



GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING (Autonomous)

Approved by AICTE, New Delhi and Affiliated to JNTU-Kakinada

Re-accredited by NAAC with "A" Grade with a CGPA of 3.47/4.00

Madhurawada, Visakhapatnam - 530 048.

Department of Civil Engineering

Program Specific Outcomes, Program Educational Objectives, and Program Outcomes of all the Programs offered by the Department

B.Tech (Civil Engineering)

PEOs:

1. Pursue successful careers or higher studies in civil engineering with morals and ethics through their strong foundation in mathematics, science and engineering
2. Analyze and design appropriate solutions for socially relevant problems by using current engineering techniques and tools
3. Engage in professional development through effective communication, team work and lifelong learning

PSOs:

1. Collect, process and analyse the data from topographic surveys, remote sensing, hydro-geological investigations, geotechnical explorations, and integrate the data for planning of civil engineering infrastructure.
2. Analyse and design of substructures and superstructure for buildings, bridges, irrigation structures and pavements.
3. Estimate, cost evaluation, execution and management of civil engineering projects.

POs:

1. Graduates will be able to apply the knowledge of mathematics, science, engineering fundamentals to solve complex civil engineering problems.
2. Graduates will attain the capability to identify, formulate and analyse problems related to civil engineering and substantiate the conclusions
3. Graduates will be in a position to design solutions for civil engineering problems and design system components and processes that meet the specified needs with appropriate consideration to public health and safety

4. Graduates will be able to perform analysis and interpretation of data by using research methods such as design of experiments to synthesize the information and to provide valid conclusions.
5. Graduates will be able to select and apply appropriate techniques from the available resources and modern civil engineering and software tools, and will be able to predict and model complex engineering activities with an understanding of the practical limitations.
6. Graduates will be able to carry out their professional practice in civil engineering by appropriately considering and weighing the issues related to society and culture and the consequent responsibilities.
7. Graduates will be able to understand the impact of the professional engineering solutions on environmental safety and legal issues.
8. Graduates will transform into responsible citizens by resorting to professional ethics and norms of the engineering practice.
9. Graduates will be able to function effectively in individual capacity as well as a member in diverse teams and in multidisciplinary streams.
10. Graduates will be able to communicate fluently on complex engineering activities with the engineering community and society, and will be able to prepare reports and make presentations effectively.
11. Graduates will be able to demonstrate knowledge and understanding of the engineering and management principles and apply the same while managing projects in multidisciplinary environments.
12. Graduates will engage themselves in independent and life-long learning in the broadest context of technological change while continuing professional practice in their specialized areas of civil engineering.

M.Tech. (Infrastructure Engineering and Management)

PEOs:

1. Implement and monitor construction projects with professional standards
2. Design infrastructure facilities by adopting new trends in technological advancements to improve the living standards.
3. Dynamically manage projects of social relevance ethically through effective team work.

PSOs:

1. To collect and analyse the data for planning and management of infrastructural projects
2. To formulate research objectives, scope and methodology to carry out independent research

POs:

1. Apply the knowledge of basic infrastructure requirements for the development of towns, cities and satellite towns.
2. Critically analyse the usage of natural resources in construction materials.
3. Evaluate a wide range of potential solutions for the alternative methods and techniques which can be adopted effectively keeping economic considerations of the project.
4. Apply scientific knowledge to analyse various problems of infrastructural engineering and to provide possible solutions by pursuing research.
5. Select appropriate modern engineering and IT tools for design and construction of Civil Engineering infrastructure projects.
6. Attain the capability to work in multi disciplinary teams to achieve common goals.
7. Demonstrate knowledge and understanding of engineering and management principles in multi disciplinary environments after consideration of economic and financial factors.
8. Communicate effectively on complex engineering activities to prepare reports and make presentations.
9. Ability to engage in life-long learning independently to improve knowledge.
10. Understand the responsibility of carrying out professional practices ethically for sustainable development of society.
11. Examine critically and independently one's actions and take corrective measures by learning from mistakes

M.Tech. (Structural Engineering)**PEOs:**

1. Adopt to the technological advancements for professional development and to cater to the changing needs of the society.
2. Be capable of using relevant softwares.
3. Exhibit leadership qualities and communication skills for managing projects of social relevance ethically through effective team work.

PSOs:

1. Analyse and design the advanced structural elements and suggest solutions for rehabilitation
2. To formulate research objectives, scope and methodology to carry out independent research

POs:

1. Synthesize existing and new knowledge in various sub areas of structural engineering
2. Analyse complex engineering problems critically with adequate theoretical background for practical applications.
3. Evaluate a wide range of feasible and optimal solutions after considering safety and environmental factors
4. Demonstrate the ability to pursue research by conducting experiments and extract the relevant information through literature surveys
5. Use state –of- the- art of modern tools for interpreting the behaviour and modelling of complex engineering structures
6. Attain the capability to work in multi-disciplinary teams to achieve common goals.
7. Demonstrate the knowledge to perform the projects efficiently in multi-disciplinary environments after consideration of economical and financial matters.
8. Communicate effectively on complex engineering activities to prepare reports and make presentations.
9. Engage in life-long learning independently to improve knowledge.
10. Understand the responsibility of carrying out professional practices ethically for sustainable development of society.
11. Examine critically and independently one's actions and take corrective measures by learning from mistakes.