PDEA's College Of Engineering Manjari (Bk.)

Computer Engineering Department

Program Education Objectives (PEO)

1. Topreparegloballycompetentgraduateshavingstrongfundamentals,domainknowledge, updated with modern technology to provide the effective solutions for Computer science and Engineeringproblems.
2. To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmentalissues.
3. To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinarythinking.
4. To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as inteams.

Programme Outcomes (PO)

1. To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.
2. To analyze the problem by finding its domain and applying domain specific skills.
3. To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
4. To find solutions of complex problems by conducting investigations applying suitable techniques.
5. To adapt the usage of modern tools and recent software.
6. To contribute towards the society by understanding the impact of Engineering on global aspect.

7. To understand environment issues and design a sustainable system.

8. To understand and follow professional ethics.

9. To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.

10. To demonstrate effective communication at various levels.

11. To apply the knowledge of Computer Engineering for development of projects, finance and management.

12. To keep in touch with current technologies and inculcate the practice of lifelong learning.

Programme Specific Outcomes (PSOs)

1. The ability to understand, analyze and develop computer programs using concept areas related to algorithms, mathematics, system software, web design, big data analytics, and networking for efficient design of computer-based systems of varyingcomplexity.
2. The ability to understand the evolutionary changes in computing, apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success, real world problems and meet the challenges of thefuture.
3. Ability to test and analyze the quality of various subsystems and to integrate them in order to evolve a larger computing system.

Name of Subjects:

- DiscreteMathematics
- Digital Electronics and LogicDesign
- Data Structures andAlgorithms
- Computer Organization andArchitecture
- Object OrientedProgramming
- Engineering MathematicsIII
- ComputerGraphics
- Advanced DataStructures
- Microprocessor
- Principles of ProgrammingLanguages

- Theory ofComputation
- Database Management Systems(DBMS)
- Software Engineering & ProjectManagement
- Information Systems & EngineeringEconomics
- Computer Networks(CN)
- Design & Analysis ofAlgorithms
- Systems Programming & OperatingSystem
- Embedded Systems & Internet ofThings
- Software Modeling andDesign
- WebTechnology
- High PerformanceComputing
- Artificial Intelligence andRobotics
- DataAnalytics
- Pervasive and UbiquitousComputing
- Data Mining and Warehousing
- Software Testing and QualityAssurance
- Distributed Systems
- Mobile Communication
- MachineLearning
- Information and CyberSecurity
- Compilers
- Advanced Digital Signal Processing
- CloudComputing
- Software Defined Networks

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Mechanical Engineering Department

Programme Education Objectives (PEO)

1. Stand out in professional career and/or higher education by acquiring knowledge in mathematical, computing and Mechanical Engineering principles.
2. Be able to develop the communication skills, professional personality and ethical valuesthat will mould them into a good human beings, responsible citizens and competent professionals.
3. Demonstrate good scientific and engineering breadth in the design and development of novel and cost-effective products to cater to the needs of the society.
4. Proliferate mechanical engineers with utmost practical skill with sound theoreticalknowledge.

Programme Outcomes (PO)

Engineering Graduates will be able to:

1. Design a system according to the requirements and identify, formulate, analyze and solve complex mechanical engineeringproblems.
2. Develop and apply knowledge to various applications.
3. Use the techniques, skills, and modern engineering tools necessary for engineering practice.
4. Acknowledge the need for lifelong learning and being a part ofit.
5. Understand knowledge of professional and ethicalresponsibilities.
6. Provide solutions to varied engineering problems using softwaretools.
7. Apply basic knowledge of science, mathematics and engineering fundamentals in the field of MechanicalEngineering
8. Function competently as an individual and as a part of multi-disciplinaryteams.
9. UnderstandimpactofMechanicalengineeringsolutionsonsocietyandenvironmentin continuous and sustainablemanner.

10. To model mathematically analytical and synthetic curves, surfaces.
11. To study role and components of different Automation strategies.

Programme Specific Outcomes (PSOs)

1. Extend and implement new thoughts on product design and development with the aids of modern, AutoCAD, proE, catia, CAD/CAM, CFD tools, for better manufacturing practices.
2. Ability to search, articulate the industrial problems and solve with the use ofMechanical Engineering tools for futuristic outcomes and development ofsociety.
3. Apply technical knowledge in the fields of Thermal, Design, and Manufacturing sciences to solve EngineeringProblems.

Name of Subjects:

- Heat Transfer
- Design of Machine Elements
- Mechatronics
- Fluid Mechanics
- Turbomachinery
- Thermodynamics
- Engineering Graphics
- Basic Mechanical Engineering
- Engineering Metallurgy
- Material Science
- Advanced Manufacturing Process
- Numerical Methods and Optimization
- Refrigeration & Air Conditioning

- Theory Of Machine
- Strength Of Material
- Heating Ventilation &Air Conditioning
- Computational Fluid Dynamics
- Dynamics Of Machinery
- Finite Element Analysis
- Automobile Engineering
- Energy Audit &Management
- CAD/CAM Automation
- Robotics
- Mechanical System Design
- Metrology & Quality Control
- Operation Research
- Hydraulics and Pneumatics
- Energy Engineering
- Tribology
- Industrial Engineering
- Product Design and Development
- Solar & Wind Energy

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E&TC/Electronics Engineering Department

Program Specific Outcomes (PSOs)

1. An ability to design and implement complex systems in areas like signal processing embedded systems, VLSI and Communication Systems.
2. An ability to make use of acquired technical knowledge for qualifying in competitive examinations at various levels.
3. Graduates will be able to apply fundamentals of electronics in various domains of analog and digital systems.

Programme Outcomes:

At the end of the program, the graduates of B.E. of the department will be able to

1. Engineering Knowledge: Apply knowledge of mathematics, science, and Electronics and Communication Engineering for solving engineering problems and modeling.
2. Problem analysis: Design and conduct experiments as well as to analyze and interpret experimental or collected data, simulate and fabricate electronic circuits and systems and make own projects utilizing latest software tools and techniques. They also possess the ability to identify, formulate, research literature and analyze complex engineering problems to reach logical conclusions.
3. Design / development of solutions: Design a system, component or process to meet the desired specifications, performance and capabilities; compatible with health, safety, legal, societal and environmental considerations.
4. Conduct investigations of complex problems: Use research based knowledge and research methods including design of experiments in analyzing and interpreting data, and synthesizes the data to come to valid conclusion.
5. Modern tool usage: Apply appropriate techniques, resources and modern attitudes, IT tools (linking hardware and software) including prediction and modeling to complex engineering activities and research.
6. Engineer and Society: Understand the special duty they owe to protect the public's health, safety and welfare by virtue of their professional status as engineers in society.
7. Environment and sustainability: Understand and correctly interpret the impact of

engineering solutions in global, societal and environmental contexts and demonstrate the knowledge of a need for sustainable development.

8. Ethics: Understand ethics of life and professions and abide by them.
9. Individual and Team-work: Articulate teamwork principles, work with a multi- disciplinary team, and appreciate the role of a leader, leadership principles, and attitudes conducive to effective professional practice of Electronics and Communication Engineering.
10. Communication: Communicate and present effectively both orally and in writing, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering finance and management principles as a member and leader in a team to manage projects in multi-disciplinary environments.
12. Life-long learning: Engage in life-long learning, demonstrate knowledge and understanding of contemporary and emerging issues relevant to their domain - demonstrate knowledge and understanding of business practices and principles of management and understand their limitations, develop awareness of legal consequences of engineering solution.

Program Education Objectives (PEOs)

PEO 1-Preparation: transition to a successful professional career

To prepare the students to excel undergraduate programmes, in applied research, or in PG programmes to succeed in industry/technical profession anywhere in the world through rigorous learning- teaching.

PEO 2-Core Competence: development of the fundamental prerequisites

To provide students with a solid foundation in mathematical, scientific and electronics and communication engineering fundamentals required to solve engineering problems – thus generating core competence. This serves them lifelong in their professional domain as well as higher education.

PEO 3- Design Competence: aiding the students in the R & D competency

To inculcate a strong flavor of research activities among the students and impart them with good scientific and engineering depth and breadth of knowledge including proficiency in hardware languages, use of latest software tools, ability to apply engineering experience in

designing and conducting experiments and analyze the significance of experimental data so as to comprehend, analyze, design and create novel products and provide solutions to the real life problems facing the society and humanity at large.

PEO 4- Professionalism: developing lifelong and world class employability

To inculcate in students the finest professional attributes, ethics, a positive attitude, effective communication and presentation skills, ownership, responsibility and accountability – aptitude to work in multi-cultural/national and multi-disciplinary ambience, develop in one adaptability to different situations, ability to work in teams, take independent decisions and ability to integrate engineering issues to broader social contexts.

PEO 5- Career Development: equipping the students to succeed in a variety of career options

To prepare the students for successful and productive career choices in both public and private sectors in the field of electronics & communication engineering or other allied engineering or other fields. Also equipping the students by imparting professional development courses and industrial trainings, preparing students to crack various national level competitive examinations like GATE, IES, etc and providing encouragement to pursue higher studies or to become successful entrepreneurs in life.

PEO 6- Learning Environment: inculcate a lifelong learning culture

To provide students with an academic environment that ignites in one the spirit of excellence, develop the urge of discovery, creativity, inventiveness, leadership and a passion to be the best by providing state-of-the-art facility and an overall ambience that fosters brilliance.

Name of the Subjects:-

- Signals & Systems
- Electronic Devices & Circuits
- Electrical Circuits and Machines
- Data Structures and Algorithms
- Digital Electronics
  Electronic Measuring Instruments & Tools
- Audit Course 1- Road Safety Management
- Engineering Mathematics III
- Integrated Circuits
- Control Systems
- Analog Communication
- Object Oriented Programming
- Employability Skill Development

- Cyber Crime and law
- Power Electronics and Applications
- Instrumentation Systems
- Electromagnetic and Wave propagation
- Microcontrollers and Applications
- Data Communication
- Electronics System Design Practice
- Cyber and Information Security
- DSP and Applications
- Embedded Processors
- Business Management and Organization
- Fundamentals of HDL
- PLC and Applications
- Embedded System Design using C2000
- VLSI Design
- Advanced Power Electronics
- Electronics System Design
- Elective I -Embedded Systems & RTOS
- Elective II-Mobile communication
- Critical Thinking
- Computer Network
- Process Automation
- Elective III --Audio Video Engineering
- Elective IV -- Biomedical Signal Processing
- Technologies, Disruptions and Entrepreneurial Opportunities

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Instrumentation Engineering Department

Program Education Objectives :(PEOs)

1. The graduates will be able to analyze, design, develop and maintain the instrumentation systems of an industry.
2. Graduates demonstrate proficiency in fundamental knowledge in industrial instrumentation and control by applying knowledge to practice for meeting the expectations of industry.
3. Graduates develop the interest in research work in multi-disciplinary areas.
4. Inculcate professional and ethical attitude and ability to relate automation issues to society at large.

Program Objectives:

1. To develop technically sound Engineers for successful careers in industry that meets the local and global needs.
2. To provide fundamental knowledge of Instrumentation and Control and to strengthen applied mathematical base and analytical ability of the students.
3. To provide experience in Instrumentation Engineering in the three areas viz. Instrument Design, Process Instrumentation and Process Control.
4. To develop Instrumentation strategies for various walks of life viz. Environmental, Biomedical and Automobile.
5. To expose the students with state of art technology so that the students will be ready to step in the industry with confidence and with reduced training period.
6. To develop communication skills, teamwork skills, entrepreneurship qualities and managerial skills.

Program Specific Outcomes :(PSOs)

The field of instrumentation and control systems engineering technology is heavily dependent on the application of computers in the analysis, design, and operation of manufacturing and processing facilities. The program must demonstrate that graduates have the ability to:

1. Apply concepts of automatic control, including measurement, feedback and feed forward regulation for the operation of continuous and discrete systems.
2. Design and implement systems utilizing analog and/or digital control devices.
3. Apply the concepts of chemistry, physics, and electricity/electronics to measurement and control systems.
4. Apply the concepts of digital and microprocessor systems and functionality of system components/devices for the automation of processes.
5. Apply the concepts of measurements and sensor selection and
6. Communicate the technical details of control systems using current techniques and graphical standards.

Name of Subjects:

1. Engineering Mathematics -III
2. Sensors & Transducers –I
3. Basic Instrumentation
4. Linear Integrated Circuits
5. Network Theory
6. Programming Languages
7. Audit Course1
8. Sensors & Transducers -II
9. Automatic Control Systems
10. Electronic Instrumentation
11. Digital Techniques
12. Industrial Drives
13. Soft Skills
14. Drives Control Laboratory
15. Audit Course2
16. Embedded System Design
17. Instrumental Methods for Chemical Analysis
18. Control System Components
19. Control System Design
20. Industrial Organization and Management
21. Numerical Methods
22. Seminar
23. Audit Course –3
24. Digital Signal Processing
25. Process Loop Components
26. Unit Operations & Power Plant Instrumentation
27. Instrument and System Design
28. Bio - Medical Instrumentation
29. Mini Project
30. Audit Course –4

31. Process Dynamics and Control
32. Project Engineering and Management
33. Computer Techniques and Applications
34. Elective-I
35. Elective-II
36. Project Stage-I
37. Audit Course-5
38. Process Instrumentation
39. Industrial Automation
40. Elective-III
41. Elective-IV
42. Project Stage-II
43. Online Certification Course
44. Audit Course-6

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Information Technology Department

Program Education Objectives:

The students of Information Technology course after passing out will

1. Graduates of the program will possess strong fundamental concepts in mathematics, science, engineering and Technology to address technological challenges with emerging trends.

2. Possess knowledge and skills in the field of Computer Science & Engineering and Information Technology for analyzing, designing and implementing multifaceted engineering problems of any domain with innovative and efficient approaches.

3. Acquire an attitude and aptitude for research, entrepreneurship and higher studies in the field of Computer Science & Engineering and Information Technology.

4. Learn commitment to ethical practices, societal contributions through communities and life-long intellect.

5. Attain better communication, presentation, time management and team work skills leading to responsible & competent professionals and will be able to address challenges in the field of IT at global level.

Program Outcomes:

The students in the Information Technology course will attain:

1. An ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, engineering and technology.

2. An ability to define a problem and provide a systematic solution with the help of conducting experiments, as well as analyzing and interpreting the data.

3. An ability to design, implement, and evaluate a software or a software/hardware co-system, component, or process to meet desired needs within realistic constraints.

4. An ability to identify, formulates, and provides systematic solutions to complex engineering problems.

5. An ability to use the techniques, skills, and modern engineering technologies tools, standard processes necessary for practice as a IT professional.

6. An ability to apply mathematical foundations, algorithmic principles, and Information Technology theory in the modeling and design of computer-based systems with necessary constraints and assumptions.

7. An ability to analyze the local and global impact of computing on individuals, organizations and society.

8. An ability to understand professional, ethical, legal, security and social issues and responsibilities.

9. An ability to function effectively as an individual or as a team member to accomplish a desired goal(s).

10. An ability to engage in life-long learning and continuing professional development to cope up with fast changes in the technologies/tools with the help of electives, professional organizations and extra-curricular activities.

11. An ability to communicate effectively in engineering community at large by means of effective presentations, report writing, paper publications, demonstrations.

12. An ability to understand engineering, management, financial aspects, performance, optimizations and time complexity necessary for professional practice.

13. An ability to apply design and development principles in the construction of software systems of varying complexity.

Programme Specific Outcomes (PSOs)

1. The ability to understand, analyze and develop computer programs using concept areas related to algorithms, mathematics, system software, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.
2. The ability to understand the evolutionary changes in computing, apply standard practices

and strategies in software project development using open-ended programming environments to deliver a quality product for business success, real world problems and meet the challenges of thefuture.

3. Ability to test and analyze the quality of various subsystems and to integrate them in order to evolve a larger computing system.

Name of Subjects:

1. DiscreteStructures
2. Computer Organization &Architecture
3. Digital Electronics and LogicDesign
4. Fundamentals of DataStructures
5. Problem Solving and Object Orientedprogramming
6. DigitalLaboratory
7. ProgrammingLaboratory
8. Object Oriented ProgrammingLab.
9. Communication Skills
10. Audit Course 1
11. Engineering Mathematics–III
12. ComputerGraphics
13. Processor Architecture andInterfacing
14. Data Structures &Files
15. Foundations of Communication and ComputerNetwork
16. Processor InterfacingLaboratory
17. Data Structure and FilesLaboratory
18. Computer GraphicsLaboratory
19. Audit Course2
20. Theory of Computation
21. Database ManagementSystems
22. Software Engineering & ProjectManagement
23. OperatingSystem
24. Human-ComputerInteraction
25. SoftwareLaboratory-I

26. SoftwareLaboratory-II
27. SoftwareLaboratory-III
28. Audit Course 3
29. Computer NetworkTechnology
30. SystemsProgramming
31. Design and Analysis ofAlgorithms
32. CloudComputing
33. Data Science & Big Data Analytics
34. SoftwareLaboratory-IV
35. SoftwareLaboratory-V
36. SoftwareLaboratory-VI
37. Project Based Seminar
38. Audit Course 4
39. Information and CyberSecurity
40. Machine Learning andApplications
41. Software Design andModeling
42. Software Design andModeling
43. Elective-I
44. Elective-II
45. ComputerLaboratory-VII
46. ComputerLaboratory-VIII
47. ProjectPhase-I
48. AuditCourse-V
49. Distributed Computing System
50. UbiquitousComputing
51. Elective-III
52. Elective-IV
53. ComputerLaboratory-IX
54. ComputerLaboratory-X
55. ProjectWork
56. AuditCourse-VI

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MBA Department

Program Outcomes for MBA mapped with all the Course Outcomes throughout the 2 Years/ 4 Semester

Program	**MBA**
Program Full Title	**Masters of Business Administration**
Program Credit	100
Semester/s	Total 4 semester in 2 years
PO 1	Develop Reading & Listening Skills
PO 2	Demonstrate Problem Solving Skills
PO 3	Use Application of Technology Tools in business.
PO 4	Demonstrate Mastery on Analytics (Quantitative Aspects)
PO 5	Develop Cross-Functional skills
PO 6	Sensitivity towards Cross-Cultural skills
PO 7	Sensitivity towards Global perspective
PO 8	Develop Peer-based Learning and Working in groups
PO 9	Demonstrate ethical, social and environmental responsibilities in business environment.
PO 10	Demonstrate the ability to apply knowledge to real business situation.
	Programme Specific Objectives
PSO 1	To equip the students with requisite knowledge, skills &right attitude necessary to provide effective leadership in a global environment.
PSO 2	To develop competent management professionals with strong ethical values, capable of assuming a pivotal role in various sectors of the Indian Economy &Society, aligned with the national priorities.
PSO 3	To develop proactive thinking so as to perform effectively in the dynamic socio-economic and business ecosystem.

PSO 4	To harness entrepreneurial approach and skillsets.

Courses @ Glance

SEMESTER I

- **Accounting For BusinessDecisions**
- **Economic Analysis for BusinessDecision**
- **Legal Aspects OfBusiness**
- **Business ResearchMethods**
- **OrganizationalBehavior**
- **Basics OfMarketing**

SEMESTER II

- **MarketingManagement**
- **FinancialManagement**
- **Human ResourceManagement**
- **DecisionScience**
- **Operation And Supply ChainManagement**
- **Management InformationSystem**

SEMESTER –II

- StrategicManagement
- Enterprise PerformanceManagement
- Start Up New VentureManagement
- Summer InternshipProject
- Specialization1
- Specialization2

SEMESTER –IV

- Managing forSustainability
- Dissertation
- Specialization3
- Specialization4