Electrical and Electronics Engineering

2.6.2 Attainment of programme outcomes and course outcomes are evaluated by the institution

S. No.	Code	SEM	Course Code	Couse Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	C201	III	20MT C07	Applied Mathematics	2.25	2.31	2.14	1.78		1.60						1.18	1.78	1.96	1.78
2	C202	III	20CS C06	Basic Data Structures	1.72	1.55	0.86												
3	C203	III	20EE C03	Electrical Circuit Analysis	2.32	2.16	0.83	1.66										2.49	
4	C204	III	20EE C04	Analog Electronic Circuits	1.92	1.76	1.76	0.96	1.60								1.28	1.76	1.44
5	C205	III	20EE C05	Electrical Measurements and Instrumentation	2.04	1.87	1.87	1.02	1.70								1.36	1.87	1.53
6	C206	III	20EE C06	Signals & Systems	1.65	1.78	1.96	1.78	1.49									1.78	
7	C207	III	20CE M01	Environmental Science	1.25	1.13	0.88	0.63	0.38		0.13				0.25	0.50	1.88	1.88	1.00
8	C208	III	20EEC07	Analog Electronic Circuits Lab	1.38	1.69	1.53	0.92	1.53								1.23	1.69	1.53
9	C209	III	20EEC08	Electrical Circuits and Measurements Lab	1.74	1.74	1.74	0.87								0.87	1.74	2.18	1.31
10	C210	III	20CSC07	Basics of Data Structures lab	1.51	1.51	1.51	0.76											
11	C211	III	CORE	MOOCs/Training/Internship	1.20	2.10	2.10	2.70	2.70	2.25	2.48	0.90	1.80	2.70	2.70	1.50	2.70	2.70	2.70
12	C212	IV	20EEC09	Digital Electronics	1.51	1.81	1.66	1.21	0.75								0.75	1.21	1.00
13	C213	IV	20EEC10	Electrical Machines-I	1.85	1.59	1.19	0.79	0.93				0.79			1.46		1.98	1.32
14	C214	IV	20EEC11	Electromagnetic Fields	1.92	1.28	1.28	1.28	0.64	0.64	0.64		0.64	0.64		0.64	0.64	1.28	
15	C215	IV	20EEC12	Power Electronics	2.13	1.37	1.22	1.67	0.91	1.52	0.95		1.06	0.76	1.14	1.27		1.52	1.52
16	C216	IV	20EEC13	Power Systems-I	1.85	1.38	2.00	1.69	1.69	1.54	2.00		1.23	0.77	1.54	1.85	1.92	1.73	1.54
17	C217	IV	20EGM03	Universal Human Values-II			1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
18	C218	IV	20EGM02	Indian Traditional Knowledge	2.68	1.36	0.97	1.36	1.17	0.97	1.17	1.94	0.97	1.56	1.36	2.14	1.36	1.17	1.56
19	C219	IV	20EEC14	Digital Electronics Lab	1.40	1.86	1.71	1.24	0.78								0.78	1.24	1.04
20	C220	IV	20EEC15	Electrical Machines-I Lab	1.90	2.07	0.69	1.38											2.07
21	C221	IV	20EEC16	Power Electronics Lab	2.63	1.75	0.88	1.46	0.88		0.88		1.61	0.88	0.88	1.46	0.88	2.05	1.75

22	C301	V	20EEC17	Electrical Machines-II	1.25	1.13	0.88	0.63	0.38		0.13				0.25	0.50	1.88	1.88	1.00
23	C302	V	20EEC18	Power Systems-II	1.86		1.71	1.55	0.93	1.40								0.93	0.93
24	C303	V	20EEC19	Microcontrollers and Applications	1.30	1.73	1.58	1.15	0.72								0.72	1.15	0.96
25	C304	V	20EEC20	Control Systems	1.99	1.88	1.66	1.44	1.66								1.66	1.99	1.55
26	C305	V	20EEE11	Electrical Distribution Systems	2.56	1.85	0.78												0.78
27	C306	V	20EEE13	Simulation Techniques in Electrical Engineering	2.71	2.71	1.63	1.45	2.17								1.45	1.63	
28	C307	V	20EEE21	High Voltage Engineering	1.58		0.88	1.76					0.88	0.88	1.76	2.64	0.88	1.76	2.64
29	C308	V	20EEE24	Renewable Energy Technologies	1.76	1.06	1.58	1.06	1.06				0.88	0.88	0.88	0.88	0.88	0.88	0.88
30	C309	V	20ADO01	Introduction to Python Programming	2.78	1.07	1.60	1.07	1.07				0.89	0.89	0.89	0.89	0.89	0.89	0.89
31	C310	V	20ITO01	Object Oriented Programming using JAVA	2.64	2.64	1.76	1.41	2.46		1.41			1.41		1.23	2.64	2.64	2.28
32	C311	V	20MEO04	Principles of Entrepreneurship	2.75	2.70	1.80	1.62	2.70		2.50	2.67	2.33		2.35		1.62	1.98	
33	C312	V	20EEC21	Control Systems Lab	1.96	1.31	1.83	0.65	1.70	0.65	0.65		1.18	0.65	0.78			1.31	1.31
34	C313	V	20EEC22	Electrical Machines- II Lab	1.70	1.70	1.44	1.96								0.65	1.70	1.74	1.96
35	C314	V	20EEC23	Microcontrollers and Applications Lab	1.22	1.62	1.49	1.08	0.68								0.68	1.08	0.90
36	C315	V	20EGCO3	Employability Skills	1.44	1.92	1.76	1.28	0.80						1.28	1.28	0.80	0.80	0.80
37	C316	V	CORE	Industrial Internship/ Rural Internship	1.18	2.07	2.07	2.67	2.67	2.23	2.45	0.89	1.78	2.67	2.67	1.49	2.67	2.67	2.67
38	C317	VI	20EEC18	Power System Protection	1.45	1.45	0.73	1.82		0.73	0.73	0.73				0.73		1.45	1.45
39	C318	VI	20EEC25	Power System Operation and Control	1.49	1.76	1.80	1.76	0.81							0.68	2.03	1.62	1.89
40	C319	VI	20EEC26	Electrical Drives	1.41	1.52	0.94	0.94	0.59	0.59	0.73	0.59				1.60	0.73	1.76	1.17
41	C320	VI	20EEC27	Internet of Things for Electrical Engineering	2.70	2.70	1.80	1.62	2.70								1.62	1.98	
42	C321	VI	20EGM01	Indian Constitution & Fundamental Principles		1.05	1.05	1.40		1.75	0.98	1.05	0.70					0.88	0.88
43	C322	VI	20EEE33	Utilization of Electrical Energy	2.38	1.78	1.18	1.11		1.49						0.89		0.89	1.49

44	C323	VI	20EEE34	Power Quality Engineering	2.08	1.60	1.12	1.60	2.08				2.08	1.76	2.40	2.40		2.40	1.60
45	C324	VI	20EEC28	Power Systems Lab	1.96	1.31	1.83	0.65	1.70	0.65	0.65		1.18	0.65	0.78			1.31	1.31
46	C325	VI	20EEC29	Electrical Simulation Lab	1.86	1.11	1.24	0.62	0.62	0.74				0.62		0.62	1.24		0.62
47	C326	VI	20EEC30	Electrical Drives Lab	2.28	1.24	1.65	1.55	1.44	0.76			1.70	1.31		1.83	2.28	1.97	1.97
48	C327	VI	20EEC31	IoT Lab	2.70	2.34	2.70	2.70	2.52	1.62			2.70	2.70	0.90	2.70	2.52	1.62	
49	C401	VII	20MBC01	Engineering Economics & Accountancy	2.59	1.81	1.51	1.20	0.75	0.75	1.51						0.75		1.51
50	C402	VII	20 EE C32	Project –Part-1	2.72	2.33	1.94	2.67	2.13	1.94		2.43	2.91	2.91	2.13	2.52	1.94	1.94	1.94
51	C403	VII	20EGM04	Gender Sensitization			0.66			1.45	1.32	1.06	1.19	0.66	0.66	0.66	0.66	1.19	
52	C404	VII	20EEE43	AI Techniques in Electrical Engineering	2.22	1.63	1.33	1.33	1.92	1.48	1.48		1.78		1.78	1.33	2.07		1.92
53	C405	VII	20CSO02	Introduction to Web Technology	2.18	1.56	1.56		0.78	1.40	0.93						0.78	1.71	2.02
54	C406	VII	20CEO02	Disaster Risk Reduction and Management	2.62	1.26	1.62	1.62	1.98	1.98	1.62	1.26	1.44	1.26	1.44	0.90	0.90	0.90	0.90
55	C407	VII	CORE	INTERNSHIP	1.24	2.17	2.17	2.79	2.79	2.33	2.56	0.93	1.86	2.79	2.79	1.55	2.79	2.79	2.79
56	C408	VIII	20EEE55	Electric Hybrid Vehicles	2.78	1.06	0.85	0.85	1.70	1.70	2.34	0.85	1.42	1.42	1.70	1.49	2.13	2.55	1.53
57	C409	VIII	20EEE56	Embedded System Design	1.57	2.26	1.91	1.91	0.87								0.87	1.39	1.16
58	C410	VIII	20CS009	Fundamentals of DBMS	1.71	1.86	2.00	1.07		1.71		0.86							
59	C411	VIII	20CHO02	Industrial Pollution Control	2.78	1.42	1.42	1.25	0.89	1.42	1.96	0.89	0.89	0.89	0.89	1.78	2.14	2.31	
60	C412	VIII	20EEC33	Technical Seminar	2.67	2.14	1.42	1.96	1.78	1.60	1.42	1.96	2.14	2.31	1.78	1.78			
61	C413	VIII	20EEC34	Project Part-2	2.49	2.67	2.49	2.14	2.14	1.60	1.60	2.14	2.31	2.49	2.14	1.78			
Direct PO Attainment (Avg.)					**1.99**	**1.75**	**1.49**	**1.44**	**1.44**	**1.38**	**1.34**	**1.30**	**1.48**	**1.44**	**1.45**	**1.35**	**1.48**	**1.68**	**1.48**

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PO PSO Indirect Attainment (2020-24)															
PO & PSOs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
Alumni	2.21	2.60	2.78	2.21	2.01	2.84	2.24	2.42	2.76	2.25	2.52	2.71	2.61	2.71	2.29
Program Exit	2.84	2.68	2.21	2.39	2.30	2.27	2.16	2.37	2.35	2.57	2.56	2.57	2.40	2.47	2.43
Parent	2.50	2.65	2.40	2.57	2.26	2.53	2.22	2.50	2.71	2.56	2.62	2.81	2.50	2.79	2.59
Employer	2.7	2.55	2.48	2.18	2.51	2.55	1.98	2.57	2.81	2.63	2.67	2.6	2.28	2.58	2.45
Average	**2.52**	**2.64**	**2.46**	**2.39**	**2.19**	**2.55**	**2.21**	**2.43**	**2.60**	**2.46**	**2.57**	**2.69**	**2.50**	**2.66**	**2.44**

Over all Attainment															
PO & PSOs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
PO Direct Attainment	1.99	1.75	1.49	1.44	1.44	1.38	1.34	1.30	1.48	1.44	1.45	1.35	1.48	1.68	1.48
PO Indirect Attainment	2.52	2.64	2.46	2.39	2.19	2.55	2.21	2.43	2.60	2.46	2.57	2.69	2.50	2.66	2.44
Overall Attainment	**2.10**	**1.93**	**1.69**	**1.63**	**1.59**	**1.62**	**1.51**	**1.53**	**1.70**	**1.64**	**1.67**	**1.62**	**1.69**	**1.87**	**1.67**

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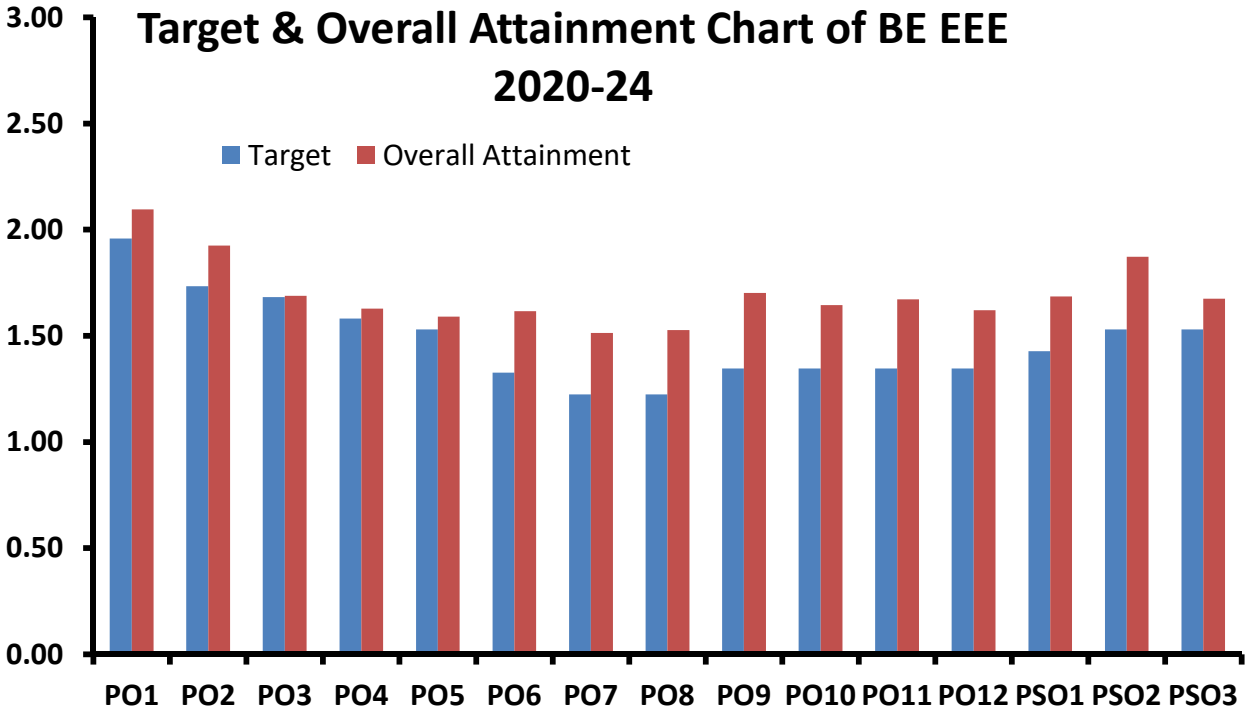
PO & PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Target	1.92	1.7	1.65	1.55	1.5	1.3	1.2	1.2	1.32	1.32	1.32	1.32	1.4	1.5	1.5
Overall Attainment	2.01	1.79	1.69	1.63	1.54	1.47	1.32	1.40	1.48	1.42	1.40	1.40	1.68	1.87	1.71



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Action Taken:

The areas of weaknesses in the program are known based on the analysis of evaluation of COs, POs & PSOs attainment levels. Measures identified and implemented to improve POs & PSOs attainment levels for the next assessment year including curriculum intervention, pedagogical initiatives, support system improvements, etc. are given in the table. The set target for each PO is 75% of the maximum articulation value of corresponding PO of all the courses.

POs	Target level	Attainment level	Observations
PO1: Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.			
PO1	1.96	2.01	**Observation 1 :** The set target is achieved
After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned. **Action 1:** Leverage ICT tools like simulations, online assessments, and digital teaching aids to improve learning outcomes. **Action 2:** Make high-quality video lectures accessible through the Learning Management System for self-paced learning. **Action 3:** Introduce assignments focusing on analysis, evaluation, and creation to foster advanced problem-solving skills. **Action 4:** Update the syllabus to include program-specific applications in mathematics and basic sciences for practical relevance. **Action 5:** Incorporate real-world problem statements and interdisciplinary projects to enhance application-oriented learning.			
PO2 : Problem analysis: Identify formulae, research literature and solve complex engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.			
PO2	1.73	1.93	**Observation 1** 90% of the set target is achieved **Observation 2** Courses contributing to low score are 20CS C06, 20CEM01, 20EEC10, 20EEC12, 20EEC13, 20EGM02, 20EEC17, 20EEE24, 20ADO01, 20EEC21, 20EGM01, 20EEC29, 20EEC30, 20CEO02, 20EEE55 Above courses are of analytical type
After discussing in the CEG and PAQIC /PAC meetings, it is decided to continue with the same target as there is a scope for further improvement. To reach this target value the following actions are planned. **Action 1:** Revise the syllabus to include program-specific applications and a freshman Engineering Exploration course for early problem-solving exposure. **Action 2:** Introduce assignments focusing on higher levels of Bloom's Taxonomy (analysis, evaluation, and creation). **Action 3:** Incorporate analytical course-end projects into Continuous Internal Evaluation (CIE) for practical application of core concepts. **Action 4:** Provide industry internships for hands-on learning and exposure to cutting-edge technologies. **Action 5:** Increase lab-based courses to strengthen practical problem-solving foundations. **Action 6:** Encourage creativity and innovation through open-ended experiments in lab courses. **Action 7:** Host industry expert sessions and workshops to enhance real-world problem analysis skills. **Action 8:** Leverage ICT tools such as simulations, modeling software, and online platforms for enhanced teaching-learning and project execution.			

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PO3 Design/development of solutions:

Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PO3	1.68	1.69	**Observation :**The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned

Action 1: Introduce real-world project-based tasks to design electrical and electronic systems addressing challenges like energy efficiency, automation, and renewable energy integration.

Action 2: Include topics on energy-efficient designs, smart grid technologies, and waste minimization in the curriculum. Conduct projects focusing on sustainable energy solutions, such as solar-powered devices or electric vehicle components.

Action 3: Organize workshops on designing safety-critical systems, such as power distribution networks and medical electronics. Encourage internships in industries like renewable energy, electric mobility, and automation to provide hands-on experience.

Action 4: Provide training on CAD tools (e.g., AutoCAD Electrical) and simulation software (e.g., MATLAB, Simulink, or PSCAD) to design and analyze electrical systems. Use tools for PCB design and electronic prototyping to integrate practical learning with design principles.

Action 5: Design interdisciplinary projects that integrate concepts of control systems, power electronics, embedded systems, and IoT to create smarter and safer designs. Encourage applications in areas like healthcare (e.g., patient monitoring systems) or agriculture (e.g., automated irrigation systems).

Action 6: Encourage students to design systems for rural electrification, low-cost sustainable lighting solutions, or clean water pumps powered by renewable energy. Conduct outreach programs where students implement simple but impactful designs for societal benefit.

PO4 : Conduct investigations of complex problems :

Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO4	1.58	1.63	**Observation :** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned

Action 1: To introduce high-end experiments in the lab courses such that student can develop an ability to solve open – ended problems

Action 2: To make lab experiment's demonstration videos available through Learning Management System (LMS), so that students can understand the concept better and demonstrate well in the subsequent lab classes

Action 3: Proposed to introduce course end project along with assignments as a part of Continuous internal evaluation (CIE) in core engineering lab courses

Action 4: To enter into more MoUs with industries to establish industry-based labs and activities which facilitate experiential learning to students.

PO5: Modern tool usage :

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. (High correlation with the CAD, MATLAB, LABview etc.

PO5	1.53	1.59	**Observation :** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To increase the use of simulation tool in lab courses (where ever possible) to demonstrate the concept before going to the work bench

Action 2: To include open ended and structured enquiry type of experiments

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Action 3: To replace conventional method of teaching Engineering graphics with Computer aided drafting tool

Action 4: To encourage the usage of programme specific simulation tools in the mini and major project

PO6 :The engineer and society:

Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO6	1.33	1.62	**Observation :** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To introduce more number of professional electives to address the regulations, codes and standards relevant to the electrical and electronics engineering discipline

Action 2: To encourage the students to actively participate in activities organized by various clubs of the institute like

- Energy conservation week and Swachhta Pakhwada - Energy savers' club
- Health camps- NSS
- Rural development - Engineers without borders
- Webinar -IEEE PES
- Webinar for Students on "Popular cultural practices of Telangana - Harayana for healthy and enriching life and life style"- Ek Bharath Sreshtha Bharath (EBSB)

Action 3: To introduce rural internship in the curriculum.

Action 4: To make more activities in courses related to Community Engagement.

PO7: Environment and sustainability

Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO7	1.22	1.51	**Observation :** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To introduce the mandatory courses which address the management techniques for sustainable development

Action 2: To encourage the students to participate in social activity related to environment like

- "Tree plantation in the campus and nearby villages" as part of the activities of NSS under the new initiative "Haritha Haram" by State government.
- Awareness camp to nearby villages to promote energy conservation and alternative energy usage and to introduce energy efficient appliances like DC fans, LED bulbs, pumps etc.
- To encourage the students to actively participate in product exhibitions related to environment and sustainable development
- To encourage the students to take up mini and major projects through which relationship between technical, socio-economic and environmental dimensions of sustainability can be better understood.

ty can be better

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PO8: Ethics

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

PO8	**1.22**	**1.53**	**Observation:** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To make students to understand importance of course on ethics titled "UHV-2, Understanding of Harmony" suggested by UGC.

Action 2: It is proposed to give due weightage in the rubrics prepared to evaluate to ethical behavior and practices in the lab and project courses.

Action 3: To train more number of faculty (20:1 student faculty ratio) on UHV through AICTE FDP so that faculty can handle the universal human values -1 during the student induction programme.

Action 4: To introduce the **Energy Satva Club** with a focus on increasing awareness and activities on ethics.

PO9 **: Individual and team work** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO9	**1.35**	**1.70**	**Observation 1:** The set target is achieved. **Observation 2:** There is a need for increase in target and plan of action towards the same

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

This program outcome regarding individual and team work, comes under professional skills. Though the employers consider these professional skills and higher abilities as important and few students may perform weak.

After discussing in the CEG and PAQIC /PAC meetings, the committee opined that professional skills / outcome may not result simply from participation in a particular class or set of classes. Rather, these outcomes are more often acquired or influenced through sources both in and outside the classroom. It is decided to increase the target value by 5% and the following actions are planned to reach the new target value.

Action 1: To introduce more topics related to these skills in the soft skills course offered.

Action 2: To introduce activity-based courses like community engagement, engineering exploration in the first-year level itself, so that the spirit of individual and team work can be inculcated better.

Action 3: To encourage students to work as teams for activities conducted by various clubs of CBIT during Sudhee & Sruthi, which is a "Techno-Sport-Cultural" fest.

Action 4: To encourage the students to actively participate in activities organized by various clubs of the institute like

- Energy conservation week and Swachhta Pakhwada 2020 - Energy savers' club
- Health camps- NSS
- Rural development - Engineers Without Borders (EWB)
- Webinars, Industry tours and other professional activities-IEEE PES

Action 5: It is proposed to give due weightage in the rubrics prepared to evaluate CIE of laboratory courses, mini projects and major projects

Action 6: To encourage students to take part in project exhibition hackathon, MSME projects and similar activities

Action 7: To motivate students to work with multidisciplinary aspects in industry projects carried out as a part of institute activity

PO10 : Communication: Communicate effectively on complex engineering activities with the engineering

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community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO10	1.35	1.64	**Observation :** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To introduce more topics related to these skills in the soft skills course offered.

Action 2: To revise the rubrics used to evaluate the CIE of mini projects, seminars and major projects so that more focus is given to performance indicator related to ability of comprehending (literature review), written communication (report writing), oral communication (presentation skills) and summarization (conclusion)

PO11: 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

PO11	1.35	1.67	**Observation:** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To introduce more subjects to address management principles

Action 2: To introduce freshmen course so that student will be able to describe various economic and financial costs/benefits of an engineering activity and analyze and select the most appropriate proposal based on economic and financial considerations

Action 3: To encourage the students to present their IDEAS at MSME Incubation center of CBIT

Action 4: To encourage more students to work on the hardware/product-based projects such that student gets an ability to prepare budget proposal and submit the same to the institute and other agencies for funding.

PO12: Life-long learning:

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PO12	1.35	1.62	**Observation:** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To introduce the credit transfer to the courses pursued via MOOCs (e.g. Swayam NPTEL, Coursera, MSME etc.)

Action 2: To introduce internships during every academic year break to enable students to pursue independent projects in an industrial setting with mentorship and prepare them for lifelong learning.

Action 3: To facilitate the honors and additional minor engineering degrees for the students who can acquire more 20 credits through MOOCs courses

Action4 : To introduce the e-portfolio to promote students participation in Co- curricular and extra-curricular activities which nurture the key interest towards lifelong learning

Action 5: To invite more industry experts to take part in curriculum revision, delivery of lectures, project guidance and assessments and in establishment of laboratories.

Action 6: To encourage students to carry out projects in emerging areas and their applications to electrical & electronics engineering

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PSO1: Evaluate complex Engineering Problems to meet the distinct need of Industry & Society, by utilizing knowledge of Mathematics, Science, Emerging Technologies such as AI, Block chain & IT tools.

PSO1	1.43	1.69	**Observation:** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To introduce electives on AI, Blockchain, and IT tools with real-world case studies and interdisciplinary topics.

Action 2: To establish AI and Blockchain labs, and organize hackathons and workshops for practical exposure.

Action 3: To facilitate internships, industry projects, and expert sessions on emerging technologies.

Action 4: To train students in tools like MATLAB, Python, TensorFlow, and Hyperledger Fabric for problem evaluation. Train in design thinking and frameworks for structured problem-solving.

PSO2: Exhibit Latent talent in understanding the Engineering and Administration standards at work place as a team leader to manage Projects in the Multi-Disciplinary Environments.

PSO2	1.53	1.87	**Observation:** The set target is achieved

After discussing in the CEG and PAQIC /PAC meetings, it is decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To demonstrate a strong ability to understand and apply engineering and administrative standards in various contexts, ensuring compliance and operational excellence in workplace projects.

Action 2: To utilize communication skills to act as a liaison between engineers, administrators, and other stakeholders, facilitating a shared understanding of project requirements and objectives.

Action 3: To Continuously evaluate industry trends and best practices to implement process improvements and contribute to ongoing professional development within the team.

PSO3: Establish Engineering Expertise in Power system, Machines and Drives Systems and also Pursue Research in the Frontier areas such as Embedded systems, Renewable Energy, EMobility and Smart grid.

PSO3	1.53	1.67	**Observation:** The set target is achieved

After discussion in the CEG and PAQIC /PAC meetings, it was decided to increase the target value by 2%. To reach the new target value the following actions are planned.

Action 1: To establish and demonstrate deep expertise in Power Systems, Machines, and Drives, contributing to high-performing and reliable systems for a wide range of industrial applications.

Action 2: To conduct pioneering research in emerging fields, focusing on developing and optimizing embedded systems to integrate smarter and more adaptive solutions into power systems.

Action 3: To explore and contribute to Smart Grid technologies, enhancing real-time data analytics, grid resilience, and the integration of renewable energy resources for efficient and automated energy distribution.

Action 4: To design and implement real-world applications and prototypes for the integration of cutting-edge technologies into existing systems, offering viable solutions for large-scale energy challenges.

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