SVKM'S
NMIMS
Deemed to be UNIVERSITY

Mukesh Patel School of Technology Management and Engineering

B Tech Computer Science and Business Systems

- **Program Educational Objectives (PEOs)**
- **Program Outcomes (POs)**
- **Course Outcomes (COs)**

Program Educational Objectives (PEOs):

1. **Professional Skills**
2. **Career Growth**
3. **Higher Studies**

Program Outcomes (POs):

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

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

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

PO-4: 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

PO-5: 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: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.

PO-7: Understand the impact of the professional engineering solutions in societal and environmental contexts, demonstrate the knowledge of, and need for sustainable development.

PO-8: Apply ethical principles and commit to professional ethics, responsibilities, and norms of engineering practice.

PO-9: Function effectively as an individual , and as member or leader in diverse teams , and in multidisciplinary settings

PO-10: Communicate effectively on complex engineering activities with the engineering community and with the 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: 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

PO-12: 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.

Courses and Course Outcomes (COs):

Physics for Computing Science

- **CO-1:** comprehend the principles of waves and apply the properties to understand the concepts of interference, diffraction, and polarization in optics.
- **CO-2:** understand and apply the principles of crystal structure and thermodynamics and apply them to study the stability, behaviour, and properties of materials
- **CO-3:** understand laser principles, fiber optic technology, and their applications in communication and sensing
- **CO-4:** explore and understand electromagnetism and quantum physics along with their contemporary application

Software Design with Unified Modeling Language

- **CO-1:** Understand Unified process
- **CO-2:** Elicit the Requirements using use case diagram for the given problem,
- **CO-3:** Design interaction, structural, and dynamic model for a given problem
- **CO-4:** Understand package, component and deployment model for the given problem.

Machine Learning

- **CO-1:** Identify machine learning techniques suitable for a given problem
- **CO-2:** Apply regression model to solve problems in machine learning domain.
- **CO-3:** Analyze and apply classification and clustering algorithms on data
- **CO-4:** Apply classification and clustering approaches to extract insight from given dataset

Modern Web Applications

- **CO-1:** Understand the fundamentals of web programming
- **CO-2:** Design front end of the web application using HTML5, CSS3, Javascript.
- **CO-3:** Implement client-side technologies – Jquery, Ajax, Bootstrap, AngularJS
- **CO-4:** Implement back end technology and databases for restful services

Compiler Design

- **CO-1:** Comprehend the working of lexical analysis, parsing
- **CO-2:** Understand the significance of code generation and code optimization
- **CO-3:** Implement working module of Compiler

IT Project Management

- **CO-1:** Learn the techniques to effectively plan, manage, execute, and control projects within time and cost targets with a focus on Information Technology and Service Sector
- **CO-2:** Apply agile project management techniques such as Scrum and DevOps on real time projects