Name of the Department: ECE

Academic Year: 2020-21(Batch 2017-21 Passed Out)

UG Program

Program Outcomes	Target Fixed	Target Achieved	Observation(Attained/Not Attained)	Actions Taken		
				A1	A2	A3
PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.	**1.90**	**1.91**	**PO1 is attained**	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.	To strengthen teaching-learning and assessment activities, the use of ICT tools including Learning Management System (LMS) is increased.	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,	1.85	1.85	**PO2 is attained**	1. Though, PO2 was successfully attained, in case of courses like	2. To further improve the attainment of this PO, the courses	Mandatory industry internship is included as a part of the curriculum for

research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.				DSP, CTT some of COs are not attained. The CEGs of respective courses decided to give dedicated assignments on those particular COs.	like Data Analytics for signal processing, Multirate and wavelet Signal processing, Bio-medical Signal Processing, Signal Detection Techniques are included in subsequent curriculum.	enhanced learning and better exposure to industrial problems.
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	1.73	1.69	>95% of the set target is achieved	1. In the subsequent curriculum revision, a new course (Engineering Exploration) is introduced so that in the first year itself	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

for public health and safety, and cultural, societal, and environmental considerations.				students can identify an engineering problem and can apply the acquire knowledge to solve the problem 2. To further strengthen the attainment, new courses like Green Communication, Network security, Mobile Adhoc and Sensor Networks, Drones		up mini projects and provide solutions to complex problems. 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.

				and Applications, Cloud Computing, Sensors and Actuators, IoT and Simulation lab, Industry 4.0 are included in the subsequent curriculum		
PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and	**1.59**	**1.6**	**PO4 is attained**	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	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	Several resource persons from industries and scientists form research organizations are invited to deliver seminars/webinars/invited talks on latest topics of industrial interest to inspire the students towards research-based thinking.

interpretation of data, and synthesis of the information to provide valid conclusions.				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.	knowledge to shape their research ability. 4. Under MoUs with industries, various training programs/internships/industry visits are arranged to facilitate experiential learning.	
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	**1.49**	**1.51**	**PO5 is attained**	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	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	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.

of the limitations.				in subsequent curriculum.	simulation and modelling.	
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.	**1.49**	**1.48**	99.82% of the set target is achieved	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.	To create awareness on health aspects, a time-slot for Fit India is included in the time-table	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	**1.39**	**1.38**	**Almost 98% of target attained**	1. The syllabus contents of mandatory course on "Environmental Science" are strengthened. 2. To encourage the students to	3. To encourage the students to take up mini and major projects through which relationship between technical, socio-economic and	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

societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.				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 environment	environmental dimensions of sustainability can be better understood.	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.

				al issues.		
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	**1.46**	**1.52**	**PO8 is attained**	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.	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,	**1.49**	**1.61**	**PO9 is attained**	1. Three-Week induction program is made mandatory to inculcate the	3. To encourage students to work as teams for activities conducted by	4. To encourage students to take part in project exhibition,

and as a member or leader in diverse teams, and in multidisciplinary settings.				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.	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.	hackathon, MSME projects and similar activities. Students learn to work and operate as a team during their Mini Projects, Major Project, Project Seminars and Assignments.
PO10: Communication: Communicate effectively on complex engineering activities with	**1.55**	**1.66**	**PO10 is attained**	1. To revise the rubrics used to evaluate the CIE of mini projects, seminars and major projects so that more focus is given to	3. To encourage the students to participate in various literary clubs such as "Communicando" and to improve writing skills,	To improve communication skills, course on soft skills is strengthened.

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.				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.	students are motivated to involve in bringing out the institute magazine "Transcend".	
PO11: Project management and Finance: Demonstrate knowledge and understanding of the engineering	**1.65**	**1.73**	**PO11 is attained**	1. A new course titled "Principles of Management" is introduced so that student will be able to describe various economic and	3. The students are encouraged to work on the hardware/product-based projects such that student get an ability to prepare budget	Institute subscribed for T-Hub Institutional Membership towards T-Tribe Launch Pad Program to encourage entrepreneurship eco-system among CBIT Students. T-Tribe offers

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.				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.	proposal and submit the same to the institute and other agencies for funding.	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	1.52	1.53	**PO12 is attained**	1. Several courses like Community engagement, MOOCS/Training/Internship, etc., are introduced in the curriculum to encourage the students to	1. Credit transfer facility enables the students to avail the opportunity to complete a course through MOOCs and also drives the	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

and life-long learning in the broadest context of technological change.				develop an attitude towards lifelong learning skills. 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.	students towards life-long learning.	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	**1.75**	**1.75**	**PSO1 is attained**	1. Several professional electives are introduced under six diversified streams of Electronics and Communication. 2. The students	3. They are also encouraged to participate and present their work in National, International Conferences and Institute level events	Students are guided under various technical clubs like MoI, Robotics to develop and demonstrate proto type models.

describing the behaviour of analog and digital electronic circuit or system.				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.	like Research Day, Synapse etc.	
PSO2: Analyze and solve the complex Electronics and Communication engineering problems using state-of-art	1.59	1.58	99.35% of the target is achieved	1. Several courses like Drones and Applications, IoT and Simulation lab, Industry 4.0, Aurdino Programming, CAD and VLSI	3. Labview Hardware bundles such as MyDAQ and MyRIO are made available to students to further strengthen the	To further strengthen the PSO, it is proposed to conduct more number of technical events/seminars/invited talks/training programs etc.

hardware and software tools.				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.	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.	
PSO3: Student will demonstrate self-confidence to work independently or in a team and his/her ability to Analyze, synthesize, design and test	**1.49**	**1.47**	**99% of target achieved**	1. The students are encouraged to work as teams for technical activities conducted by CBIT during Sudhee – National level technical symposium. 2. Effective	3. Tracks are identified in professional electives, so that student can be motivated to pursue higher studies in continuation to any of the tracks of their interest.	Students are encouraged to present their ideas/work/models at various platforms such as conferences, technical expos etc where they demonstrate their self-confidence.

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.				mentoring system ensures student overall development including their ability to work independently or in a team.		

Individual Proof of all Courses:
https://drive.google.com/drive/folders/10R4s5qcSGCwS6fQ_IRVdoDE3loQdYFsw7cgUA_ubljtRD59z7yYnrnBJiYBSmG0zFzkc28GO?usp=share_link

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