. M. Padma Treasurer, Srinivasa Educational Society	Member, Management
5	Sri. M. Ravindra Joint Secretary, Srinivasa Educational Society	Member, Management
6	Dr. R.N. Yadav Professor, Dept of ECE, NIT, Bhopal	Member-UGC Nominee
7	Dr. S. Narayana Reddy Principal, SVU College of Engineering, Tirupati, AP	Member- State Govt. Nominee
8	Dr. Ch. Srinivas Rao Professor in ECE, UCEN, JNTUK, Kakinada	Member- University Nominee
9	Sri P. Siva Prasad CEO, Mydentistchoice.Com, Hyderabad	Member- Industrialist
10	Sri K.V.C Krishna Chartered Accountant, Flat No. 103, B-Block, Pavani Homes, Hyderabad	Special Invitee
11	Dr. G. V. K. Murthy Principal, PACEITS	Member- Ex-Officio
12	Dr. R. Veeranjaneyulu, Prof in CSE, PACE ITS	Member - Teacher
13	Dr. T. Mary Jones Professor & Head, Dept. of MBA, PACEITS	Member - Teacher

Academic Council:

Academic Council is formulated to approve the course structure and syllabus formulated by Board of Studies and monitors the overall performance of the institution. It comprises members nominated by JNTUK and Governing body, Principal, Deans and Head of the Departments. The body meets twice a year.

Functions:

To scrutinize and approve the proposals with or without modification of the boards of studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant thereto etc., provided that where the Academic Council differs on any proposal, it will have the right to return the matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so.

- To make regulations regarding the admission of students to different programs of study in the college keeping in view the policy of the Government.
- To make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.
- To recommend to the Governing Body proposals for the institution of new programs of study.
- To recommend to the Governing Body institution of scholarships, studentships, fellowships, prizes, and medals, and to frame regulations for the award of the same.
- To advise the Governing Body on suggestions(s) pertaining to academic affairs made by it.
- To perform such other functions as may be assigned by the Governing Body.

Members:

The Academic Council consists of the following members,

1. The Principal (Chairman)

2. All the Heads of Departments in the college

3. Four teachers of the college representing different categories of teaching staff by rotation on the basis of seniority of service in the college.

4. Not less than four experts/academicians from outside the college representing such areas as

Industry, Commerce, Law, Education, Medicine, Engineering, Sciences etc., to be nominated by the Governing Body.

5. Three nominees of the university not less than Professors.

6. A faculty member nominated by the Principal (Member Secretary).

Term: The tenure of nominated members shall be three years.

BOARD OF STUDIES:

A Board of Studies is formulated for each department to prepare the course structure and syllabus. They monitor regularly the performance of the department. They meet at least twice for a year and guide the department respectively.

Functions and Responsibilities

·   To prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders, and national requirements for consideration and approval of the Academic Council

- To suggest methodologies for innovative teaching and evaluation techniques
- To suggest panel of names to the Academic Council for appointment of examiners
- To coordinate research, teaching, extension and other academic activities in the department/college.

In addition to internal members BoS consist of external members as mentioned below

- One Expert from Parent University
- Two Expert from Outside Parent University
- One Expert from Industry
- One Meritorious Alumni

FINANCE COMMITTEE:

Finance Committee is formulated to estimate budgets and monitor the financial transactions and the financial status of the institution.

Functions:

·   To estimate budget relating to the grant received/receivable from UGC, and income from fees, etc. collected for the activities to undertake the scheme of autonomy

- To verify Cash inflows and outflows in all bank accounts
- To verify advances given and outstanding payments totals, receipts and payments
- To maintain all ledger books, preparation of salary statements
- To audit accounts for the above

Administrative set up:

Following diagram depicts the brief administrative set up and the glance of committees in order to create and enhance the infrastructure that facilitate teaching and learning process
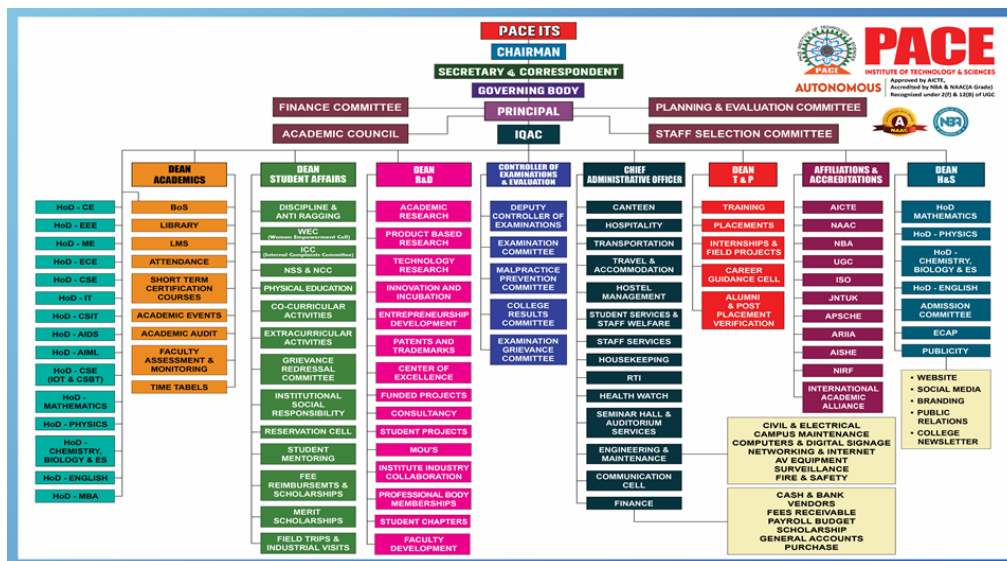
PACEITS has a decentralized mechanism for delegating authority and providing operational autonomy to all the functionaries to work towards decentralized governance. It includes the Board of Governors, Academic council, Secretary and Correspondent, Principal, Board of Studies, Director, Dean Academics, Dean Student Affairs, Dean Research & Development, Administrative Officer, Dean Training & Placements, Controller of examinations and HOD's for effective Governance and participative management. Top management in consultation with the Board of Governors and Secretary & Correspondent gives strategic directions to the Principal regarding various future initiatives focusing broadly on the Vision and Mission of the institution. The principal prepares the action plan keeping in view the short-term and long-term goals of the institution and gets it executed through IQAC, various Deans, heads of the Departments, and other committees. Principal with various HODs nominated institute-level committees to the faculty members. The department-level committees are nominated by the respective Heads of Departments. All Administrative matters including Finance, campus maintenance, Canteen, Hostel Management, and scholarship is handled by Chief Administrative Officer. Student examinations were conducted by the Controller of Examination and Senior/Junior supervisors.

The service rules, policies and procedures are available in the website and are circulated to all the staff members. The meetings are conducted regularly and the minutes of the meeting with attendee's signature is filed properly. Every meeting starts with the review of the previous meeting minutes and the action taken on the discussed points.

10.1.4 Decentralization in working and grievance redressal mechanism (5)   Institute Marks : 5.00

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.

GRIEVANCE REDRESSAL COMMITTEE

Grievance Redressal committee is formulated to investigate the complaints received from the students and faculties.

Functions:

- To formulate the policy to investigate and review complaints or grievances of students and faculties.
- To create awareness of availability of members for students and faculties to report grievances.
- To investigate the cause of grievances to ensure effectual solution.

S. No	Name	Designation
1	Dr. G V K Murthy	Chairmen
2	Mr. G Ramesh Babu	Convener
3	Dr. R Veeranjaneyulu	Member
4	Dr. A Seshagiri Rao	Member
5	Dr. D Suresh	Member
6	Dr. D Anil Kumar	Member
7	Dr. M Rajasekhar	Member
8	Mr. P Siva Prasad	Member
9	Mr. B Nagaraju	Member
10	Dr. G Kondaiah	Member
11	Mr. G Ganesh Naidu	Member
12	Dr. T Mary Jones	Member
13	Mr. M Raveendra	Member

ANTI-RAGGING COMMITTEE: Anti ragging committee is formulated to ensure a safe environment for first years that enter into the campus with high aspirations. This committee encourages healthy relationships between the students of different years and branches.

Functions of Anti ragging Committee:

- To initiate timely action against erring students of Discipline
- To maintain records of the cases investigated
- To sensitize students about the evils of ragging and its prevention in the College Campus by organizing talks/ programmes
- To address complaints about ragging as per the Govt. and University procedures

Composition of the committee:

S. No	Name	Designation
1	Dr. G. V. K. Murthy	Chairman
2	Mr. G. Ramesh Babu	Convener
3	Dr. R. Veeranjaneyulu	Member
4	Dr. D. Anil Kumar	Member
5	Ch. Ravindra Babu	Member
6	Dr. A. Seshagiri Rao	Member
7	Mrs. N. Vaishnavi	Member
8	Mr. K. Venkateswarlu	Member
9	Mr. B. Suresh Babu	Member
10	MR. S. Ch. Kantha Rao	Member
11	Mr. M. Sivudu	Member
12	Mr. S. Anka Rao	Member
13	Mr. Y. Srinivasa Reddy	Member
14	Mr. M. Naga Bhaskar	Member
15	Mr. I. Madhusudhan	Member
16	Ms. Sk. Heena Kauser	Member

INTERNAL COMPLAINTS COMMITTEE (SEXUAL HARASSMENT COMMITTEE): Internal compliance committee is formulated to ensure safe campus for girl students and lady staff members. The committee creates awareness programs for the girls about the presence of the cell and gives assurance to them that they will support them in all circumstances.

Functions:

- Registering the complaint and Taking necessary action to support the victim
- To receive the complaints regarding sexual harassment
- To investigate and submit the report against the complaints filed
- To educate all about sexual harassment and impacts

Composition of the committee:

S. No	Name	Designation
1	Mrs. N. Vaishnavi, Assoc. Prof, ECE	Convener
2	Mrs. K. Jeevana, Asst. Prof, EEE	Member
3	Mrs. P. Rama Lingamma, Asst. Prof, IT	Member
4	Mrs. Ch. Anusha, Asst. Librarian, Library	Member
5	Mrs. D. Annapurna, Lab Programmer, CSE	Member
6	Mrs. BathiniArunakumari, External Member	Member
7	Ms. Sk. Amrin, UG Student, ECE	Member
8	Ms. Tanneru Sai Mahalakshmi, PG Student, MBA	Member

The Grievance Redressal Committee is formulated to investigate the complaints received from the students and faculties. The committee addresses the problems and ensures that the students are comfortable with all the teaching and learning processes and administrative procedures of the institution. The committee encourages the students and faculty members to share their grievances freely and on receiving the complaint, the committee investigates the problem and redresses it as soon as possible.

10.1.5 Delegation of financial powers (5)   Institute Marks : 5.00

PACE Institute of Technology and Sciences has a well-established financial system. For the smooth functioning of the institutional activities the financial powers are delegated to different levels i.e. Secretary & Correspondent, the Principal, and the Heads of different departments. The principal can sanction any recurring or non-recurring amount which has prior approval in the budget.

<u>**Other than the prior approved budget items**</u>

To address any emergency situation Heads of the department hold hand cash of ten thousand. For any emergency requirements, the principal can sanction an amount of one lakh. The amount of more than one lakh can be sanctioned by the Secretary and Correspondent.

10.1.6 Transparency and availability of correct/unambiguous information in public domain (5)   Institute Marks : 5.00

- All the information is available on the college website for the stakeholders. The right to Information Committee is also available in the institution to provide any information sought by any of the stakeholders.
- All the information related to staff and students is also made available on the website.
- All the mandatory disclosures to be displayed on the website are updated as per the instructions of AICTE/AISHE.

10.2 Budget Allocation, Utilization, and Public Accounting at Institute level (15)   Total Marks 15.00

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 2022-2023

Total Income 202657090.04				Actual expenditure(till…): 198790890				Total No. Of Students 5691
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student	
198520200	0	0	4136890.04	189400590	9390300	0	34930.75	

Table 2 - CFYm1 2021-2022

Total Income 194745749.46				Actual expenditure(till…): 192045749				Total No. Of Students 5245
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student	
190022936.66	2614510	0	2108302.80	185854976	6190773		36615.01	

Table 3 - CFYm2 2020-2021

Total Income 183174271.23				Actual expenditure(till…): 178620223				Total No. Of Students 4855
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student	
178420366.85	0	1845785	2908119.38	176491113	2129110		36790.98	

Table 4 - CFYm3 2019-2020

Total Income 167104584				Actual expenditure(till…): 152520345				Total No. Of Students 4556
Fee	Govt.	Grants	Other sources(specify)	Recurring including salaries	Non Recurring	Special Projects/Anyother, specify	Expenditure per student	
164826053	0	0	2278531	151037107	1483238		33476.81	

Items	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till	Budgeted in 2020-2021	Actual Expenses in 2020-2021 till	Budgeted in 2019-2020	Actual Expenses in 2019-2020 till
Infrastructure Built-Up	2000000	1694770	1500000	1264982	2000000	1959402	1500000	6971444
Library	800000	645377	400000	171367	500000	0	1000000	704129
Laboratory equipment	9500000	9393000	6500000	6190773	2700000	2129110	1800000	1483238
Laboratory consumables	500000	461362	1000000	890019	250000	211817	800000	760762
Teaching and non-teaching staf	1450000	1440202	1400000	1364053	1250000	1194641	1000000	9893894
Maintenance and spares	4000000	3007013	5200000	5025890	2500000	2259283	5000000	4803318
R&D	1200000	1047380	1200000	1061590	550000	483325	900000	850295
Training and Travel	2000000	1672924	1000000	842673	2000000	1893021	2200000	2130148
Miscellaneous Expenses*	150000	91242	150000	140162	100000	92178	100000	97850
Others, specify	1770000	2150737	2400000	2866812	2851700	3249330	3376500	3578021
Total	**200850000**	**198790890**	**194450000**	**192045749**	**182117000**	**178620223**	**160565000**	**152520345**

10.2.1 Adequacy of budget allocation (5)   Institute Marks : 5.00

The institute collects the budget proposals from all the departments and cells before starting the financial year. The departments submit the budget proposals considering all the recurring (i.e. lab maintenance/repairs) and non-recurring (new purchases) requirements. All cells submit the proposals considering all their requirements. The Institute finance committee chaired by the principal prepares a draft budget statement considering the proposals from the departments, cells, salary requirements, and funds available. After the preparation of a draft budget, a review meeting will be conducted with all departments and cell heads with the principal and management. In this meeting, all will justify their proposals. After finalizing the budget values, it will be presented to the governing body for final approval.

10.2.2 Utilization of allocated funds (5)   Institute Marks : 5.00

The allocated funds are utilized properly and are adequate as per the Academic requirements. The budget funds are utilized on a priority basis as per the requirements of each department based on the availability of funds. The finance committee monitors the utilization of allocated funds. Major heads are spent directly from the account section. However, all recurring and non-recurring expenditure of institute/departments is met in full (including salaries, lab consumables, miscellaneous expenditure, etc.) After the completion of every financial year, the budget will be audited by an external auditor to understand the reliability of budget utilization. The institution carefully monitors the expenses such that the necessities are met without affecting the smooth working of the institution. The management has been very efficiently and effectively doing this over the past several years and the institution never had any serious budget crunch that affected the normal functioning of the institution.

10.2.3 Availability of the audited statements on the institute's website (5)   Institute Marks : 5.00

PACE ITS follows good governance. All the College accounts are taken care of by the accounting department, which will be audited periodically (every year) by Auditors. The budget allocation and utilization are monitored by the finance committee. Supplementary allocations are made in special cases if needed.

 The audited statements are available on the institute website on the finance committee webpage.

10.3 Program Specific Budget Allocation, Utilization (30)   Total Marks 30.00

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 2022-2023

Total Budget 1320000		Actual expenditure (till…): 1311312		Total No. Of Students 387
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
60000	1260000	59630	1251682	3388.40

Table 2 :: CFYm1 2021-2022

Total Budget 2177000		Actual expenditure (till…): 2137146		Total No. Of Students 399
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
1650000	527000	1626500	510646	5356.26

Table 3 :: CFYm2 2020-2021

Total Budget 270000		Actual expenditure (till…): 271680		Total No. Of Students 360
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
10000	260000	8000	263680	754.67

Table 4 :: CFYm3 2019-2020

Total Budget 271000		Actual expenditure (till…): 269150		Total No. Of Students 269
Non Recurring	Recurring	Non Recurring	Recurring	Expenditure per student
20000	251000	19000	250150	1000.56

Items	Budgeted in 2022-2023	Actual Expenses in 2022-2023 till	Budgeted in 2021-2022	Actual Expenses in 2021-2022 till	Budgeted in 2020-2021	Actual Expenses in 2020-2021 till	Budgeted in 2019-2020	Actual Expenses in 2019-2020 till
Laboratory equipment	60000	59630	1650000	1626500	10000	8000	20000	19000
Software	740000	738966	0	0	0	0	0	0
Laboratory consumable	80000	78000	90000	80598	25000	24058	65000	64638
Maintenance and spares	100000	98696	65000	63448	50000	53122	65000	64512
R & D	235000	232000	280000	274600	100000	107500	60000	60000
Training and Travel	90000	89020	80000	80000	70000	65000	50000	50000
Miscellaneous Expenses*	15000	15000	12000	12000	15000	14000	11000	10000
Total	1320000	1311312	2177000	2137146	270000	271680	271000	268150

10.3.1 Adequacy of budget allocation (10)   Institute Marks : 10.00

Before the beginning of every financial year, the institution's finance committee chaired by the principal invites budget proposals from various departments.

The department budget coordinator collects information regarding budget proposals from the staff and lab in-charges. The staff and lab in-charges submit their proposals considering various factors lab equipment, software, lab consumables, maintenance and repairs, travel and training, etc.

The department budget coordinator prepares a draft budget considering all the proposals.

Before submitting the budget proposal to the institute finance committee, the department conducts a meeting chaired by the Head of the department to look into the budget proposals.

After the Head of the Department is satisfied with all the proposals, it is presented to Program Assessment and Quality Improvement Committee (PAQIC) for suggestions.

After incorporating all feasible suggestions, the budget is submitted to the institute's finance committee. After receiving all the budget proposals, the institute finance committee conducts a review meeting to consider the justification for department proposals.

After considering all the department requirements and funds available the finance committee sanctions head-wise amounts to the department.

10.3.2 Utilization of allocated funds (20)   Institute Marks : 20.00

The department utilizes the funds allotted for various items effectively. The head of the department monitors the utilization of recurring and nonrecurring funds. The head of the department frequently reviews the funds utilized to estimate the remaining work to be carried on. In contingency, the head of the department holds cash of ten thousand, for which after the utilization, bills will be submitted to the Central Administrative office for transparency in transactions. The department also presents the budget sanctioned and utilized in the Program Assessment and Quality Improvement committee (PAQIC) for review. At the end of every financial year, the institutional budget which is a consolidation of all departments is audited by external auditors, and an internal financial audit is conducted to estimate the appropriateness of the funds utilized.

10.4 Library and Internet (20)   Total Marks 20.00

10.4.1 Quality of learning resources (hard/soft) (10)

Institute Marks : 10.00

Pace Institute of Technology and Sciences has a spacious and comfortable library to facilitate the student's and staff for their learning. Pace Library provides all the required learning resources including e-resources and Digital Library. It is filled with many volumes of books, print and online journals, e-books, magazines, CDs & DVDs, M. Tech Dissertations, etc., The library has access to e-journals in IEEE-ASPP, DELNET, IEI, and N-LIST(INFLIBNET).

Accessibility to students: The library has provided all the facilities for the students and faculty to enhance their learning. The library is available from morning 8.00 AM to evening 8.00 PM for the students and staff. It is available on Sundays and holidays from morning 9.00 AM to evening 1.00 PM.

- Circulation Service
- Reference Service
- Clipping Service
- Internet Service
- Reprographic Service
- OPAC

10.4.2 Internet (10)

Institute Marks : 10.00

Internet

Internet Is provided by INRI Communications and BSNL. The available bandwidth is 150 MBPS from INRI Communications and 40 MBPS and 40 MBPS from two lines of BSNL. Wi-fi facility is available throughout the campus by INRI Communications. The internet is made available through LAN connections for all the labs, offices, and digital libraries and a wi-fi facility is available for all common areas on the campus like classrooms, corridors, and ground. The internet is highly secured with an efficient Firewall Sophos XG 330.

Annexure I
(A) PROGRAM OUTCOME (POs)

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

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.

3. 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.

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.

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.

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.

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.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

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.

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.

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.

(B) PROGRAM SPECIFIC OUTCOME (PSOs)
Program should specify 2-4 program specific outcomes.

PSO1	Ability to apply the professional core theories and process to choose the sustainable control, Measuring and drive circuitry for the specified upcoming fields.
PSO2	Ability to design, simulate and find optimal solutions for various industrial and societal Problems related to electrical and electronics engineering.
PSO3	To prepare the students to succeed in competitive examinations for higher education and Employment related to Electrical and Electronics Engineering.

Declaration

The head of the institution needs to make a declaration as per the format given -

- I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines inforce as on date and the institutes hall fully abide by them.
- It is submitted that information provided in this Self Assessment Report is factually correct.
- I understand and agree that an appropriate disciplinary action against the Institute willbe initiated by the NBA. In case, any false statement/information is observed during pre-visit, visit, postvisit and subsequent to grant of accreditation.

Head of the Institute
Name : Dr. G. V. K. Murthy
Designation : Principal
Signature :

Seal of The Institution :

Place : Ongole
Date : 01-04-2023 18:53:45