Late Purushottam Hari(Ganesh)Patil Shikshan Sanstha's

MAULI GROUP OF INSTITUTION'S
COLLEGE OF ENGINEERING & TECHNOLOGY SHEGAON
AICTE Approved Affiliated to Sant Gadge Baba Amravati University, Amravati, **ISO 9001 2015** Certified

Department of Information Technology

B. E. 3rd Semester

Course: Engineering Mathematics- III   **Course Code: (3IT01)**

At the end of Engineering Mathematics-III course the student will be able to:

CO 1	Find general solutions of linear differential equations with constant coefficients using the roots of the auxiliary equation.	L2
CO 2	Calculate the Laplace Transform of basic functions using the definition.	L2
CO 3	Apply Laplace transform to find solution of linear differential equations. And solve problems related to Fourier Transform	L3
CO 4	Compute and interpret the correlation coefficient.	L2
CO 5	Compute the Analytic function and Complex Analysis.	L2
CO 6	Perform vector differentiation and integration to analyze the vector fields and apply to compute line, surface and volume integrals.	L3

Course: Discrete Structure and Graph Theory   **Course Code: (3IT02)**

At the end of Discrete Structure and Graph Theory course, the students will be able to:

CO 1	Identify basic terminology of Mathematical Logic, Theory of inference & Predicate calculus.	L1
CO 2	Identify, illustrate, and solve engineering problems on the basis of set theory.	L1
CO 3	Identify and Design an Algebraic Structures and groups.	L1
CO 4	Examine and formulate the concept of Lattices & Boolean Algebra to solve engineering problems.	L4
CO 5	Design and interpret data using graphs, trees and related algorithms.	L5
CO 6	Perform operation on trees data structures.	L3

Course: Object Oriented Programming   **Course Code: (3IT03)**

At the end of Object-Oriented Programming course, the student will be able to:

CO 1	Apply Object Oriented approach to design software.	L3
CO 2	Implement programs using classes and objects.	L3
CO 3	Illustrate the forms of inheritance and use them in programs.	L3
CO 4	Analyze polymorphic behavior of objects.	L4
CO 5	Design and develop GUI programs.	L5
CO 6	Develop Applets for web applications	L5

Course: Assembly Language Programming   **Course Code: (3IT04)**

At the end of Data Structures course the student will be able to:

CO 1	Draw and explain internal architecture of 8086 with its register organization.	L3
CO 2	Apply instruction format, 7 addresing modes in 8086 programming.	L3
CO 3	Apply control flow instruction in 8086 programming through use of any open source software. (TASM, NASM, etc)	L3
CO 4	Apply stack and subroutine concept in 8086 programming.	L3
CO 5	Illustrate and realize the interfacing of memory and various IO devices with 8086 microprocessor.	L3
CO 6	Explain the basic concepts of Internet of Things.	L2

Course: Analog & Digital Electronics   **Course Code: (3IT05)**

At the end of Analog & Digital Electronics course the student will be able to:

CO 1	Illustrate the working of BJT and JFET.	L3
CO 2	Illustrate the working and application of an operational amplifier	L3
CO 3	Analyze wave shaping generators.	L4
CO 4	Apply different minimization techniques to obtain minimized expression.	L3
CO 5	Design combinational circuits.	L6
CO 6	Design & develop sequential circuits.	L6

Lab Outcomes (LO)

Course: Object Oriented Programming   **Course Code: (3IT06)**

At the end of Object Oriented Programming lab course the student will be able to:

LO 1	Use of operators, different constructs to implement Java Programs	L3
LO 2	Apply various concepts of classes and objects for implementing java programs	L3
LO 3	Create various GUI applications with event handling using AWT controls.	L5

Course: Assembly Language Programming   **Course Code: (3IT07)**

At the end of Assembly language programing course the student will be able to:

LO 1	Design and develop programs in Assembly Language Programming	L5
LO 2	Design and Test assembly language programs using 8086 microprocessor instruction set.	L5
LO 3	Illustrate and realize the Interfacing of memory & various I/O devices with 8086 microprocessors.	L3

Course: Analog and Digital Electronics   **Course Code: (3IT08)**

At the end of Analog & Digital Electronics lab course the student will be able to:

LO 1	Illustrate an Operational amplifier and transistor characteristics.	L3
LO 2	Implement the circuit for different logic gates & verify its truth table.	L3
LO 3	Design combinational circuits like Adder, Substractor, Multiplexer, Demultiplexer and Decoder.	L6
LO 4	Design sequential circuits like shift registers and counters.	L6

Course: Computer Skill Lab-I   **Course Code: (3IT09)**

At the end of Computer Skill Lab-I course the student will be able to:

LO 1	Describe the Numbers, Math Functions, Strings, List, Tuple and Dictionaries in Python.	L2
LO 2	Interpret different decision-making statements, Functions, Object Oriented programming in Python.	L3
LO 3	Develop applications using Django Framework.	L5

B.E. 4th Semester

Course: Computer Organization & Architecture   Course Code: (4IT01)

At the end of Computer Organization & Architecture course the student will be able to:

CO 1	Ability to discuss the basic structure of computer including functional units, addressing modes, stacks, queues, subroutines, etc.	L2
CO 2	Ability to explain the basic processing unit of computer, execution of a complete instruction.	L2
CO 3	Ability to describe input/output organization of computers including interrupt, DMA, buses, interfaces, etc.	L2
CO 4	Ability to illustrate the concepts of RAM, ROM.	L3
CO 5	Ability to categorize the concepts of cache memory, virtual memory	L4
CO 6	Ability to demonstrate number representation, Booth's algorithm, different peripheral devices.	L3

Course: Data Communication & Networking   Course Code: (4IT02)

At the end of Data Communication & Networking course, the students will be able to:

CO 1	Ability to discuss the principles and fundamental concepts of computer networks.	L2
CO 2	Ability to explain data communication system with its techniques and applications.	L2
CO 3	Identify various error detection and correction techniques in data transmission	L1
CO 4	Evaluating the network addresses and learning routing mechanism protocols.	L3
CO 5	Design TCP connection and analyze upper OSI layer functions and services.	L5
CO 6	Explore the network design and its applications to digital world.	L3

Course: Operating System   **Course Code: (4IT03)**

At the end of Operating System course, the student will be able to:

CO 1	Explain memory management issues like external fragmentation, internal fragmentations.	L2
CO 2	Illustrate multithreading and its significance.	L3
CO 3	Demonstrate various protection and security mechanisms of the OS.	L3
CO 4	Analyze and solve the scheduling algorithms.	L4
CO 5	Analyze the deadlock situation and resolve it.	L4
CO 6	Discuss various types of operating Systems.	L2

Course: Data Structure   **Course Code: (4IT04)**

At the end of Data Structures course the student will be able to:

CO 1	Define basic terminologies related to data structures and implement pattern matching algorithms.	L1
CO 2	Study and implement Arrays with various operations and its applications	L3
CO 3	Study and implement Linked list and its types with various operations	L3
CO 4	Study and implement stacks, queues and its applications.	L3
CO 5	Study and implement different type of trees with various operations.	L3
CO 6	Study and implement graphs with various operations and different sorting methods	L3

Course: Social Sciences & Engineering Economics   Course Code: (4IT05)

At the end of Social Sciences & Engineering Economics course the student will be able to:

CO 1	Define the importance of social science and economics in professional life.	L1
CO 2	Discuss basic functioning of parliament, legislatives practices and procedures.	L2
CO 3	Examine the need of society and identify the system to fulfill it with deep analysis.	L4
CO 4	Explain the four factors of production required to sustain a business and contribution of primary functional areas within business for organization.	L2
CO 5	Demonstrate banking and marketing concepts.	L3
CO 6	Analyze the nature and scope of economics.	L4

Lab Outcomes (LO)

Course: Data Communication & Networking – Lab   **Course Code: (4IT06)**

At the end of Data Communication & Networking – Lab course the student will be able to:

LO 1	Study and implement digital –to- digital conversion, analog-to-digital conversion, digital to analog conversion	L4
LO 2	Study and Implement Asynchronous , synchronous Protocols	L4
LO 3	Demonstrate and study working of various networking devices like switches, routers etc	L3

Course: Operating System – Lab   **Course Code: (4IT07)**

At the end of Operating System – Lab course the student will be able:

LO 1	Describe and implement the basic concepts of the OS with its commands.	L2
LO 2	Write code to implement CPU scheduling algorithms such as FCFS, Round Robin, SJF, and Priority.	L5
LO 3	Illustrate Page replacement algorithms and contiguous memory allocation strategies.	L3

Course: Data Structure – Lab   **Course Code: (4IT08)**

At the end of Data Structure – Lab course the student will be able to:

LO 1	Illustrate and implement Linear and Non-linear DS and its memory representation, data representation.	L3
LO 2	Demonstrate different operations on data structures such as insertion, deletion, searching and traversing.	L3
LO 3	Describe and implement various techniques for representation of the data in the real world.	L3

Course: Computer Skill Lab-II   **Course Code: (4IT09)**

At the end of Computer Skill Lab-I course the student will be able to:

LO 1	Illustrate the use of HTML Script in programming and application development	L3
LO 2	Explain and implement the use of CSS	L2
LO 3	Discuss programming skills and design application development using Java Script	L6