

Chaitanya Bharathi Institute of Technology (Autonomous)

Department of Electronics and Communication Engineering Program: B.E. (ECE)

1. PO Assessment – Batch 2017-2021

A. Direct PO Attainment:

S. No.	SEM	Course Code	Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	SEM-III	16MT C05	Engineering Mathematics-III	2.43	2.14	2.01	2.15									2.58	2.01	1.43
2	SEM-III	16EC C02	Network Theory	1.94	1.94	0.77	1.08	0.98	0.79	0.65	0.65	0.65	0.65		1.29	1.94	1.78	1.94
3	SEM-III	16EC C03	Electronic Devices and Circuits	0.98	1.47	0.41	1.04	0.87			1.11				1.11	1.67	1.67	0.56
4	SEM-III	16EC C04	Signals and Systems	1.98	1.32	0.66		0.66					0.66		1.32	1.32	0.66	0.66
5	SEM-III	16EC C05	Electromagnetic Theory and Transmission Lines	1.85	1.78	1.47	1.66	0.76	1.24	1.51	1.13	1.05	0.97	1.05	1.2	1.78	1.85	1.43
6	SEM-III	16EC C06	Electronic Workshop and Network Lab	2.5	1.83	2.17	1.83	1.67	1.33	1	0.83	0.83	0.83		1.67	2.5	2.5	2.5
7	SEM-III	16EC C07	Electronic Devices Lab	1.97	1.97		0.98	1.97			1.97	1.97	1.97	1.97	1.97	2.95	2.95	1.97
8	SEM-III	16EG C03	Soft Skills and Employability Enhancement Lab	0.97	0.97	0.97	0.97	0.97	0.98		2.68	2.54	1.95	1.95	2.15	0.98		0.98
9	SEM-IV	16EC C08	Digital Logic Design	1.54	1.43	1.43	1.85	1.24	0.89	0.62						1.85	1.34	1.31
10	SEM-IV	16EC C09	Analog Electronic Circuits	2.07	2.07	1.82	1.66				1.38				0.69	2.07	1.38	0.69
11	SEM-IV	16EC C10	Analog Communication	2	2	2	1.6		1.73	2	2.28	0.76	2	1.73	1.73	2	1.3	1.3
12	SEM-IV	16EC C11	Antenna and Wave Propagation	1.49	1.49	1.43	1.49	1.05	0.91	0.91	1.09	0.75	1.44	1.43	1.04	1.49	1.14	1.44
13	SEM-IV	16EC C12	Electronic Instrumentation	1.78	1.37	0.75	0.87	1.94	0.92	0.75	0.75	0.75	0.75		1.5	2.26	1.97	2.26
14	SEM-IV	16MB C01	Engg. Economics and Accountancy	0.88	1.16	1.08	1.06	0.89	0.65	0.8	0.98	0.84	0.62	0.93	0.56			0.53
15	SEM-IV	16EC C13	Digital Logic Design Lab using Verilog	3	2.6	2	2.4	3	1.6	1.6	1.4	3	2	1.6	1.6	2.4	3	2.5
16	SEM-IV	16EC C14	Analog Electronic Circuits Lab	2	1	3	2	2				2	2		1	3	3	
17	SEM-IV	16EC C15	Analog Communication Lab	3	3	3	1.83	1	2	2	3	3	3	3	3	3	3	3
18	SEM-V	16EC C18	Digital Communications	1.81	1.81	1.5	1.5	0.9	1.5	1.13	0.68	0.6	1.2	0.98	1.81	1.81	1.81	1.2
19	SEM-V	16EC C19	Integrated Circuits and Applications	1.4	1.67	1.54	1.52	1.26	1.18	0.7					1.58	1.38	1.18	0.7
20	SEM-V	16EC C20	Microprocessors and Microcontrollers	1.46	0.98	0.97	1.05	1.13	0.93	0.93					0.92	1.22	1.07	1.13
21	SEM-V	16EC C21	Control Systems	2.25	2.25	1.64	1.01	0.75	0.88	0.75	0.75	0.75	0.75		1.5	2.25	1.03	2
22	SEM-V	16EC E01	Computer Organization and Architecture	1.29		2.58	1.73	1.73	1.15							1.29	0.84	1.15
23	SEM-V	16EC C22	Digital Communications Lab	3	3	2	1	2	3	2	2	3	2	2	3	3	1	3
24	SEM-V	16EC C23	Integrated Circuits and Applications Lab	1.67	1.67	1.67			1	1	1				1.67	1.67	1.67	1

25	SEM-V	16EC C24	Microprocessors and Microcontrollers Lab	2.5	2.4	2.5	2.83	2.33	2	2		3			3	2.17	2.17	2.33
26	SEM-VI	16EC C25	Embedded System Design	1.45	1.11	1.27	0.98	1.05	1.08							1.08	1.54	
27	SEM-VI	16EC C26	Digital Signal Processing	1.63	1.62	1.75	1.82	1.55	1.38	0.81	0.85				1.79	1.66	1.38	0.81
28	SEM-VI	16EC C27	Microwave Engineering	1.97	1.97	1.92	1.53	1.52	1.28	1.45	1.53	1.33	1.45	1.56	1.36	1.97	1.78	1.78
29	SEM-VI	16EC C28	Wireless Mobile Communication	1.75	1.39	1.48	1.73	1.12	1.24	0.94	0.65	0.9	0.74	1.01	1.42	1.64	1.67	1.18
30	SEM-VI	16IT E27	Data Structures	0.85	1.02	0.51	0.51								1.02		0.51	
31	SEM-VI	16IT E25	Java Programming	1.13	1.3	0.65	0.65								1.3		0.65	
32	SEM-VI	16IT E26	Python Programming	1.53	1.49	1.34	1.67	0.88	0.88		0.28	0.51			1.26	0.51		
33	SEM-VI	16EC E05	CPLD and FPGA Architectures	1.16	0.86	1.16			0.59	0.59	0.72				1.03	1.16	0.77	1.16
34	SEM-VI	16EC C29	Embedded System Design Lab	1.67	2	2.2	2.17	2	1.5	2	2	1			2	1.8	2.33	2
35	SEM-VI	16EC C30	Digital Signal Processing Lab	2	2.33	2.17	2.17	1.83	1.67	1	1				2.33	2	1.67	1
36	SEM-VI	16EC C31	Microwave Lab	2.95	2.95	2.78	2.95	2.95	2.62	2.78	2.95	2.62	2.45	2.95	2.95	2.95	2.95	2.95
37	SEM-VII	16EC C32	Data Communication and Computer Networks	1.29		3	2	2	1.33						1.29	1	0.5	
38	SEM-VII	16EC C33	Principles of GNSS	2.5	2.5	2.5	2.5	0.65	2.5	2.5	2.46	0.83	2.5	2.18	1.67	2.5	1.49	1.49
39	SEM-VII	16EC C34	Radar and Satellite Communication	2.44	2.28	2.08	2.08	1.91	1.83	1.66	1.66	1.66	1.66	1.63	1.46	2.44	1.34	1.28
40	SEM-VII	16EC C35	VLSI Design	0.79		1.11	0.53	0.78			0.7				0.89	1.25	0.97	1.05
41	SEM-VII	16EC E09	Real Time Operating Systems	1.65	1.2	1.2	0.73	0.86	1.19							1.23	1.68	
42	SEM-VII	16EC E10	Speech Processing	1.31	1.14	1.05	1.28	1.31	0.74	0.94					0.68	0.78	1.01	1.51
43	SEM-VII	16EC E12	Application of IoT in ECE	1.72	1.8	1.99	1.89	1.54	1.93	1.45	1.94	1.78	1.78	1.51	1.1	1.72	1.81	1.72
44	SEM-VII	16EC E13	Digital Image Processing	0.84	1.45	1.47	1.04	0.98	0.63				1.25		1.58	1.13	1.16	1.29
45	SEM-VII	16EC C36	Advanced Simulation Lab	1.8	1.8	2.4	2	1.75	2	1.67	1.5	2.2	2	2		1.8	2	1.83
46	SEM-VII	16EC C37	Electronic Design and Automation Lab	1.8	1.6	1.8			1	1	1.2				1.4	2	1.4	1.4
47	SEM-VII	16EC C38	Project Seminar	2.8	2.4	2	2.2	2.4	1.6	1.4	2.2	2	2	1.8	2.2	2.2	2.2	2
48	SEM-VIII	16EC E18	VLSI Technology	2.6	2.6	2.05	2.23	2.79	1.48	1.48	1.3				1.48	2.22	1.67	1.54
49	SEM-VIII	16CS O10	Machine Learning Using Python	1.89	2.06	2.06										0.88	0.88	
50	SEM-VIII	16ME O01	Entrepreneurship	2.23	2.23	1.89	1.89	1.94	1.89	1.84	1.28	1.54	1.67	2.14	2	1.56	1.42	0.92
51	SEM-VIII	16EG O02	Gender Sensitization					1.25		1	1				1			
52	SEM-VIII	16CE O02	Disaster Mitigation and Management	0.79	0.62	0.79	0.79	0.97	1.06	0.88	0.62	0.7	0.62	0.7	0.44	0.44	0.44	0.44
53	SEM-VIII	16CS O06	Fundamentals of DBMS	1.81	1.52	1.81	1.81	1.18	1.39	1.18	0.87	1.58	1.27	1.18	1.22			
54	SEM-VIII	16EC C39	Seminar	2.8	2.4	1.6	2.2	2	1.8	1.6	1.4	2.4	2.6	2	2	2	1.8	1.8
55	SEM-VIII	16EC C40	Project	2.8	3	2.8	2.4	2.4	1.8	1.8	2.4	2.6	2.8	2.4	2	2	2	2
			Average PO Attainment	1.85	1.8	1.7	1.61	1.5	1.39	1.33	1.39	1.57	1.59	1.73	1.55	1.82	1.6	1.49

Head, Department of ECE.

DEPARTMENT OF ECE

Chaitanya Bharathi Institute of Technology
Hyderabad-500075

B. Indirect PO Attainment:

Course Name	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Student	2.16	1.95	2.13	2.15	1.56	1.91	1.94	2.16	2.23	2.19	2.19	1.99	1.32	1.42	1.31
Parent	2.41	2.35	1.88	1.58	1.53	1.73	0.70	1.57	1.50	1.65	1.60	1.68	1.35	1.58	1.99
Employer	2.30	2.30	1.58	1.67	1.96	1.88	1.88	2.38	1.81	2.50	1.33	0.96	1.63	1.56	1.30
Alumni	1.70	1.70	1.04	0.89	1.07	1.88	1.88	2.12	1.60	1.49	1.86	1.13	1.60	1.34	0.87
PO_INDIRECT	2.14	2.07	1.66	1.57	1.53	1.85	1.60	2.06	1.78	1.96	1.75	1.44	1.47	1.48	1.37

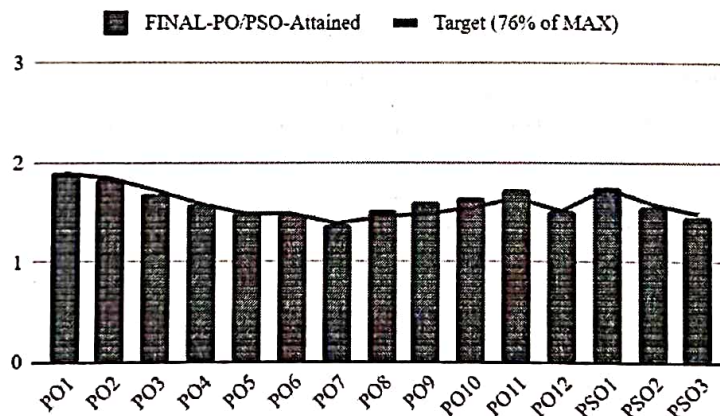
C. Final PO Attainment

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
PO-DIRECT-Attainment	1.85	1.8	1.7	1.61	1.5	1.39	1.33	1.39	1.57	1.59	1.73	1.55	1.82	1.6	1.49
PO-INDIRECT-Attainment	2.14	2.07	1.66	1.57	1.53	1.85	1.60	2.06	1.78	1.96	1.75	1.44	1.47	1.48	1.37
FINAL-PO/PSO-Attainment	1.91	1.85	1.69	1.6	1.51	1.48	1.38	1.52	1.61	1.66	1.73	1.53	1.75	1.58	1.47

D. PO Analysis

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
PO Maximum Achievable	2.5	2.43	2.27	2.09	1.95	1.95	1.82	1.91	1.95	2.03	2.16	2	2.29	2.08	1.95
Target (76% of MAX)	1.9	1.85	1.73	1.59	1.49	1.49	1.39	1.46	1.49	1.55	1.65	1.52	1.75	1.59	1.49
FINAL-PO/PSO-Attainment	1.91	1.85	1.69	1.6	1.51	1.48	1.38	1.52	1.61	1.66	1.73	1.53	1.75	1.58	1.47
Result	Attained	Attained	NOT	Attained	Attained	NOT	NOT	Attained	Attained	Attained	Attained	Attained	Attained	NOT	NOT

Attainment vs Target (Batch 2017-21)




Head

Dept. of ECE.

HEAD
DEPARTMENT OF ECE
Chaitanya Bharathi Institute of Technology
Hyderabad-500 075

II. POs ATTAINMENT LEVELS AND ACTIONS FOR IMPROVEMENT-
(2020-21)

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	1.90	1.91	PO1 is attained
Action Taken: PO1 was successfully attained. However, the following actions are planned by the department to further strengthen PO1. <ol style="list-style-type: none"> 1. To further strengthen the PO1, courses like Calculus, Engineering Exploration, Vector Calculus and Differential Equations, Electromagnetic Theory and Quantum Mechanics, Electromagnetic Theory and Quantum Mechanics lab etc., are introduced in the subsequent curricula. 2. To strengthen teaching-learning and assessment activities, the use of ICT tools including Learning Management System (LMS) is increased. 3. Further, students are encouraged to participate in mathematics oriented clubs like Ramanujan club of the institute to enhance their mathematical and analytical skills. 			
PO2: Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.			
PO2	1.85	1.85	PO2 is attained
Action Taken: PO2 was successfully attained. However, the following actions were taken by the department to further strengthen PO2. <ol style="list-style-type: none"> 1. Though, PO2 was successfully attained, in case of courses like DSP, CTT some of COs are not attained. The CEGs of respective courses decided to give dedicated assignments on those particular COs. 			


HEAD

DEPARTMENT OF ECE

Chaitanya Bharathi Institute of Technology
Hyderabad-500 075 4/13

2. To further improve the attainment of this PO, the courses like Data Analytics for signal processing, Multirate and wavelet Signal processing, Bio-medical Signal Processing, Signal Detection Techniques are included in subsequent curriculum.
3. Mandatory industry internship is included as a part of the curriculum for enhanced learning and better exposure to industrial problems.

Head
Dept. of ECE.

PO3: Design/development of solutions:

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

PO3	1.73	1.69	>95% of the set target is achieved
-----	------	------	------------------------------------

Observations:

1. Courses contributing to low score are Antenna and Wave Propagation, Digital Communications, Microprocessors and Microcontrollers, Embedded System Design, Digital Signal Processing, Wireless Mobile Communication, Analog and Mixed IC Design, Coding Theory and Techniques, Speech Processing.
 2. As per student feedback, the aspects of design/synthesis need to be included in Network Theory Course.
- After discussing in the CEG 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 Plan:

1. In the subsequent curriculum revision, a new course (Engineering Exploration) is introduced so that in the first year itself students can identify an engineering problem and can apply the acquired knowledge to solve the problem


HEAD

DEPARTMENT OF ECE

Chaitanya Bharathi Institute of Technology
Hyderabad-500 075 5/13

2. To further strengthen the attainment, new courses like Green Communication, Network security, Mobile Adhoc and Sensor Networks , Drones and Applications, Cloud Computing, Sensors and Actuators, IoT and Simulation lab, Industry 4.0 are included in the subsequent curriculum
3. Topics on Design/Synthesis are included in Network Theory Course in the subsequent curriculum.
4. Open-ended and structured enquiry based experiments are included in the laboratory course so as to train the students to take up mini projects and provide solutions to complex problems.
5. The institute is recognized as host institute for MSME Business Incubator and the students are motivated to take part in project exhibitions/ hackathons and other MSME activities.

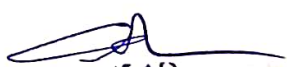
Head
Dept. of ECE.

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	1.59	1.6	PO4 is attained
-----	------	-----	-----------------

Action Plan:

1. The numbers of lab courses are increased. Also, the students are provided opportunity to view the solutions of the problems through simulations.
2. Lab experiment's demonstration videos are made available through Learning Management System (LMS), so that students can understand the concept better and demonstrate well in the subsequent lab classes.
3. Students are encouraged to pursue their Mini projects in the respective lab that helps the students to enhance the perceptions and continuously integrate and accumulate new knowledge to shape their research ability.


 HEAD
 DEPARTMENT OF ECE
 Chaitanya Bharathi Institute of Technology
 Hyderabad-500 075

4. Under MoUs with industries, various training programs/internships/industry visits are arranged to facilitate experiential learning.
5. Several resource persons from industries and scientists from research organizations are invited to deliver seminars/webinars/invited talks on latest topics of industrial interest to inspire the students towards research-based thinking.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities, with an understanding of the limitations.

PO5	1.49	1.51	PO5 is attained
-----	------	------	-----------------

Observation:

As per student feedback, practical course on EMI is to be included

Action Plan:

1. In CEG group discussions, it is decided to increase the target level by 3%.
2. To increase the use of simulation tool/software, lab courses such as IoT and Simulation lab, Computer Networks Lab and Electronic Measurements and Simulation Lab are included in subsequent curriculum.
3. Awareness is created among students to use various online simulation tools/ software to analyse and solve complex problems. Further, NetSim and HFSS Softwares are planned to be procured to facilitate the students on the usage of these tools for simulation and modelling.
4. Through various technical clubs, students are provided with guidance on application of appropriate techniques/Tools and encouraged to participate in various Hackathons and technical events.

Head
Dept. of ECE.

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	1.49	1.48	99.82% of the set target is achieved
-----	------	------	--------------------------------------

Observation:

Indirect attainment for this PO was found to be less.

Action Taken:

1. Mandatory courses like Indian Constitution, Indian Traditional Knowledge and Community Engagement are introduced to address societal, health and safety issues and to ensure that students are repeatedly reminded of their social responsibilities as Engineers.
2. To create awareness on health aspects, a time-slot for Fit India is included in the time-table
3. Students are encouraged to actively participate in activities organized by various clubs of the institute like Street cause- platform for the youngsters who strive to serve the society, NSS-Health camps- NSS, Engineers without borders-Rural development.

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	1.39	1.38	Almost 98% of target attained
-----	------	------	-------------------------------

Action Taken:

1. The syllabus contents of mandatory course on “Environmental Science” are strengthened.
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 Telangana State government.
 - Product exhibitions related to environment and sustainable development
 - Parivrita Club of CBIT that sensitizes students on the environmental issues.
3. 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.
4. Atal Innovation Mission (AIM) at NITI Aayog is mandated to promote a culture of innovation and entrepreneurship in India. CBIT has been selected from Telangana by AIM for the establishment of Atal Community Innovation Centre (ACIC) at our Campus. ACIC-CBIT Research and Entrepreneurship Foundation has been registered by CBIT as a Special Purpose Vehicle (SPV) under the companies Act. This initiation will definitely lead to develop environmental friendly sustainable solutions.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO8	1.46	1.52	PO8 is attained
------------	-------------	-------------	------------------------

Action Plan:

1. Courses on Universal Human Values II: Understanding Harmony, Gender Sensitisation, Intellectual Property Rights and Indian Constitution, are included in the curriculum to enable the students to develop holistic personality which in turn shapes them into engineers with professional ethics and responsibilities.
2. Awareness on plagiarism and IPR is created through webinars and seminars.
3. NSS unit of CBIT regularly organises Blood Donation Camps, Medical camps, Medical Awareness Seminars, etc to create awareness about the social responsibilities.

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

PO9	1.49	1.61	PO9 is attained
------------	-------------	-------------	------------------------

Action Plan:

1. Three-Week induction program is made mandatory to inculcate the principles of individual and team-work nature among the students.
2. Activity-based courses like community engagement, engineering exploration are included in the curriculum in the first-year level itself, so as to inculcate the spirit of individual and team work.
3. To encourage students to work as teams for activities conducted by various clubs of CBIT during the annual technical and cultural fests of the institute (Sudhee & Sruthi) which improves their functioning as an individual as well as a team and grooms their leadership skills.
4. To encourage students to take part in project exhibition, hackathon, MSME projects and similar activities.
5. Students learn to work and operate as a team during their Mini Projects, Major Project, Project Seminars and Assignments.

Head
Dept. of ECE.


DEPARTMENT OF ECE
 Chaitanya Bharathi Institute of Technology
 Hyderabad-500 075

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with the 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	1.55	1.66	PO10 is attained
------	------	------	------------------

Action Plan:

1. 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).
2. English Proficiency classes are conducted beyond the curriculum to enrich listening, speaking and reading skills of students.
3. To encourage the students to participate in various literary clubs such as “Communicando” and to improve writing skills, students are motivated to involve in bringing out the institute magazine “Transcend”.
4. To improve communication skills, course on soft skills is strengthened.

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 environments.

PO11	1.65	1.73	PO11 is attained
------	------	------	------------------

Action Plan:

1. A new course titled “Principles of Management” is introduced so that student will be able to describe various economic and financial costs/benefits of an engineering activity. Also, the contents of course on “Engineering Economics and Accountancy” are strengthened.
2. The students are encouraged to present their IDEAS at MSME Incubation centre of CBIT, so that students learn the procedure of preparation of proposals, business plans, etc.
3. The students are encouraged to work on the hardware/product-based projects such that student get an ability to prepare budget proposal and submit the same to the institute and other agencies for funding.

4. Institute subscribed for T-Hub Institutional Membership towards T-Tribe Launch Pad Program to encourage entrepreneurship eco-system among CBIT Students. T-Tribe offers one year entrepreneurship program for CBIT Students where they will be connected to Start-ups, Incubators, and Funding Agencies for an Enriching Experience.

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	1.52	1.53	PO12 is attained
-------------	------	------	-------------------------

Action Taken:

Our Moto being "Swayam Tejaswin Bhava", life-long learning is continuously encouraged as follows:

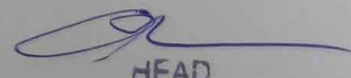
1. Several courses like Community engagement, MOOCS/Training/Internship, etc., are introduced in the curriculum to encourage the students to develop an attitude towards lifelong learning skills.
2. Student's exposure to digital learning platform is enhanced through the introduction of provision for obtaining Honours/ Additional Minor Engineering degree along with the regular B.E degree. This will help the students to engage in independent and life - long learning.
3. Credit transfer facility enables the students to avail the opportunity to complete a course through MOOCs and also drives the students towards life-long learning.
4. Students are motivated to join various professional bodies such as, IEEE, IETE etc. and technical clubs like MoI, Robotics etc., so that they are engaged in life-long learning thorough their professional network.

PSO1: Student will demonstrate the knowledge and understanding of basic principles of mathematics, science, electronic devices, networks and signal processing procedures in simulation, modelling, and describing the behaviour of analog and digital electronic circuit or system.

PSO1	1.75	1.75	PSO1 is attained
-------------	------	------	-------------------------

Action Plan:

1. Several professional electives are introduced under six diversified streams of Electronics and Communication.


HEAD

DEPARTMENT OF ECE

Chaitanya Bharathi Institute of Technology
Hyderabad-500 076

2. The students are encouraged for the usage of programme specific simulation tools in the in simulation, modelling, and describing the behaviour of the systems in their mini and major projects.
3. They are also encouraged to participate and present their work in National, International Conferences and Institute level events like Research Day, Synapse etc.
4. Students are guided under various technical clubs like MoI, Robotics to develop and demonstrate proto type models.

Head
Dept. of ECE.

PSO2: Analyze and solve the complex Electronics and Communication engineering problems using state-of-art hardware and software tools.

PSO 2	1.59	1.58	99.35% of the target is achieved
-------	------	------	----------------------------------

Observations:

It was observed that the following courses, which have a mapping to this PSO have low CO attainments.

Digital Communications, Microprocessors and Microcontrollers, Embedded System Design, Analog and Mixed IC Design, Coding Theory and Techniques, Speech Processing, Digital Image Processing, VLSI Technology, Voice over IP.

Action Taken:

1. Several courses like Drones and Applications, IoT and Simulation lab, Industry 4.0, Aurdino Programming, CAD and VLSI Verification, Sensors and Actuators etc. are included in subsequent curriculum to enhance hardware and software tool usage and thereby strengthen the PSO.
2. NetSim and HFSS Softwares are planned to be procured to introduce the students to state-of-art softwares.
3. Labview Hardware bundles such as MyDAQ and MyRIO are made available to students to


HEAD

DEPARTMENT OF ECE

Challakurthy Bharathi Institute of Technology
Chennai - 600 075

further strengthen the design aspects.

4. Students are motivated to join various technical clubs like MoI, Robotics etc. to develop working prototypes, using the latest hardware and software tools.
5. To further strengthen the PSO, it is proposed to conduct more number of technical events/seminars/invited talks/training programs etc.

PSO3: Student will demonstrate self-confidence to work independently or in a team and his/her ability to Analyze, synthesize, design and test analog & digital components, process, system or sub-systems of electronics and communication Engineering used in peace as well as war applications as per the specifications.

PSO3	1.49	1.47	99% of target achieved
------	------	------	------------------------

Action Plan:

1. The students are encouraged to work as teams for technical activities conducted by CBIT during Sudhee –National level technical symposium.
2. Effective mentoring system ensures student overall development including their ability to work independently or in a team.
3. Tracks are identified in professional electives, so that student can be 1 Head studies in continuation to any of the tracks of their interest. Dept. of ECE.
4. Students are encouraged to present their ideas/work/models at various platforms such as conferences, technical expos etc where they demonstrate their self-confidence.

Head
Dept. of ECE

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
HYDERABAD-500 075

HEAD
DEPARTMENT OF ECE
CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
HYDERABAD-500 075