**PROGRAM EDUCATIONAL OBJECTIVES (PEO’s):**

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| **PEO1:** | Develop Graduates capable of applying the principles of mathematics, science, core engineering and Computer Science to solve real-world problems in interdisciplinary domains. |
| **PEO2:** | To develop the ability among graduates to analyze and understand current pedagogical techniques, industry accepted computing practices and state-of-art technology. |
| **PEO3:** | To develop graduates who will exhibit cultural awareness, teamwork with professional ethics, effective communication skills and appropriately apply knowledge of societal impacts of computing technology. |
| **PEO4:** | To prepare graduates with a capability to successfully get employed in the right role/become entrepreneurs to achieve higher career goals or takeup higher education in pursuit of lifelong learning. |

**PROGRAM OUTCOMES:**

**Engineering Graduates will be able to:**

**PO1**. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2**. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3**. **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.

**PO4**. **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.

**PO5**. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

**PO6**. **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.

**PO7**. **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.

**PO8**. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9**. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10**. **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.

**PO11**. **Project management and finance**: 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.

**PO12. 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.

**Program Specific Outcomes**

**PSO1:** System Analysis and Design

The student will:

1. Recognize and understand the dynamic nature of developments in computer architecture, data organization and analytical methods.
2. Learn the applicability of various systems software elements for solving real-world design problems.
3. Identify the various analysis & design methodologies for facilitating development of high quality system software products with focus on performance optimization.
4. Display good team participation, communication, project management and document skills.

**PSO2**: Product Development

The student will:

1. Demonstrate knowledge of the ability to write programs and integrate them resulting in state-of –art hardware/software products in the domains of embedded systems, databases /data analytics, network/web systems and mobile products.
2. Participate in teams for planning and implementing solutions to cater to business – specific requirements displaying good team dynamics and professional ethics.
3. Employee state-of-art methodologies for product development and testing / validation with focus on optimization and quality related aspects

**COURSE OUTCOMES**

At the end of the course, the student will be able to –

1. Understand the fundamental concepts of various data structures and hashing techniques.
2. Analyze and represent various data structures
3. Implement algorithms on different data structures such as Stack, Queue, List, Tree and hashing.
4. Apply suitable data structure based on the need of the application

**MAPPING OF CO WITH POs**

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| **Course Outcomes** | | **Program Outcomes (POs)** | | | | | | | | | | | | **(PSOs)** | |
| **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** |
| **CO1** | Understand the fundamental concepts of various data structures and hashing techniques. | L | H | H | L | L | L | - | - | - | - | - | M | L | H |
| **CO2** | Analyse and represent various data structures. | L | M | M | L | L | L | - | - | - | - | - | M | L | M |
| **CO3** | Design algorithms on different data structures like Stack, Queue, List, Tree and hashing. | L | M | M | L | L | L | - | - | - | - | - | M | L | M |
| **CO4** | Implement programs with suitable data structure based on the requirements of the application. | L | H | H | L | L | L | - | - | - | - | - | M | L | H |