



# **Guru Nanak Institute of Engineering and Technology, Nagpur (M.S.)**

## **Institute Vision and Mission:**

### **VISION**

To become a world class, globally competitive and flexible, technical and management institution, responsive to the growth of an individual, society, and the institute itself, satisfying the developmental needs of the people of Maharashtra and India.

### **MISSION**

To educate students from all over India & other countries especially those from the local & rural areas, so that they become enlightened individuals, improving the living standards of their families, industries & the society. We will provide the world class quality education & pay serious attention towards the development of an individual for character building & the nation building.

To implement a program of education in Engineering Technology and management studies, relevant to the current needs of the industry, alive to the long term requirements and responsive to the anticipated changes and developments.

To serve as a centre for fostering the co-operation, exchange of ideas between the academicians and the research community.

To create linkages between institute, industrial community and Government organizations to promote the entrepreneurship and skill development among the students.



# Department of Computer Science & Engineering

## Department Vision and Mission:

### VISION

Nurturing globally competent computer science & engineering graduates by inculcating values of research qualities and society.

### MISSION

- To impart high quality professional training with an emphasis on basic principles of computer science and engineering
- To strengthen links with industry through partnerships and collaborative development works.
- To attain self-sustainability and overall development through research, consultancy and development activities.
- To make the students as far as possible industry ready to enhance their employability in the industries.
- To improve department industry collaboration through internship program and interaction with professional society through seminar/workshops.



## Department of Computer Science & Engineering

### PROGRAM EDUCATIONAL OBJECTIVES (PEO):

- **PEO1:** To provide the imperatives knowledge of science and engineering concepts fundamental for a computer professional and equip the proficiency of mathematical foundations and algorithmic principles for competent problem solving ability.
- **PEO2:** To inculcate ability in creativity & design of computer support systems and impart knowledge and skills for analyze, design, test and implement various software applications
- **PEO3:** To exhibit leadership capability, triggering social and economical commitment and inculcate community services and protect environment
- **PEO4:** To provide an educational foundation that prepares computer professional for excellence, leadership roles along diverse career paths with encouragement to professional ethics and active participation needed for a successful career.



# Department of Computer Science & Engineering

## PROGRAM OUTCOMES (PO)

**PO-1 Engineering knowledge:** Apply the knowledge of mathematics, science, Computer Science and Engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO-2 Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and Computer Science and Engineering.

**PO-3 Design/development of solutions:** Design solutions for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO-4 Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions in the field of Computer Science and Engineering.

**PO-5 Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.

**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 Computer Science and Engineering practices.

**PO-7 Environment and sustainability:** Understand the impact of the professional Computer Science and Engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO-8 Ethics:** Apply ethical principles and commit to professional ethics and 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 Project management and finance:** Demonstrate knowledge and understanding of the Computer Science and Engineering 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.

**PO-12 Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## **Department of Computer Science & Engineering**

### **PROGRAM SPECIFIC OUTCOMES (PSO)**

- **PSO1:** The Computer Science and Engineering graduates are able to gain critical understanding of hardware and software tools catering to the contemporary needs of IT industry for the development of different projects in inter-disciplinary field.
- **PSO2:** The Computer Science and Engineering graduates are able to analyze, design, develop, test and apply computational expertise, mathematical foundations and managerial skills to solve complex Engineering problems considering environmental and ethical and social issues.