



CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (A)

Kokapet (Village), Gandipet, Hyderabad, Telangana-500075. www.cbit.ac.in



ISO Certified
9001:2015

COMMITTED TO
RESEARCH,
INNOVATION AND
EDUCATION

43

years

Name of the Department: Computer Science and Engineering

Academic Year: 2020-2021(Batch 2017-2021 passed out)

UG Program: CSE

| | Target Fixed | Target Achieved | Observation(Attained/Not Attained) | Actions Taken | | |
|-----|--------------|-----------------|-------------------------------------|--|--|---|
| | | | | A1 | A2 | A3 |
| PO1 | 1.56 | 1.85 | Attained | Extensively used ICT tools to promote teaching learning in an effective manner. | To provide access to video lectures through learning management system(LMS) | In Discrete structures, more examples were discussed in complex concepts for better understanding. |
| PO2 | 1.43 | 1.67 | Attained | Students will be motivated to participate in Hackathons/Coding Contests to develop problem solving skills. | Seminar course is introduced where student identifies a problem and do study of literature to solve the problem. | Facilitate students to take part in the industry internship related to get exposed to latest technological developments |

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|-----|------|------|----------|--|---|--|
| PO3 | 1.23 | 1.47 | Attained | Students are encouraged to involve in IEEE, CSI activities to improve demanding skills in social and environmental considerations. | Assignments and case studies are given to the students to meet specific requirements in terms of design of solutions for algorithms. | More practical oriented problems are solved and analyzed in the course Mini Project. |
| PO4 | 1.29 | 1.43 | Attained | More industrial visits have been planned for the students to give an exposure to practical-research related issues on various projects | To work towards the establishment of industry oriented lab thereby promoting research caliber among the students. | Core subjects are added with case studies in a practical-oriented manner. |
| PO5 | 1.25 | 1.42 | Attained | Training on advanced tools are provided in the area of Deep Learning, Linux Programming. | To motivate the students to get exposed to the modern programming frameworks such as Full Stack Development framework. | Introduced Case-study Lab to enable students to explore modern tools in an innovative manner. |
| PO6 | 1.21 | 1.24 | Attained | Encourage students to take part in societal, cultural events to get exposed to profession practice | The syllabus for the course Professional Human Ethical Values(PHEV) has been designed to meet the requirements of health, safety and cultural | The courses like Intellectual Property Rights and History of Science and Technology are introduced to make the student to understand |

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|-----|------|------|----------|--|--|--|
| | | | | | issues. | societal and cultural issues. |
| PO7 | 1.15 | 1.10 | Attained | Courses, that deal with environmental and sustainability issues, have been introduced with the aim of understanding the impact of professional engineering solutions in societal and environmental contexts. | To encourage students to take up projects through which relationship between technical, socioeconomic & environmental dimensions of sustainability will be understood. | |
| PO8 | 0.88 | 0.95 | Attained | To introduce a new course on ethics titled “UHV-2”, “Understanding of Harmony” as suggested by UGC. | The courses like Research Methodology and IPR are included in the curriculum to address the Ethical Values. | Encourage students to undertake projects in various domains and work on novel ideas to understand the significance of ethics and avoid plagiarism during report writing. |
| PO9 | 1.20 | 1.27 | Attained | To encourage the students to participate in group activities in terms of project, extra-curricular and co-curricular under various clubs in the Institute | As an individual, summer internships are taken up by the students at various organizations during every semester gap. | Encourage the students to take up mini and major projects and work in teams to build the team work spirit. |

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| PO10 | 1.18 | 1.28 | Attained | Students are encouraged to undergo Soft skills training programs that which enhances various aspects of communication/technical discussions. | To revise the rubrics used to evaluate the CIE of projects, seminars so that more focus is given to student's ability in oral communication (presentations skills), written communication (report writing) and summarization (conclusion). | A course (IT workshop with Latex and Scilab) is included in the curriculum for improving the writing skills. |
| PO11 | 0.98 | 1.06 | Attained | Students are encouraged to participate in national and international level events like SIH, GOC, Microsoft Gaming event, GitHub repository, JPMC code for good, Dell ambassdor programme, Linux Foundation. | Encourage students to take up mini and major projects and work in teams for the development of the work in multidisciplinary environments. | Encourage students to carry out quality and application oriented projects. Funding up to Rs. 10,000/- is sanctioned towards the same. In exceptional cases, higher funding is also considered. |
| PO12 | 1.17 | 1.39 | Attained | Technical and career guidance sessions are being conducted by senior students and Alumni. | Students are encouraged to work on Research Projects of faculty members related to UGC and DST. | Bootcamps and Hackathons are conducted by COSC and other professional bodies to engage the students in life-long learning practice. |
| PSO1 | 1.08 | 1.05 | Attained | Introduced Artificial Intelligence as a core course | Conducted a 5 Day International Workshop | |

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| | | | | and Machine Learning, Data science with Bigdata Analytics Courses as Professional Electives to impart practical knowledge. | on “Building Data Driven Solution Using Data Analytics With L And DI Algorithm” in CBIT, to enable both students and faculty to gain knowledge in Computer Vision. | |
| PSO2 | 1.17 | 1.16 | Attained | Good number of projects are implemented in the area of Natural Language Processing, pattern recognition and deep learning. | Web Development Workshop is conducted to enable the students to gain exposure to the latest open source tools for web development. | LMS Based Virtual Labs are conducted to enable the students to explore various Open source Technologies. |

Evidences:

1. Drive Link for CO PO mapping Sheets Semester wise: <https://drive.google.com/drive/folders/1nzjH-Q53nsCa-NVEwNiDx8mOyC-bhf-7?usp=sharing>
2. Complete PO attainment table for 2017 batch (AY: 2020-21) hard copy endorsed by head of the department.



Head of the Department

Professor and Head Department
Department of Computer Science & Engineering
Chaitanya Bharathi Institute of Technology (A)
Gandipet, Hyderabad-500 075.(T.S.)

CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY (Autonomous)
Gandipet, Hyderabad -75
Department Of Computer Science and Engineering

| Program Outcomes/Program Specific Outcomes(PSOs) Attainment of Batch 2017-2021 | | | | | | | | | | | | | | | |
|---|--------------------------------|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| S.No. | Course | Program Outcomes | | | | | | | | | | | | PSOs | |
| | Name | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 |
| C101 | Engg. Maths – I | 2.68 | 2.09 | 2.22 | 2.09 | - | - | - | - | - | - | - | 2.09 | 1.78 | 2.68 |
| C102 | Engg. Physics | 2.25 | 2.25 | 0.75 | 0.60 | 0.75 | 0.75 | 0.44 | - | - | 0.75 | - | 0.75 | 0.31 | 0.15 |
| C103 | Applied Chemistry | 2.49 | 1.66 | 1.95 | - | - | 1.66 | 1.66 | - | - | - | - | 1.66 | - | - |
| C104 | Elements of EE | 1.57 | 1.00 | 0.88 | 0.63 | 0.84 | - | - | - | - | - | - | - | 0.94 | - |
| C105 | Engg. Mechanics | 2.89 | 1.93 | - | - | - | - | - | - | - | - | - | 0.96 | - | - |
| C106 | PC in English | - | 0.97 | 1.92 | - | - | 0.95 | - | 0.49 | 1.19 | 1.59 | 0.97 | 0.97 | 0.92 | 0.97 |
| C107 | Environ. Studies | 1.00 | - | - | - | - | 1.40 | 3.00 | 1.33 | - | - | - | 1.00 | 1.00 | - |
| C108 | Engg. Graphics | 1.87 | 0.85 | - | - | 1.43 | - | - | - | 0.85 | 1.57 | 0.72 | 1.29 | 0.58 | 1.57 |
| C109 | Engineering Physics Laboratory | 1.41 | 0.94 | 1.27 | 0.79 | 0.79 | 1.09 | 1.25 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | - | - |
| C110 | Applied Chem. Lab | 1.61 | 1.61 | - | 1.61 | - | 1.44 | 1.44 | - | - | - | - | - | - | - |
| C111 | Prof. Comm. Lab | - | - | - | - | - | - | - | - | - | 0.70 | 0.46 | - | - | - |
| C112 | Engg. Maths- II | 2.65 | 2.21 | 2.21 | 2.36 | - | - | - | - | - | - | - | 2.07 | 2.06 | - |
| C113 | Engg. Chemistry | 2.59 | 1.73 | 1.87 | - | - | 1.58 | 1.73 | - | - | - | - | 1.73 | - | - |
| C114 | Applied Physics | 2.59 | 2.59 | 1.26 | 0.87 | 0.86 | 0.86 | 0.86 | 0.83 | 0.86 | 0.86 | 0.87 | 0.86 | 0.34 | 0.17 |
| C115 | Prog. Problem Sol. | 2.04 | 1.64 | 1.70 | - | 0.68 | - | - | - | - | - | - | 0.76 | 0.63 | 0.63 |
| C116 | Elements ME | 2.13 | 1.66 | 1.69 | 1.39 | 1.21 | 1.55 | 1.39 | 1.08 | 1.11 | 1.41 | 1.35 | 1.39 | - | - |
| C117 | Elements of ECE | 1.16 | 1.4 | 0.58 | - | - | - | - | - | - | - | - | - | 0.68 | 0.51 |
| C118 | PEHV | 1.91 | 2.18 | 2.12 | 1.79 | 1.57 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | 2.45 | - | - |
| C119 | Programming Lab | - | - | - | - | - | - | - | - | - | - | - | - | - | 1.74 |
| C120 | Mech. and IT WS | 0.74 | - | - | - | 0.92 | 0.92 | - | - | 1.07 | - | - | 0.93 | - | - |
| C121 | Applied Phy. Lab | 0.96 | 0.68 | 0.95 | 0.82 | 0.68 | 0.68 | 0.83 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | - | - |
| C122 | Engg.Chem Lab | 1.59 | 1.43 | - | 1.45 | - | 1.45 | 1.45 | - | - | - | - | - | - | - |
| C123 | Engg. Maths–III | 2.38 | 2.09 | 1.96 | 2.10 | - | - | - | - | - | - | - | 1.95 | 1.54 | - |
| C124 | Data Structures | 1.81 | 1.68 | 1.69 | 1.47 | 1.58 | 1.18 | 0.68 | 0.64 | 0.98 | 1.17 | 1.05 | 1.28 | 0.64 | 0.93 |
| C125 | OOOPs using Java | 1.91 | 2.22 | 0.95 | 0.95 | 2.46 | - | - | - | - | - | - | - | 0.95 | 0.95 |
| C126 | LST | 1.78 | 1.78 | 1.73 | 1.51 | 1.31 | 1.55 | - | - | - | - | - | - | - | 1.78 |
| C127 | Discrete Structures | 1.35 | 0.97 | - | - | - | - | - | - | - | - | - | - | - | - |
| C128 | DS Lab | - | 1.96 | - | 2.72 | 0.91 | 2.26 | 0.91 | 0.91 | 2.72 | 0.90 | 2.10 | 2.10 | 0.91 | 1.81 |
| C129 | OOOPs using java Lab | 1.66 | 1.93 | 0.83 | 0.81 | 1.80 | - | - | - | - | - | - | - | 0.83 | 0.83 |
| C130 | SS & Employability Enhancement | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 | 0.72 | - | - | 2.08 | 1.60 | 1.59 | 1.76 | 0.72 | - |

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|------|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | Lab | | | | | | | | | | | | | | |
| C131 | Mini Project-I | 2.10 | 1.92 | 2.88 | 2.89 | 1.93 | 1.96 | 1.96 | 1.43 | 2.77 | 2.90 | 1.86 | 1.89 | 1.86 | 1.86 |
| C132 | DBMS | 0.84 | 1.56 | 1.67 | 1.28 | 1.44 | - | - | - | - | - | - | - | 0.72 | 1.44 |
| C133 | Web Technologies | 2.18 | 1.65 | 2.18 | 1.28 | 2.70 | 2.18 | 1.65 | 1.80 | 2.70 | 2.70 | 1.28 | 2.18 | 1.80 | 2.70 |
| C134 | CAMP | 1.95 | 1.81 | 1.44 | 1.26 | 1.49 | - | 1.46 | - | - | 1.50 | - | - | 0.51 | 1.16 |
| C135 | Prob. & Stat. using R | 1.50 | 1.04 | 1.60 | - | - | - | - | - | 1.38 | - | 0.92 | - | - | 1.50 |
| C136 | Engg. Economics and Accountancy | 0.91 | 1.35 | 1.14 | 1.27 | 1.03 | 0.67 | 0.91 | 0.93 | 0.69 | 0.68 | 0.99 | 0.74 | 0.69 | 0.91 |
| C137 | DBMS Lab | 1.46 | 2.27 | 2.42 | - | 1.81 | - | - | - | - | - | - | - | 0.91 | 1.46 |
| C138 | Web Tech. Lab | 1.90 | 1.76 | 1.76 | 1.32 | 2.64 | 1.61 | 1.61 | 1.18 | 1.91 | 1.91 | - | 1.91 | - | 1.03 |
| C139 | CA and MP Lab | 2.22 | 2.37 | 2.35 | 1.90 | 2.73 | 2.31 | 2.75 | - | - | 2.48 | - | - | 0.92 | 1.84 |
| C140 | LPSL | - | - | 1.51 | - | 1.51 | - | - | - | 1.86 | 2.21 | 2.21 | 1.33 | - | 1.33 |
| C141 | Shell Scripting | 0.83 | - | - | 0.68 | 0.95 | - | - | 0.70 | 0.70 | 0.70 | - | 1.07 | - | - |
| C142 | DAA | 1.64 | 1.77 | 1.77 | - | - | - | - | - | - | - | - | - | 0.76 | 1.64 |
| C143 | ALC | 2.06 | 1.78 | 0.71 | 1.19 | 1.61 | - | - | - | - | - | - | 1.05 | - | - |
| C144 | OS | 2.22 | 2.22 | 1.83 | 1.47 | - | - | - | - | 1.74 | 1.74 | - | 1.62 | - | - |
| C145 | DCCN | 1.00 | - | - | - | - | 1.21 | - | 0.60 | - | - | - | - | 0.61 | 0.61 |
| C146 | Software Engineering | 1.47 | 1.29 | 1.09 | 1.19 | 1.19 | 1.29 | 1.19 | 1.37 | 1.27 | 1.27 | 1.27 | 1.47 | 1.27 | 1.19 |
| C147 | OS Lab | 2.83 | 2.83 | 2.36 | 1.89 | - | - | - | - | 2.20 | 2.21 | - | 2.04 | - | - |
| C148 | DCCN Lab | 1.71 | - | 1.85 | - | - | - | 0.94 | - | - | - | - | - | - | 1.39 |
| C149 | SE Lab | 2.87 | 2.55 | 2.23 | 2.39 | 2.39 | 2.55 | 2.38 | 2.70 | 2.54 | 2.54 | 2.54 | 2.87 | 2.55 | 2.39 |
| C150 | Mobile App Dev. | 2.13 | 1.83 | 1.98 | - | 1.52 | - | - | - | 0.76 | - | 0.76 | 0.76 | 0.76 | 0.76 |
| C151 | Comp. Graphics | 1.99 | 1.55 | 1.33 | 1.03 | 1.54 | - | - | - | - | - | - | - | 1.99 | 0.66 |
| C152 | Compiler Construction | 2.35 | 2.08 | 0.82 | 1.25 | 2.12 | - | - | - | - | - | - | 1.49 | - | - |
| C153 | AI | 2.52 | 2.68 | 1.79 | 1.93 | - | 2.61 | - | - | - | - | - | 2.68 | 2.68 | 1.72 |
| C154 | MC | 1.35 | 0.68 | 0.69 | 1.51 | - | 0.77 | - | 1.24 | - | 1.06 | - | 1.00 | 0.73 | 0.69 |
| C155 | Info. &N/W Security | 2.39 | 1.60 | 1.45 | 1.18 | 1.56 | 1.60 | - | 1.60 | 1.05 | 0.92 | 0.80 | 1.60 | - | 1.20 |
| C156 | IoT | 1.48 | 1.47 | 2.01 | 2.00 | 1.86 | 1.70 | 1.54 | 1.66 | 2.01 | 1.54 | 1.66 | 1.85 | 1.70 | 1.85 |
| C157 | INS Lab | 1.78 | 1.94 | 1.78 | 1.94 | 1.78 | 1.62 | - | 1.30 | 1.30 | 1.30 | 0.65 | 1.94 | - | - |
| C158 | IoT Lab | 1.76 | 1.91 | 2.25 | 1.76 | 2.41 | 2.09 | 1.92 | 1.53 | 1.92 | 1.92 | 1.92 | 1.77 | 1.93 | 1.77 |
| C159 | Mini Project-II | 2.13 | 1.98 | 2.97 | 2.83 | 1.91 | 1.90 | 1.90 | 1.46 | 2.84 | 2.96 | 1.95 | 1.97 | 1.95 | 1.95 |
| C160 | Soft Computing | 1.48 | 0.95 | 0.85 | 0.91 | 0.68 | - | 1.94 | - | 0.62 | 0.62 | 0.16 | 0.16 | 1.63 | - |
| C161 | Data Mining | 2.39 | 1.98 | 1.35 | 1.85 | 1.66 | 2.08 | 1.68 | 1.68 | - | 0.42 | - | 1.29 | 1.18 | 1.47 |
| C162 | Data Science and Big Data Analytics | 2.69 | 2.27 | 1.93 | 2.26 | 2.66 | 0.93 | - | - | 1.92 | 0.96 | 0.96 | 2.26 | 1.93 | 2.66 |
| C163 | Free and Open Source Software | 2.44 | 2.44 | 2.08 | 2.09 | 2.09 | 2.09 | 1.30 | 1.73 | 1.30 | 1.74 | 1.74 | 1.56 | 1.05 | 2.61 |
| C164 | Distributed and Cloud Computing | 2.83 | 2.45 | 2.45 | 1.32 | 1.14 | 0.94 | - | - | - | - | - | - | - | - |
| C165 | Machine Learning | 2.69 | 2.69 | 0.90 | 2.69 | 2.36 | - | - | - | - | - | - | 2.69 | 2.69 | 1.80 |
| C166 | DSBDA Lab | 2.40 | 1.45 | 1.44 | 1.54 | 1.93 | 0.95 | - | - | 1.28 | 0.64 | 0.77 | 1.44 | - | 1.93 |
| C167 | ML Lab | 2.88 | 2.56 | 1.43 | 2.72 | 2.50 | - | - | - | - | - | - | 1.76 | 2.56 | 2.56 |
| C168 | Project Seminar | 0.60 | 0.40 | - | - | 0.25 | 0.83 | - | 0.56 | - | 0.75 | - | 0.83 | 1.05 | 1.05 |
| C169 | Deep Learning | 1.32 | 1.19 | 1.04 | 1.79 | 1.82 | - | - | - | - | 0.85 | - | 0.82 | - | 2.14 |
| C170 | SNA | 2.15 | 2.27 | 2.15 | 2.08 | 1.96 | 1.20 | 0.95 | - | 1.26 | 1.95 | 1.27 | 1.96 | 2.34 | 1.84 |
| C171 | DMM | 1 | 1 | 1 | - | - | 1 | 1 | - | 1 | 1 | 1 | - | 1 | 1 |
| C172 | Entrepreneurship | 1.67 | 1.67 | 1.50 | 1.49 | 1.86 | 1.90 | 1.24 | 1.17 | 1.50 | 1.50 | 2.04 | 1.29 | - | - |

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|----------------------------------|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| C173 | RM | 0.95 | 0.96 | 0.76 | 1.29 | 0.94 | 0.40 | - | - | 0.40 | 1.10 | 0.81 | 0.73 | 0.51 | 0.51 |
| C174 | GS | - | - | - | - | - | 0.585 | - | 0.648 | 0.7425 | 0.7425 | - | 0.648 | 0.648 | - |
| C175 | Seminars | 0.79 | 0.79 | 0.72 | 0.79 | 0.85 | 0.27 | - | - | 0.48 | 0.48 | - | - | 0.85 | 0.92 |
| C176 | Projects | 2.10 | 1.91 | 2.97 | 2.79 | 2.37 | 1.91 | - | 0.95 | 2.86 | 2.76 | 1.91 | 1.91 | 1.95 | 1.91 |
| C177 | Cyber Security | 1.80 | 1.74 | 1.02 | 2.02 | 1.84 | 1.92 | 0.73 | 1.29 | 1.69 | 1.43 | 1.35 | 1.74 | - | 0.88 |
| C178 | NLP | 2.45 | 2.01 | 0.78 | 1.32 | 2.14 | - | - | - | - | - | - | 1.33 | - | - |
| C179 | HCI | 2.83 | 0.94 | 1.33 | 0.94 | 0.94 | 1.85 | 0.92 | - | 0.92 | 0.94 | - | 0.94 | - | - |
| C180 | SNII | 1.61 | 1.94 | 0.97 | 0.72 | 1.29 | - | - | - | - | - | - | - | 0.81 | 0.81 |
| C181 | Blockchain Tech. | 2.77 | 2.59 | 1.31 | - | - | - | - | - | - | - | - | - | - | - |
| C182 | QC | 1.73 | 1.73 | 1.03 | - | - | - | - | - | 0.87 | - | - | 0.87 | - | 0.87 |
| C183 | IP Rights | 1.755 | 1.68 | - | - | 0.9 | 0.8775 | - | 0.585 | - | - | - | - | - | - |
| C184 | HST | 2.02 | 1.13 | 1.15 | 1.00 | 1.15 | 1.16 | 1.30 | 0.86 | 0.87 | 1.44 | 0.87 | 1.44 | 0.62 | 0.62 |
| Average PO/PSO Attainment | | 1.85 | 1.67 | 1.47 | 1.43 | 1.42 | 1.24 | 1.10 | 0.95 | 1.27 | 1.28 | 1.06 | 1.39 | 1.05 | 1.16 |
| 100% Expectation | | 2.33 | 2.13 | 1.84 | 1.93 | 1.87 | 1.81 | 1.71 | 1.31 | 1.79 | 1.76 | 1.47 | 1.75 | 1.61 | 1.75 |
| 67% Target | | 1.56 | 1.43 | 1.23 | 1.29 | 1.25 | 1.21 | 1.15 | 0.88 | 1.20 | 1.18 | 0.98 | 1.17 | 1.08 | 1.17 |

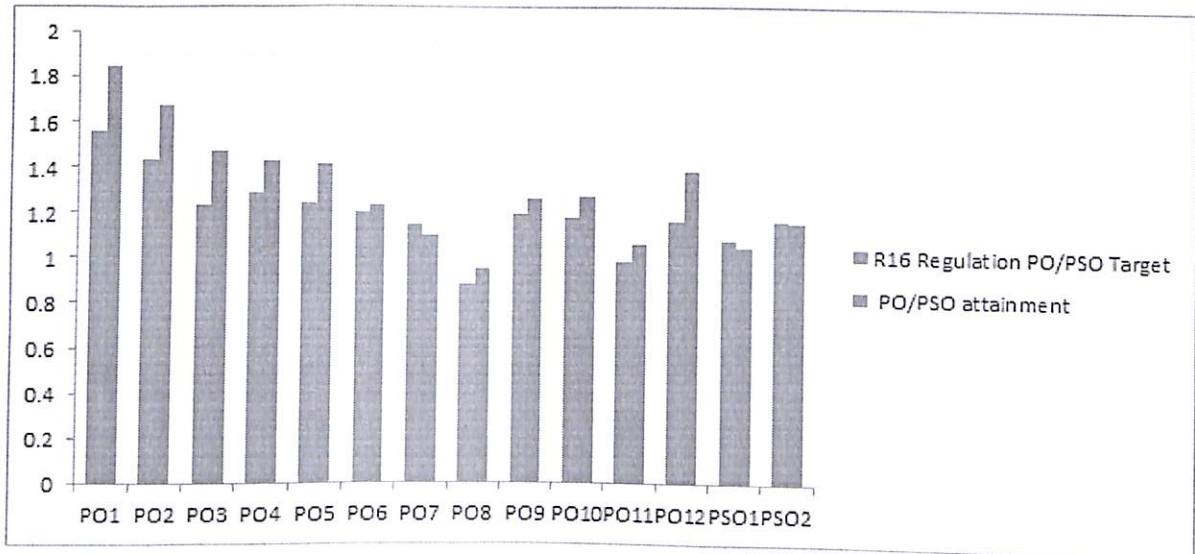


Figure 1: Program Outcome (PO) /Program Specific Outcome (PSO) Attainment of Batch 2017 and Target PO/PSO


Head of the Department

Professor and Head Department
Department of Computer Science & Engineering
Chaitanya Bharathi Institute of Technology (A)
Bandipet, Hyderabad-500 075.(T.S.)