Civil Engineering

PROGRAMME OUTCOMES (PO'S)

PO 1: Engineering knowledge:

An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and engineering principles in design of computer-based systems to real-world problems

PO 2: Problem analysis:

Identify, formulate and analyze complex engineering problems using principles of mathematics, natural sciences, and engineering sciences

PO 3: Design/development of solutions:

Apply research based knowledge to design and conduct experiments, analyze, synthesize and interpret the data pertaining Engineering problems and arrive at valid conclusions.

PO 4: Conduct investigations:

The ability to practice engineering theories using up-to-date techniques, skills, and tools as a result of life-long learning ability to design and conduct experiments.

PO 5: Modern tool usage:

An ability to design, implement, and evaluate a field program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability.

PO 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.

PO 7: Environment and sustainability:

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

PO 8: Ethics:

Demonstrate knowledge of professional and ethical responsibilities and norms of the engineering practice.

PO 9: Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication:

Communicate effectively on complex engineering activities by writing effective reports, designing documentation, making effective presentations and by giving and receiving clear instructions.

PO 11: Demonstrate Technical Strength:

Demonstrate a strong foundation in engineering knowledge, as subject matter experts within a traditional discipline of engineering, to pursue careers in engineering research or education.

PO 12: Life-long learning:

Recognize the need to engage in independent and life-long learning in the broadest context of technological advancement for the benefit of the mankind.

PROGRAM SPECIFIC OUTCOMES (PSO's)

The graduates in Civil Engineering will be able to

- Analyze, Design, Construct, Maintain and Operate civil engineering structures and to use of software.
- Assess the environmental impact of various projects and take required measures to curb environmental deterioration
- Follow human values and ethics with team spirit in every civil engineering project undertaken.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

The PEO's for the department are derived and defined from the mission and vision of the college and the requirements of a student to fulfill the needs of industry, research, societal, culture and ethics of the profession.

The Program educational objectives of the department are as follows

PEO 1: Ethics and Communication Skills:

Graduates will be trained to exhibit professionalism, ethics and with the good communication skills background.

PEO 2: Technical Skills:

Graduates will be trained to excel in their professional career by acquiring factual, analytical, procedural, application and creative knowledge in civil engineering principles.

PEO 3: Employable Skills:

Graduates will be trained to analyze and design practically exposure to sustain in civil engineering systems which involve sound civil engineering skills, to provide acceptable solution to the society.

PEO 4: Life Long Learning:

Graduates will be trained in continuing education and engage them in lifelong learning to be competitive and enterprising.

Computer Science and Engineering

PROGRAMME OUTCOMES (PO'S)

PO 1: Engineering knowledge:

An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and engineering principles in design of computer-based systems to real-world problems.

PO 2: Problem analysis:

Identify, formulate and analyze complex engineering problems using principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions:

Apply research based knowledge to design and conduct experiments, analyze, synthesize and interpret the data pertaining Engineering problems and arrive at valid conclusions.

PO 4: Conduct investigations:

The ability to practice engineering theories using up-to-date techniques, skills, and tools as a result of life-long learning ability to design and conduct experiments.

PO 5: Modern tool usage:

An ability to design, implement, and evaluate a field program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability.

PO 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.

PO 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.

PO 8: Ethics:

Demonstrate knowledge of professional and ethical responsibilities and norms of the engineering practice.

PO 9: Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

PO 11: Demonstrate Technical Strength:

Demonstrate a strong foundation in engineering knowledge, as subject matter experts within a traditional discipline of engineering, to pursue careers in engineering research or education.

PO 12: Life-long learning:

Recognize the need to engage in independent and life-long learning in the broadest context of technological advancement for the benefit of the mankind.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PS01: Foundation of mathematical concepts:

To use mathematical methodologies to crack problem using suitable mathematical analysis, data structure and suitable algorithm.

PSO2: Foundation of Computer System:

The ability to interpret the fundamental concepts and methodology of computer systems. Students can understand the functionality of hardware and software aspects of computer systems.

PSO3: Foundations of Software development:

The ability to grasp the software development lifecycle and methodologies of software systems. Possess competent skills and knowledge of software design process. Familiarity and practical proficiency with a broad area of programming concepts and provide new ideas and innovations towards research.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

The program educational objectives of the B.Tech in computer science and Engineering (CSE) programme are given below and are numbered from PEO1 to PEO4

PEO 1 : To provide graduates with a good foundation in mathematics, sciences and engineering fundamentals required to solve engineering problems that will facilitate them to find employment in industry and / or to pursue postgraduate studies with an appreciation for lifelong learning.
PEO 2: To provide graduates with analytical and problem solving skills to design algorithms, other hardware / software systems, and inculcate professional ethics, inter-personal skills to work in a multi-cultural team.
PEO 3: To facilitate graduates get familiarized with state of the art software / hardware tools, imbibing creativity and Innovation that would enable them to develop cutting-edge technologies of multi-disciplinary nature for societal development.

PEO 4: To include in students professional and ethical attitude, effective communication skills, teamwork skills, multidisciplinary approach , entrepreneurship and an ability to provide ICT Solutions to broader social problems.

Electronics and Communication Engineering

PROGRAMME OUTCOMES (PO'S)

PO 1: Engineering knowledge:

An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and engineering principles in design of computer-based systems to real-world problems

PO 2: Problem analysis:

Identify, formulate and analyze complex engineering problems using principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions:

Apply research based knowledge to design and conduct experiments, analyze, synthesize and interpret the data pertaining Engineering problems and arrive at valid conclusions.

PO 4: Conduct investigations:

The ability to practice engineering theories using up-to-date techniques, skills, and tools as a result of life-long learning ability to design and conduct experiments.

PO 5: Modern tool usage:

An ability to design, implement, and evaluate a field program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability.

PO 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.

PO 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.

PO 8: Ethics:

Demonstrate knowledge of professional and ethical responsibilities and norms of the engineering practice.

PO 9: Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

PO 11: Demonstrate Technical Strength:

Demonstrate a strong foundation in engineering knowledge, as subject matter experts within a traditional discipline of engineering, to pursue careers in engineering research or education.

PO 12: Life-long learning:

Recognize the need to engage in independent and life-long learning in the broadest context of technological advancement for the benefit of the mankind.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO1: Apply the fundamentals of mathematics, science and engineering knowledge to identify, formulate, design and investigate complex engineering problems of electric circuits, analog and digital electronic circuits, electrical machines and power systems.

PSO2: Apply appropriate techniques and modern Engineering hardware and software tools in power systems to engage in life- long learning and to successfully adapt in multi-disciplinary environments

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

Graduates will:

PEO1: Acquire educational foundation that prepares them for professional careers / higher studies in the field of Electronics & Communication engineering.

PEO2: Obtain in depth knowledge of the core discipline of Electronics & Communication engineering to be successful in providing solutions to engineering problems.

PEO3: Utilize their knowledge, skills and resources to design, invent and develop novel technology and find creative and innovative solutions to engineering problems in a multidisciplinary work environment.

PEO4: Develop attitude in lifelong learning, applying and adapting new ideas and technologies as their field evolves.

PEO5: Possess leadership qualities and be effective communicators to work efficiently with diverse teams, promote and practice appropriate ethical practices.

Electrical and Electronics Engineering

PROGRAMME OUTCOMES (PO'S)

PO 1: Engineering knowledge:

An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and engineering principles in design of computer-based systems to real-world problems

PO 2: Problem analysis:

Identify, formulate and analyze complex engineering problems using principles of mathematics, natural sciences, and engineering sciences

PO 3: Design/development of solutions:

Apply research based knowledge to design and conduct experiments, analyze, synthesize and interpret the data pertaining Engineering problems and arrive at valid conclusions.

PO 4: Conduct investigations:

The ability to practice engineering theories using up-to-date techniques, skills, and tools as a result of life-long learning ability to design and conduct experiments.

PO 5: Modern tool usage:

An ability to design, implement, and evaluate a field program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability.

PO 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.

PO 7: Environment and sustainability:

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

PO 8: Ethics:

Demonstrate knowledge of professional and ethical responsibilities and norms of the engineering practice.

PO 9: Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 10: Communication:

Communicate effectively on complex engineering activities by writing effective reports, designing documentation, making effective presentations and by giving and receiving clear instructions.

PO 11: Demonstrate Technical Strength:

Demonstrate a strong foundation in engineering knowledge, as subject matter experts within a traditional discipline of engineering, to pursue careers in engineering research or education.

PO 12: Life-long learning:

Recognize the need to engage in independent and life-long learning in the broadest context of technological advancement for the benefit of the mankind.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO1: Basic science skills:

This skill is required by the student to analyse the engineering subjects from fundamental principle and apply them into the derivation of new concepts.

PSO2: Basic Engineering Skills:

This part consists of basic theories of Electrical and Electronics engineering through which a student attains an understanding of fundamental aspects of the above discipline.

PSO3: Core Electrical Engineering Skills:

This part imparts various practical concepts of Electrical and Electronics engineering and by studying this aspect a student attains a good knowledge of theoretical and practical concepts

PSO4: Advanced Electrical engineering Skills:

In this part the student is given the knowledge of latest topics and generally this part is taken by the students as elective subjects.

PSO5: Managerial and communication Skills:

This skill is necessary for an engineer to work as a manager who runs an organization. In addition to the technical work, an engineer has to communicate motivate and lead a technical teams as a manager to run an organization. This section deals all such aspects.

PSO6: Environmental Awareness:

Any industrial process may lead to a disturbance in the environment. It is necessary for an engineer that his working should not affect the environment. Also, an engineer has to harness the renewable energy sources as input. These aspects have been detailed under this head.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

PEO1: Preparation

To Prepare academically excellent, highly technical and self disciplined engineering graduates with professional ethics and a willingness to contribute to the economical growth of our nation, also enable them to pursue post graduate and research programmes and to succeed in industry and professional career.

PEO2: Core Competence

To produce talented Electrical and Electronics Engineering Graduates with strong foundation in basic Sciences, Mathematics in order to comprehend electrical engineering fundamentals required to analyse and solve Electrical engineering problems and to pursue higher education and research careers.

PEO3: Breadth

To train students with strong scientific and engineering breadth and depth in Electrical engineering subjects so as to comprehend, analyse, design , create novel product and solutions to the real time problems specifically in the power sector and in the field of electrical and electronics engineering in general. Also, to enable students to carry out interdisciplinary activities related to Electrical and Electronics engineering

PEO4: Professional skills

To mould the students from engineers to professionals by imparting necessary skills viz. communications, team work, leadership and enhance their ability in their managerial skills to meet the requirements of the industry.

PEO5: Learning Environment

To provide students with an academic environment and dissemination of knowledge through continuous teaching-learning process needed for individuals and social environments and also to mound students to take the learning as a continuous process in order to meet the challenge of change in technology.

Mechanical Engineering

PROGRAMME OUTCOMES (PO'S)

PO 1: Engineering knowledge:

An ability to apply knowledge of computing, mathematical foundations, algorithmic principles, and engineering principles in design of computer-based systems to real-world problems

PO 2: Problem analysis:

Identify, formulate and analyze complex engineering problems using principles of mathematics, natural sciences, and engineering sciences.

PO 3: Design/development of solutions:

Apply research based knowledge to design and conduct experiments, analyze, synthesize and interpret the data pertaining Engineering problems and arrive at valid conclusions.

PO 4: Conduct investigations:

The ability to practice engineering theories using up-to-date techniques, skills, and tools as a result of life-long learning ability to design and conduct experiments.

PO 5: Modern tool usage:

An ability to design, implement, and evaluate a field program to meet desired needs, within realistic constraints such as economic, environmental, social, political, health and safety, manufacturability, and sustainability.

PO 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.

PO 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.

PO 8: Ethics:

Demonstrate knowledge of professional and ethical responsibilities and norms of the engineering practice.

PO 9: Individual and team work:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO 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.

PO 11: Demonstrate Technical Strength:

Demonstrate a strong foundation in engineering knowledge, as subject matter experts within a traditional discipline of engineering, to pursue careers in engineering research or education.

PO 12: Life-long learning:

Recognize the need to engage in independent and life-long learning in the broadest context of technological advancement for the benefit of the mankind.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO 1: Graduates of the program will achieve excellence in product design, thermal Engineering and manufacturing system by acquiring knowledge in mathematics, science and designing principles.
PSO 2: Graduate will be able to analyze, interpret and provide solutions to the real life mechanical engineering problems.
PSO 3: Graduate will develop an approach to solve multidisciplinary problems of manufacturing and allied industries.
PSO 4: Graduates will learn managerial skills to work effectively in a team and in a society by following ethical and environmental practices.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

- Cater to the needs of Indian as well as multinational industries.

- Be competent with strong technological background to analyze data, formulate and undertake industrial problems and obtain viable solutions
- Make successful career in industry / research / higher Studies.
- Be life-long learning and should be able to work on multi-disciplinary projects.
- Be Competent for effective communication, in management and in professional skills and ethics.