**TEACHING PLAN 2025-2026 (ODD SEMESTER)**

**NAME:- MRS. PARUL**

**DEPARTMENT: COMPUTER SCIENCE**

**SUB:- BCA (COMPUTER ORGANIZATION & ARCHITECTURE)**

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| Month | | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **MONTH 1** | Representation of Information: Number Systems: Binary, Octal and Hexadecimal | | Integer and Floating-point representation, Character codes: ASCII and EBCDIC | Basic Building Blocks and Circuit Design: Boolean Algebra and Logic Gates: OR, AND, NOT, XOR Gates | De Morgan’s theorem Universal building blocks; Simplifying logic circuits | sum of product and product of sum form; Karnaugh Map simplification; |
| **MONTH 2** | Revision, Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder), | | Sequential logic blocks (Latches, Flip-Flops, Registers, Counters), Register transfer and Micro-operations: | Register Transfer Language; Bus and memory Transfer; Micro operations: Arithmetic, Logic & Shift Micro operations. | Basic Computer Organization and Design: Instructions Codes, Register reference | Memory Reference & Input-output Instruction Cycle, Timing and Control, Interrupts; Design of Control unit: Hardwired control unit, Micro-programmed control unit. |
| **MONTH 3** | Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory, Virtual Memory | | Register Organization and Parallel Processing: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes | Data Transfer & Manipulation Instructions, CISC and RISC: Features and Comparison, Pipeline and Vector Processing: | Parallel processing, Pipelining, Arithmetic Pipeline, Instruction pipeline and Arrays Processors, Input-Output Organization: | Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer, Priority interrupt, Direct Memory Access (DMA) |
| **MONTH 4** | Input-output processors (IOP) | | Serial communication Multi-processors, | characteristics of multi-processors, Interconnection structures | Inter-processor Arbitration, Inter-processor Communication | Synchronization, Cache Coherence, Revision |

**TEACHING PLAN 2024-25 (ODD SEMESTER)**

**Name:- Dr. Kavita**

**Department:- Computer Science**

Sub:-COMPUTER FUNDAMENTALS AND PROGRAMMING IN C

Class:- MSC CS 1st year

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| **Month** | **1stWeek** | **2nd Week** | **3rd Week** | **4thWeek** | **5thWeek** |
| **Month 1** |  | Data and information; Components of computer Hardware, Input Device, Output Device, Components of CPU, Memory and Storage Devices. | System Software, Application Software, Functions of Operating system, Machine Assembly, High Level Languages, 4GL | Languag e Translator; Linker, Loader, Micro, Mini, Mainframe, Super Computer, Pros and cons of computer | Applications of computer, computer technology, positive and negative impacts, computer crimes, viruses and their remedial |
|  |  |  |  |  |  |
|  | **Problem Solving**: | Devices; System Software | Program Testing and | Constants, Structure of a | Assignment & |
|  | Problem Identification, | And Application Software | Execution. | C program. | Conditional |
|  | Analysis, Flowcharts | algorithms, Program | C Programming | Operators & | Operators, Library |
| **Month2** |  | Coding | Fundamentals: | Expressions: Arithmetic, | Functions, Looping |
|  |  |  | Keywords, Variables | Unary, Logical, Bit-wise | Using while, |
|  |  |  |  |  | do…while, |
|  | For statements, | Arrays & Functions: | String: Operations of | Function Prototype, | Macro vs. Functions |
|  | Nested loops; if…else, | Declaration and | Strings; Functions: | Passing Arguments, | Pointers Declarations, |
|  | ElseIf Ladder; Switch, | Initialization; | Defining & Accessing | Passing array as | Operations, Passing to |
| **Month3** | break, Continue and  Goto statements | Multidimensional Arrays | User defined functions | argument, Recursion,  Use of Library | a function |
|  |  |  |  | Functions |  |
|  | Pointers & Arrays, | Pointer to functions, | Structures and Union: | Array within Structure, | Pointer to Structure, |
| **Month4** | Array of | Function returning pointers, | Defining and | Array of | Passing structure and |
|  | Pointers, Array | Dynamic Memory | Initializing Structure | Structure, Nesting of | Its pointer to |
|  | Accessing through | Allocations |  | Structure | Functions |
|  | pointers |  |  |  |  |
| **Month5** | **Files Handing:** Opening and closing file in C; Create a file | Read and Write data to a file; Modes of Files | Operations on file using C Library Functions | Working with Command Line Arguments, Program  Debugging and types of errors | Revision and Test. |

**TEACHING PLAN 2024-25 (ODD SEMESTER)**

**Name:- Dr. Anju Sharma**

**Department:- Computer Science**

Sub:-Artificial Intelligence, MSc CS 1st year

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| Month | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **MONTH 1** | Definition and applications of Artificial Intelligence | Problem solving: Defining problem as State space search | Production systems, Problem characteristics | Search techniques: Brute force and Heuristic search and their different searching techniques. | Knowledge representation: Types of knowledge, Inference rule, Knowledge Representation |
| **MONTH 2** | Knowledge Representation: Logic based Knowledge representation, Rule based knowledge representation; | Non-Monotonic reasoning, Knowledge representation based on probability and uncertainty; | Knowledge representation schemes: Formal logic, Inference Engine, | Semantic net, Frame, Scripts. | Definition, Role of Knowledge in expert system, |
| **MONTH 3** | Architecture of Expert system. | Problem selection, Prototype construction | Formalization, Implementation, Evaluation, Knowledge acquisition | Knowledge engineer, Cognitive behavior, Acquisition techniques. | Perception: Sensing, Speech recognition, Vision, Action |
| **MONTH 4** | Learning, Planning and Understanding: Learning and its different types, Planning, understanding. | Neural Networks: Introduction, Comparison of artificial neural networks with biological neural | Learning in neural networks, Perceptions, | Back propagation networks, application of neural networks | Fuzzy logic: Definition, Difference between Boolean and Fuzzy logic |

**TEACHING PLAN 2025-26 (ODD SEMESTER)**

**(AUG 2025 to DEC 2025)**

**Name :-Dr. Poonam Department:- Computer Science Class:- M.Sc. CS III Sem**

**Subject: Design And Analysis of Algorithm**

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| **Month** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **July** | **Time and Space Complexity** | **Recurrence Relations** | **Recurrence Relation** | **Asymptotic Notation** | **Asymptotic Notation** |
| **August** | **General Methods** | **Binary search and Quick Sort** | **Merge Sort And Strassen’s Matrix Multiplication** | **Greedy Techniques** | **Greedy Techniques** |
| **September** | **Greedy Techniques** | **Graphs** | **Graphs** | **Dynamic Programming** | **Dynamic Programming** |
| **October** | **Backtracking Concepts** | **Backtracking Concepts** | **DIWALI BREAK** | **Least Cost Search** | **Branch and Bound** |
| **November** | **Branch and Bound** | **NP hard problems** | **NP complete Problems** | **Presentations** | **REVISION** |

**TEACHING PLAN 2025-26 (ODD SEMESTER)**

**Name :-Dr. Poonam Computer Department Sub:-**BCA – : Operating System (BCA IInd Year)

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| **Month** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **JULY** |  |  | Introduction to Operating System, its need and operating System services | Early systems, Structures - Simple Batch, Multi programmed | Types of Operating System : Timeshared, Personal Computer Revision |
| **AUGUST** | Types of Operating System : Parallel, Distributed Systems, Real- Time Systems | Process Management: Process Concept | Process Management: Operation on processes, Cooperating Processes | Process Management : Threads, and Inter- process Communication | CPU Scheduling: Basic concepts, Scheduling criteria  REVISION |
| **SEPTEMBER** | CPU Scheduling: Scheduling algorithms : FCFS, SJF | CPU Scheduling: Round Robin & Queue Algorithms | Deadlocks: Deadlock characterization, Methods for handling deadlocks | Methods for handling deadlocks,  Banker’sAlgorithm | Memory Management: Logical versus Physical address space |
| **OCTOBER** | Memory Management: Contiguous allocation, Swapping | Memory Management: Paging, Segmentation. | Virtual Memory: Demand paging, Performance of demand paging | Page replacement, Page replacement algorithms | Revision |
| **NOVEMBER** | Thrashing, File management: File system Structure, Allocation methods: Contiguous allocation, Linked allocation | Indexed allocation, Free space management: Bit vector, Linked List | Grouping, Counting, Device Management: Disk structure, Disk scheduling: FCFS, SSTF | LOOK, C-LOOK, SCAN, C-SCAN | Revision |

**TEACHING PLAN 2025-26 (ODD SEMESTER)**

**Name :-Dr. Pooja Singh Departmen:-Computer Department Sub:- DATA BASE MANAGEMENT SYSTEM(BCA)**

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| **Month** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **JULY** |  |  | Basic Concepts – Data, Information, Records and files. | Traditional file –based Systems-File  Based Approach- | Limitations of File Based Approach  REVISION |
| **AUGUST** | Database Approach-Characteristics of  Database Approach, | advantages and disadvantages of database system, components of  database system | Database Management System (DBMS), Components of DBMS  Environment, DBMS Functions and Components | DBMS users, Advantages and  Disadvantages of DBMS, DBMS languages | Roles in the Database Environment - Data and Database Administrator Database  Designers, Applications Developers and Users |
| **SEPTEMBER** | Three Levels of Architecture, External, Conceptual and  Internal Levels, Schemas, Mappings and Instances | Logical and Physical Data Independence, Classification of Database Management System, Centralized and Client Server architecture to  DBMS . | Records- based Data Models, Object-based Data Models, Physical Data  Models and Conceptual Modeling.  Entity Types, Entity Sets, Attributes Relationship Types | Relationship Instances and ER Diagrams, abstraction and integration ,Brief  History, | Relational Model Terminology-Relational Data Structure,  Database Relations,  Properties of Relations, Keys, |
| **OCTOBER** | Domains and Integrity Constraints over Relations Relational algebra, Relational calculus | Functional dependencies  Modification anomalies | Ist to 3rd NFs, BCNF | 4th and 5th NFs , computing closures of set  FDs | Data types, Basic Queries in SQL, Insert, Delete and Update Statements, Views |
| **NOVEMBER** | General strategies of query processing, | query optimization, query  processor | concept of security,  concurrency and recovery  DOUBT SESSION | DOUBT SESSION , REVISION | Revision |

**TEACHING PLAN 2025-26**

**Name :Dr. Ranjita Department:-Computer Department Class:- BCA Sub:-Java Programming**

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| **Month** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **JULY** |  |  | JAVA History,  Java features, Java and Internet,Java and World wide Web,Java program structure, Java tokens | Java Virtual machine  Data types  Operators and expressions | Decision making and Branching  Decision making and Branching |
| **AUGUST** | Looping classes and methods, Looping classes and methods | Inheritance: using existing class,Class inheritance,Choosing Base class, Access Attributes, Types of Inheritance, Types of Inheritance | Abstract class , Final modifier, Doubts and discussion, Test on topics covered, Polymorphism, Types of Polymorphism, Types of polymorphism | Packages: understanding packages, Defining a package, Adding classes from a package to your program, Understanding CLASSPATH, Revision | Doubts and Discussion, Access protection in packages, Concept of interface, Revision |
| **SEPTEMBER** | Exception Handling, Types of exceptions, Types of exceptions, Dealing with exceptions | Dealing with exceptions, Exception Objects, Doubts and Discussion, Test | Understanding Threads, The Main thread, Creating a thread, Creating Multiple threads, Revision | Thread Priorities, Synchronization, Deadlocks Inter-thread communication, Revision,Doubts and Discussion | I/O Basic, Byte and character structures, I/O classes, Reading console |
| **OCTOBER** | Applet basics, Applet Architecture, Applet Life Cycle,Revision  Simple Applet Display Methods | Request Repainting  Using the status window | Working with AWT controls,  AWT Classes  Window fundamental | Working with frames  Creating a frame window in an Applet  Revision | The HTML APPLET tag, Passing parameters to Applets  Revision |
| **NOVEMBER** | Displaying information within a window, Working with graphics | Working with color,Setting the paint mode, Test, Working with fonts | Exploring with Text and Graphics, Layout managers and Menus, Revision | Graphics, Layout managers and Menus | Doubts, Revision, Test |

TEACHING PLAN 2025-2026 (ODD SEMESTER)

**Name :-Dr. Ranjita Computer Department Sub:-**BCA – MIS

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| **Month** | **1st Week** | **2nd Week** | **3rd Week** | **4th Week** | **5th Week** |
| **JULY** |  |  | Introduction to system and Basic System Concepts | Introduction to system and Basic System Concepts | Introduction to system and Basic System Concepts |
| **AUGUST** | Introduction to system and Basic System Concepts, Types of Systems | Introduction to system and Basic System Concepts, Types of Systems | The Systems Approach, Information System | Definition & Characteristics | Types of information, Role of Information in Decision-Making  REVISION |
| **SEPTEMBER** | Sub-Systems of an Information system: EDP and MIS management levels, | Diffrence Between -EDP/MIS/DSS | An overview of Management Information System: Definition & Characteristics | Components of MIS, Frame Work for Understanding MIS | MIS : Information requirements & Levels of Management  REVISION |
| **OCTOBER** | Simon's Model of decision-Making | Structured Vs Un-structured decisions | Formal vs. Informal systems. | Developing Information Systems: Analysis & Design of Information Systems | Analysis & Design of Information Systems: Implementation & Evaluation, Revision |
| **NOVEMBER** | Pitfalls in MIS Development | Functional MIS: A Study of Personnel, Financial and production MIS | E-commerce – Technologies, Applications | Decision support systems: support systems for planning | REVISION |