



AMC ENGINEERING COLLEGE

BENGALURU -83

PROGRAMME: COMPUTER SCIENCE ENGINEERING

Course Outcome of CSE semester I/II course

Course Code: C113/C123/ 17PCD13/15PCD13/23

Course Name: Programming in C and Data Structures

After completing the course the student will be able to:

CO 1	Define, understand and explain the basic concepts of C programming language.
CO 2	Implement the programs using concepts of C programming language.
CO 3	Relate the concepts of looping, control statements, functions and data structures.
CO4	Identify the importance of files, structures, functions and pointers in C Programming Language.
CO5	Implement C programs for simple problems.

Course Outcome of CSE semester III course

Course Code: C234/ 15CS34

Course Name: Computer Organization

After completing the course the student will be able to:

CO 1	Understand and explain working of different components of computer, and parallel processing
CO 2	Apply addressing modes and instruction set to write assembly language programs and analyze I/O interface.
CO 3	Analyze the working of memory system.
CO4	Solve problem from arithmetic and memory unit.
CO5	Analyze the circuits in basic processing unit and embedded systems.

Course Outcome of CSE semester IV course

Course Code: C242/ 15CS42

Course Name: Software Engineering

After completing the course the student will be able to:

CO 1	Define software Engineering and terminologies related to it along with the ethical responsibilities of the software engineer.
CO 2	Identify the different process activities to analyze the different software Process models.
CO 3	Able to apply the methods of requirement elicitation.
CO4	Design software by using strategies of project management.
CO5	Apply rapid software development methods and decide on appropriate software architecture and testing

Course Outcome of CSE semester V course

Course Code: C352/ 15CS52

Course Name: Computer Networks

After completing the course the student will be able to:

CO 1	Explain principles of application layer protocols and transport layer protocols
CO 2	Classify routers, IP and Routing Algorithms in network layer
CO 3	Understand the Wireless and Mobile Networks covering IEEE 802.11 Standard
CO 4	Describe Cellular Network architecture
CO 5	Impact on higher layer protocols
CO 6	Describe Multimedia Networking and Network Management

Course Outcome of CSE semester VI course

Course Code: C362/ 15CS62

Course Name: Computer Graphics

After completing the course the student will be able to:

CO 1	Ability to design and implement algorithms for 2D graphics primitives and attributes.
CO 2	Ability to illustrate Geometric transformations on both 2D and 3D objects.
CO 3	Ability to apply concepts of clipping and visible surface detection in 2D and 3D viewing, and illumination Models.
CO 4	Ability to assess modeling of 2D and 3D Objects, hidden line surface removal, and rendering.
CO 5	Ability to develop graphics packages by using suitable hardware, software and OpenGL language.

Course Outcome of CSE semester VII course

Course Code: C471/ 15CS71

Course Name: Web Technology and its Applications

After completing the course the student will be able to:

CO 1	Understanding the markup languages ,styles, syntax and semantics to build web pages
CO 2	Develop Client-Side Scripts using JavaScript
CO 3	Develop Server-Side Scripts using PHP to generate and display the contents dynamic web pages
CO 4	Apply the principles of object oriented development using PHP
CO 5	Analyze various frameworks using web services

Course Outcome of CSE semester VIII course

Course Code: C481/ 15CS81

Course Name: Internet of Things and Technology

After completing the course the student will be able to:

CO 1	Interpret the impact and challenges posed by IoT networks leading to new architectural models
CO 2	Compare and contrast the deployment of smart objects and the technologies to connect them to network
CO 3	Appraise the role of IoT protocols for efficient network communication
CO 4	Elaborate the need for Data Analytics and Security in IoT
CO 5	Illustrate different sensor technologies for sensing real world entities and identify the applications of IoT in Industry

PROGRAMME: ELECTRONICS AND COMMUNICATION ENGINEERING

Course Outcome of ECE semester III course

Course Name: C204 - Network Analysis

After completing the course the student will be able to:

C204.1	Explain the basic concepts of Electrical Networks for finding various Electrical Parameters.
C204.2	Apply the knowledge of Basic Circuit Law and Network Theorems to simplify the electrical networks.
C204.3	Apply the concepts of Resonance, Transient behavior of circuits for Network Solutions.
C204.4	Analyze the Electrical Networks using the concepts of Graph Theory.
C204.5	Analyze the circuit using Laplace Transforms and 2-Port Networks for AC and DC Signals.

Course Outcome of ECE semester IV course

Course Name: C211 – Control System

After completing the course the student will be able to:

C211.1	Explain the concepts of mathematic model and transfer function of electrical, mechanical and electromechanical systems.
C211.2	Develop the transfer function of a given control system using block diagram reduction techniques and signal flow graph method.
C211.3	Determine the time domain response for first and second order systems and steady state errors.
C211.4	Analyze the stability of the system, state variables and model of digital control system.
C211.5	Conduct survey on recent trends and technology on control systems as an individual.

Course Outcome of ECE semester V course

Course Name: C304 - Microwave & Radar

After completing the course the student will be able to:

C304.1	Describe the theoretical principles underlying semiconductor diodes, microwave devices and networks, RADAR systems and micro-strip technology.
C304.2	Compute the power, frequency and VSWR, impedance, propagation constant using basic knowledge of transmission lines.
C304.3	Compute the range, power, frequency considerations of the basic pulse RADAR to access its performance of in the real world.
C304.4	Analyze performance of RADAR systems and microwave components, networks from field point of view.
C304.5	Comprehend the applications of microwaves in lay domains, identify safety provisions to minimize the effects of microwave hazards through self study and write an assignment to accomplish the same.

Course Outcome of ECE semester VI course

Course Name: C312 - Antennas and Wave Propagation

After completing the course the student will be able to:

C312.1	Explain the working principles, characteristics and applications of different types of practical antennas and mechanisms of radio wave propagation.
C312.2	Apply fundamentals of electro-magnetic field theory to obtain the radiation pattern and related parameters of different elemental antennas and arrays.
C312.3	Apply the concepts & properties of Electro-Magnetism to calculate the parameters of Wave Propagation, given the specifications
C312.4	Analyze different types of antennas, characteristics of radio waves and their propagation in the atmosphere.
C312.5	Research, on assigned topics, related to practical antenna system, modern wireless communication and their impact on society/environment.

Course Outcome of ECE semester VII course

Course Name: C401 - Computer Communication Networks

After completing the course the student will be able to:

C401.1	Explain computer communication network concepts
C401.2	Determine the scalability, availability, security and manageability network requirements.
C401.3	Interpret the OSI layers and protocols.
C401.4	Analyze the wireless networking system and network connecting devices.
C401.5	Design the network topology and simulate by using NS-2 simulator.

PROGRAMME: ELECTRICAL AND ELECTRONICS ENGINEERING

Course Outcome of EEE semester I course

Course Name: C115-Basic Electrical

After completing the course the student will be able to:

C115.1	Solve basic problems on DC circuits and Electro-magnetism
C115.2	Understand the concept of Basic Electrical Engineering, Domestic wiring, Earthing and Measuring instruments.
C115.3	Explain the principle of operation, characteristics and performance of AC and DC rotating machine.
C115.4	Analyze the single phase and three phase AC circuits
C115.5	Evaluate the performance of single phase transformers

Course Outcome of EEE semester II course

Course Name: C122-Engineering Physics

After completing the course the student will be able to:

C122.1	Understand various types of oscillations and their implications, the role of shock waves in various fields engineering applications.
C122.2	Understand and recognize the elastic properties of materials for engineering applications
C122.3	Realize the interrelation between time varying electric field and magnetic field, the transverse nature of the EM waves and their role in optical fiber communication.
C122.4	Compute Eigen values, Eigen functions, momentum of Atomic and subatomic particles using Time independent 1-D Schrodinger's wave equation. Apprehend theoretical background of laser, construction and working of different types of laser and its applications in different fields.
C122.5	Understand various electrical and thermal properties of materials like conductors, semiconductors and dielectrics using different theoretical models.

Course Outcome of EEE semester III course

Course Name: C233 - Logic Design

After completing the course the student will be able to:

C233.1	Understand and Analyze combinational and sequential circuits
C233.2	Design circuits like adder, subtractor, code converter etc

C233.3	Design counters and sequence generator
C233.4	Construct the state diagrams

Course Outcome of EEE semester IV course

Course Name: C245 - Power Electronics

After completing the course the student will be able to:

C245.1	The ability to define, understand the characteristics and applications of power semiconductor devices and its electromagnetic compatibility.
C245.2	The ability to Classify the operation and performance of choppers.
C245.3	The ability to Distinguish the commutation techniques and AC voltage controllers operating at different loads.
C245.4	The ability to Evaluate the various types of Three phase and single phase converters.
C245.5	The ability to Design and Analyze the circuits of Power transistors and Thyristors.

Course Outcome of EEE semester V course

Course Name: C353 - Transmission And Distribution

After completing the course the student will be able to:

C353.1	Understand the concepts of General layout of Power System with standard voltage and effect of Corona Loss.
C353.2	Construct structures of Over Head Transmission lines & Calculate the Sag.
C353.3	Evaluate the potential distribution over a string of suspension insulators and string Efficiency.
C353.4	Calculate the parameters of the transmission line for different configurations.
C353.5	Analyze the performance of the transmission line and study the use of Underground cables and distribution systems.

Course Outcome of EEE semester VI course

Course Name: C363 - Electrical Machine Design

After completing the course the student will be able to:

C363.1	Analyze specifications, design factors, limitations, and materials used in electrical machines.
C363.2	Develop the output equation of a given electrical machine to obtain the main dimensions and power rating.
C363.3	Analyze the choice of specific electric and magnetic loadings of a given electrical machine.
C363.4	Design the requirements of the machine, data of conductors and insulation in view of specification.
C363.5	Construct an electrical machine and allowance required for the effective design of the machine.

Course Outcome of EEE semester VII course

Course Name: C474 - Industrial Drives and Applications

After completing the course the student will be able to:

C474.1	Understand the basic knowledge of Industrial Drives, design, characteristics, selection and its requirements.
C474.2	Develop an electrical drive and can be able to study the transient and steady state analysis of AC & DC drives.
C474.3	Identify various converter drives based on motor power rating and thermal models.
C474.4	Analyze different methods of starting and braking mechanisms applied in electric drives.
C474.5	Judge the safety and operational requirements of Industrial mills to identify the technical requirements for a suitable drive.

Course Outcome of EEE semester VII course

Course Name: C481 - Electrical Design, Estimation and Costing

After completing the course the student will be able

C481.1	Explain the purpose of estimation & costing.
C481.2	Make use of market survey for preparation of tenders and comparative statements.
C481.3	Categorize different types of connections to adopt a suitable method of installation.
C481.4	Estimate lighting points, total load and its sub-circuits.
C481.5	Discuss the main components of a substation and preparation of single line diagram.

Programme: Mechanical Engineering

FIRST YEAR:

COURSE NAME: C104- Elements of Mechanical Engineering (As per NBA C114)

After completing the course the student will be able to

C104.1	Apply the basic in core mechanical science and principles in their further Engineering Career.
C104.2	Perceive the essentialities of sustainable energy generations.
C104.3	Impart wide Knowledge about primary parts of Global Voracious Consumers' mechanical products (Prime Movers, Refrigeration System, Air-Conditioning system and Boiler).
C104.4	Analyze and automate the joints and FOM's eventually conceptualize robot for various case scenarios.
C104.5	Recognize engineering materials of any tangible products. Apply the knowledge of tools, machining process and joining processes.

COURSE NAME: C109Computer Aided Engineering Drawing (As per NBA C124)

After completing the course the student will be able to

C104.1	Understand the BIS conventions, use of standard navigation tools, Co-ordinate systems and reference planes and Apply the concept of orthographic projection to basic element such as points in different co-ordinate systems.
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C104.2	Apply the concept of orthographic projection for solving straight lines in different positions to reference planes.
C104.3	Apply the concept of orthographic projection of plane surfaces for various inclinations with respect to reference planes.
C104.4	Apply the concept orthographic projections of 3D element such as solids for the given inclinations with HP and VP.
C104.5	Analyze the 2D sketch and represent in 3D solid or combination of solids and Apply the principles of section of solids for developing the lateral surfaces of the given solids.

III SEM

Course Name: C204 –Mechanics of Materials (C234 according to NBA)

After completing the course the student will be able to:

C204.1	Apply Hooke's law, principle of superposition to evaluate elastic deformation, stress, strain and various mechanical properties in homogeneous and isotropic materials.
C204.2	Apply Generalized Hooke's law and evaluate elastic constants, deformations, thermal stresses induced in composite sections.
C204.3	Apply the knowledge of Principal stresses for a body subjected to complex stress system and find safe dimensions of various components using theories of failure.
C204.4	Apply the knowledge of torsion equation to design the dimensions of the circular shaft and apply various column theories to calculate safe load on long and short columns
C204.5	Evaluate bending stress for a loaded beam by drawing shear force and bending moment diagrams find energy stored using castiglianos theorem

IV SEM

Course Name: C210–Kinematics of Machines (C242 according to NBA)

After completing the course the student will be able to

C210.1	Understand and Analyse the motions of linkages of various planar mechanisms
C210.2	Apply the inversions of planar mechanisms of four bar linkages and slider crank chain mechanism
C210.3	Determine displacement, velocity and acceleration of different planar mechanisms by graphical method.
C210.4	Determine displacement, velocity and acceleration of different planar mechanisms by analytical method and design four bar mechanism.
C210.5	Understand the characteristics of gears and analyse various types of gear trains to determine the design parameters like number of teeth and speed.
C210.6	Analyze the motion of cams and follower.

V SEM

Course Name: C304- DESIGN OF MACHINE ELEMENTS-1 (C354 AS PER NBA)

After completing the course the student will be able to:

C304.1	Choose appropriate materials, standards, codes to design components for static loading subjected to compound stresses also with stress concentration.
C304.2	Apply knowledge of MOM and Design mechanical components subjected Impact and fatigue loads.
C304.3	Apply knowledge of SFD, BMD and Engg. Mechanics to Design shafts and couplings
C304.4	Design Riveted and Welded joints with the application of Engg. Mechanics and MOM.
C304.5	Design threaded fasteners and power screws with the application of Engg. Mechanics and MOM

VI SEM

Course Name: C309- FINITE ELEMENT METHOD (C361AS PER NBA)

After completing the course the student will be able to:

C309.1	Apply the basic concept mechanics of materials and theory of elasticity for finite element formulation of simplex, complex and multiplex elements
C309.2	Develop the finite element formulation for bar and truss problems and construct the shape function for 1D and 2D elements.
C309.3	Develop the finite element formulation for beam and shaft elements to find primary and secondary unknowns.
C309.4	Develop the finite element formulation for 1D heat flow and fluid flow problems
C309.5	Develop finite element formulation for axisymmetric and dynamic problems.

VII SEM

Course Name: C411-Control Engineering (C473AS PER NBA)

After completing the course the student will be able to

C411.1	Recognize control system and its types, control actions
C411.2	Determine the system governing equations for physical models(Electrical, Thermal, Mechanical,

C411.3	Calculate the gain of the system using block diagram and signal flow graph
C411.4	Illustrate the response of 1st and 2nd order systems
C411.5	Determine the stability of transfer functions in complex domain and frequency domain

VIII SEM

COURSE NAME: C409: OPERATIONS RESEARCH (As per NBA C481)

After completing the course the student will be able to

C409.1	Understand the meaning, definitions, scope, need, phases and techniques of operations research.
C409.2	Formulate as L.P.P and derive optimal solutions to linear programming problems by graphical method, Simplex method, Big-M method and Dual Simplex method.
C409.3	Formulate as Transportation and Assignment problems and derive optimum solutions for transportation, Assignment and travelling salesman problems.
C409.4	Solve problems on game theory for pure and mixed strategy under competitive environment and Determine minimum processing times for sequencing of n jobs-2 machines, n jobs-3machines, n jobs-m machines and 2 jobs-n machines using Johnson's algorithm.
C409.5	Construct network diagrams and determine critical path, floats for deterministic and PERT networks including crashing of Networks and Solve waiting line problems for M/M/1 and M/M/K queuing models.

PROGRAMME: MASTER OF COMPUTER APPLICATIONS

Course Outcome of Master of Computer Applications Semester I course

Course Name: 16MCA11 **Data Structures Using C**

After completing the course the student will be able to:

CO1:	Understand basics of C programming language.
CO2:	Acquire knowledge of - Various types of data structures, operations and algorithms - Sorting and searching operations
CO3:	Analyze the performance of Stack, Queue, Lists, Trees, Hashing, Searching and Sorting techniques .
CO4:	Implement all the applications of Data structures in a high-level language .
CO5:	Design and apply appropriate data structures for solving computing problems.

Course Outcome of Master of Computer Applications Semester II course

Course Name: 16MCA21 PYTHON PROGRAMMING

After completing the course the student will be able to:

CO1:	Understand and comprehend the basics of python programming.
CO2:	Apply knowledge in real time applications.
CO3:	Understands about files and its applications.
CO4:	Understand GUI and its applications.

Course Outcome of Master of Computer Applications Semester III course

Course Name: 16MCA31 Computer Networks

After completing the course the student will be able to:

CO1:	Understand the types of Networks & Communication medias.
CO2:	Identify the components required to build different types of networks
CO3:	Understand the functionalities needed for data communication into layers
CO4:	Choose the required functionality at each layer for given application
CO5:	Understand the working principles of various application protocols

Course Outcome of Master of Computer Applications Semester IV course

Course Name: 16MCA41 ADVANCED JAVA PROGRAMMING

After completing the course the student will be able to:

CO1:	Learn the concept of Servlet and its life cycle
CO2:	Understand JSP tags , Creating packages and interfaces.
CO3:	Build Database connection
CO4:	Develop Java Server Pages applications using JSP Tags and EJB applications

Course Outcome of Master of Computer Applications Semester V course

Course Name: 16MCA51 OBJECT-ORIENTED MODELING AND DESIGN PATTERNS

After completing the course the student will be able to:

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CO1:	Acquire knowledge of Basic UML Concepts and terminologies , Life Cycle of Object oriented Development and Modeling Concepts
CO2:	Identify the basic principles of Software modeling and apply them in real world applications
CO3:	Produce conceptual models for solving operational problems in software and IT environment using UML
CO4:	Analyze the development of Object Oriented Software models in terms of Static behavior and Dynamic behavior
CO5:	Evaluate and implement various Design patterns


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