

**MGM's**  
**Jawaharlal Nehru Engineering College**

<b>PROGRAM OUTCOMES :</b>	
<b>PO No.</b>	<b>Program Outcome Description</b>
<b>PO 1</b>	<b>Engineering knowledge:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
<b>PO 2</b>	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
<b>PO 3</b>	<b>Design / Development of solution:</b> 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.
<b>PO 4</b>	<b>Conduct investigation of complex problems:</b> 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.
<b>PO 5</b>	<b>Modern tool usage:</b> 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.
<b>PO 6</b>	<b>The engineer &amp; society:</b> 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.
<b>PO 7</b>	<b>Environment &amp; sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
<b>PO 8</b>	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
<b>PO 9</b>	<b>Individual &amp; team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
<b>PO 10</b>	<b>Communication:</b> 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.

<b>PO 11</b>	<b>Project management &amp; finance:</b> Demonstrate knowledge and understanding of the 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.
<b>PO 12</b>	<b>Life long learning:</b> 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.

### **Program Specific Outcomes**

#### **PSO Mechanical Engineering Department:**

1. An ability to work professionally in mechanical systems including design, analysis, production, measurement and quality control.
2. An ability to work on diverse disciplinary tasks including manufacturing, materials, thermal, automobile, robotics, mechatronics, engineering software tools, automation and computational fluid dynamics

#### **PSO Electrical Engineering Department:**

1. Should able to apply the knowledge gained during the course of the program from Applied Science and all electrical courses in particular to identify, formulate and solve real life electrical problems faced in industries and research work.
2. Should able to provide socially acceptable technical solutions to complex electrical engineering problems with the application of modern and appropriate techniques for sustainable development.
3. Should able to provide electrical services in power system design and development of efficient drives.

#### **PSO Information Technology Department:**

1. PSO1. An ability to design, develop and implement computer programs in the areas related to Algorithms, Multimedia, Website Design, System Software, DBMS and Networking.
2. PSO2. Develop software systems that would perform tasks related to Research, Education and Training and/or E governance.
3. PSO3. Design, develop, test and maintain application software that would perform tasks related to information management and mobiles by utilizing new technologies to an individual or organizations.

#### **PSO Computer Science & Engineering Department:**

### **1. Software Development: Graduates will be able to-**

- Develop algorithms, design systems using object Oriented Structures, Computational Mathematics and Graphics.
- Develop systems using Software Engineering principles, Agile Methodologies.

### **2. Networking: Graduates will be able to-**

- Design and develop systems using Networking and different GUI methods, Mobile Technology with consideration to Computer Security.
- Integrate IT systems to support the information exchange.

### **3. Data Analysis: Graduates will be able to-**

- Develop systems with Databases, Warehouses, Visual Modeling and different front end technologies and extract data using the techniques of Data Mining.
- Apply the techniques of Image processing, Soft Computing and Artificial Intelligence for system development.

### **PSO Electronics and Telecommunication Department:**

1. Comprehend, analyse, design and implement electronic circuits and applications.
2. Apply knowledge in the field of Embedded and VLSI technology.
3. Apply knowledge in the field of image processing and telecommunications.

### **PSO Chemical Engineering Department:**

1. Ability to design safe processes and practice in chemical industry.
2. Ability to analyze and evaluate chemical engineering unit operations and unit processes for its smooth operation and up-gradation.

### **PSO MCA Department:**

1. Apply knowledge and probability and statistics, including applications appropriate to computer engineering
2. Inculcate and understand professional Ethics, Cyber, Social responsibility
3. Assimilate knowledge of Mathematics and their applications in Cryptography, Graph Theory and Computing
4. Understand Database, Data Mining, Normalization and Design Data Sensitive applications
5. Imbibe knowledge to perform research on contemporary technology issues and publish research papers
6. Perform feasibility study using OOSDLC for the problem domain