

**GOVT. COLLEGE OF ENGINEERING
AMRAVATI**

**DEPARTMENT OF
INSTRUMENTATION ENGINEERING**



CURRICULUM

For

**B. Tech. Second Year
(Instrumentation Engineering)**

2020 – 21

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

The Department of Instrumentation Engineering has developed and maintained a well-defined set of Educational Objectives and desired program outcomes. Educational objectives of the program cater to the requirements of the stakeholders such as students, parents, employers, alumni, faculty members etc.

These objectives will be obvious by professional visibility (publications, presentations, inventions, patents and awards), entrepreneurial activities, and international activities (participation in international conferences, collaborative research and employment abroad).

PEO1: Core Competency: Graduate will be able to solve real world problems appropriate to the discipline using foundation of mathematics, science and Instrumentation Engineering

PEO2: Breadth: Graduate will be competent enough to apply current industry accepted best practices, new and emerging technologies to analyze, design, implement, and maintain the globally acceptable solutions.

PEO3: Learning Environment: Exhibit self- learning capabilities to understand and practice emerging theories and technologies along with effective communication and intra personal skills.

PEO4: Professionalism: Inculcate professional and ethical attitude and ability to relate automation issues to society at large.

PEO5: Preparation: Be successfully employed or accepted into a graduate program / higher studies, and demonstrate a pursuit of lifelong learning.

PROGRAMME OBJECTIVES (POs)

Graduates of Instrumentation Engineering program of Government College of Engineering, Amravati will have the ability to

PO1. Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and Instrumentation engineering to the solution of complex engineering problems.

PO2. Problem analysis: An ability to identify, formulate and solve a problem in Instrumentation Engineering with acceptable solution.

PO3. Design/Development of solutions: Design and development solutions for complex engineering and real world problems adhering to safety and regulatory standards as applicable from time to time.

PO4. Investigation: Apply research-based knowledge and research methodologies including design of experiments, analysis and interpretation of data along with synthesis of the information to provide valid conclusions.

PO5. Communication: An ability to communicate effectively with engineering fraternity and society at large in oral and written form while formulating project proposals, reports and other related documents / activities.

PO6. Team work: Able to work effectively individually and in a various teams (may be multidisciplinary teams).

PO7. Environment and sustainability: The impact of Instrumentation solutions in a global, economic, environmental, and societal context, and demonstrate the knowledge and need for sustainable development.

PO8. Ethics: Apply ethical principles and remain committed to professional ethics and responsibilities and norms of the engineering practices.

PO9. Safety: Understand the social impact of automation, safety aspects of automation, hazards associated with various processes, environmental issues, health, legal and cultural issues etc

PO10. Modern Tools usage: Ability to select and use latest hardware and software tools for various processes and systems including prediction and modeling to complex engineering activities with an understanding of their limitations.

PO11. Project management and finance: Apply knowledge and understanding of the engineering and management fundamentals as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long Learning: Recognize the need for independent survival skills and ability to adapt to changes with lifelong learning in the broadest context of technological changes.

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PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO 1: Actively apply technical and professional skills in engineering practices towards the progress of the organization in competitive and dynamic environment.

PSO 2 Inculcate comprehensive education in Instrumentation engineering to ensure core competency in Instrumentation, Control and Automation.

PSO 3: Conduct themselves in a responsible, professional and ethical manner supporting sustainable economic development which enhances the quality of life.

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