

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session – (2023-24)

Name of the Teacher/s Mandeep K. Chawla

Department: Department of Computer Science & Applications

Class: BCA-II (3rd Semester)

Section (s): A & B

Subject: Information System Design and Implementation (BCA-16-303)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	24.7.23	31.7.23	Introduction to the Subject and reference books	
2	1.8.23	31.8.23	Systems Concepts and Information Systems Environment: Definition and characteristics, Elements of a system Environment. Types of systems. The System Development Life Cycle: Introduction to various phases. The Role of System Analyst, Skills of a System Analyst.	PPT, Assignments, Case study discussions, class test
3	1.9.23	30.9.23	System Planning and the Initial Investigation: Bases for planning in system analysis, Initial investigation, determining the users information requirements, Problem definition and Project Initiation, Background Analysis, Fact Finding, Fact Analysis, Determination of Feasibility. Information Gathering: Introduction, Information Gathering tools: Review of Literature, Procedures and forms. On -site observation. Interviews and questionnaires. Tools of Structured Analysis: Various tools of structured analysis: Data flow diagram (DFD), Data Dictionary, Decision tree and structured English, Decision table, Pros and cons of each tool.	PPT, Assignments, Casestudy discussions, Brain Storming, Discussions, Related Material, class test
4	1.10.23	31.10.23	Feasibility Study: System Performance-statement of Constraints, Identification of Specific System Objectives, description of Outputs. Feasibility Study – Feasibility considerations, Steps in feasibility analysis. Feasibility Report. System Design: The Process of Design-Logical and Physical Design, Design methodologies: Structured design, Functional Decomposition	PPT, Assignments, , Peer Learning, Related Material, class test
5	1.11.23	Till the end of semester	System Testing and Quality Assurance: Testing, System testing, Quality assurance and its goals in its system life cycle, Levels of quality assurance, Trends in testing. Implementation and Software Maintenance, User Training, Hardware and Software Selection	Assignments, Peer Learning, Related Material, mid-term exam

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh

Monthly Teaching Plans (Odd Semester)

Session – (2023-24)

Name of the Teacher/s Deeksha Gupta

Department Computer Science and Applications

Class: **BCA-II (3rd Semester)**

Subject Computer Oriented Numerical Method (BCA-16-304) Section (s) A & B

S. No	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	24.7.23	31.7.23	Introduction, Concept of Exact and Approximate Numbers, Concept of Significant digits	
2	1.8.23	31.8.23	Data Representation and Computer Arithmetic, Storage of Integer Numbers, Normalization and their consequences, Errors, Measures of Accuracy, Error	Lecture method Periodic Test Assignments PPT, Quiz Online Content Question Bank
3	1.9.23	30.9.23	Solution of Non-Linear Equations: Bisection Method, False-Position Method, Secant Method, Newton - Raphson Methods, Zeros of a polynomial using Birge Vieta Method, Convergences of every method Simultaneous Linear Equations: Gauss – Elimination Method, Gauss-Jordan Method, Concept of Pivoting, Iterative Method: Gauss-Seidal Method	Lecture method Periodic Test Assignments, PPT Online Source and Content, Quiz Question Bank
4	1.10.23	31.10.23	Interpolation: Lagrange Interpolation, Inverse Interpolation, Finite Differences, Difference Tables, Newton's Method of Interpolation Numerical Integration: Newton-Cotes Integration Formulae: Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule	Lecture method Periodic Test Assignments PPT, Quiz Online Content Question Bank
5	1.11.23	Till the end of semester	Approximation: Taylor Series Representation, Chebyshev Polynomials. Solution of Ordinary Differential Equations: Introduction, Euler's Method, Runge–Kutta Methods: 2nd order & 4th order, Predictor Corrector Methods: Modified Euler's Method.	Lecture method Periodic Test Assignments Remedial classes PPT, Quiz Online Content Question Bank

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (BCA III: Odd Semester)
2023-24

Name of the Teacher/s: Ms. Deepti Sharda/Ms Punam

Department: Computer Science & Applications

Subject: Data Structures (BCA-16-305)

Class: BCA-III Sem

Section (s): A& B

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	24 th July 2023	31 st July 2023	Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans- 6th Aug				
2	1 st August 2023	31 st August 2023	Arrays: Introduction, Types of Array, Memory representation, Applications and operations. Searching: Binary and Linear Search Sorting: Bubble sort Linked List: Operations:-traversing, searching, inserting, deleting,	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans- 31st Aug				
3	1 st sept. 2023	30 th Sept 2023	Operations on headerlinked list, circular linked list, doubly linked list, memory representation, Applications, polynomial manipulation. Stacks: Introduction, memory representation, Applications and operations, Quick sort	Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Class Test, Assignment Submission
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans-30th Sep				
4	1 st Oct. 2023	31 st Oct 2023	Queue: Introduction, Types, Memory Representation and Applications. Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal, Searching, Insertion and deletion in Binary trees, Binary Search tree.	Lecture Method, Online Resources Reading & Discussion, Programs Discussion, Presentation, Assignment submission
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans-31st Oct				
5	1 st Nov 2023	18 th Nov 2023	Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS) Sorting: Insertion sort, Selection sort, Merge Sort. Comparison of various Searching and Sorting algorithms.	Lecture Method, Presentation, Programs Discussion, Referring online resources Sample Questions Discussion
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans-19th Nov				

*Any of these – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc.
 Other Methods adopted by the teacher – Please write the specific teaching method

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session – (2023-24)

Name of the Teacher/s Mandeep K. Chawla

Department: Department of Computer Science & Applications

Class: BCA-II (4th Semester)

Section (s): A & B

Subject: Software Project Management (BCA-16-403)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity to Undertake*
	From	To		
1	8.01.24	31.01.24	Introduction to project management, role of a project manager, Software economics	Lecture Method, PPT, notes-giving, assignment
2	1.2.24	29.2.24	Project phases and product life cycles, Principles of modern software management, Project Management Framework, Software Tools, Staff Acquisition and Team formation, Workflows and Checkpoints, Integration Management	Lecture Method, PPT, Class test, notes-giving, Group revisions
3	1.3.24	31.3.24	Project monitoring and controlling, Scope Management, WBS, Process instrumentation and seven core metrics, Iterative process planning, Project organizations and responsibilities	Lecture Method, PPT, Class tests, example case discussion, Group revisions, notes-giving, mid-term exam (tentative)
4	1.4.24	Till the end of semester	Process automation, Project Scheduling, Project Network Diagrams, Gantt charts, Project Cost Management, Cost Budgeting and Control	Lecture Method, PPT, MCQ, Group revisions

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session – (2023-24)

Name of the Teacher/s Deeksha Gupta

Department Computer Science and Applications

Class: **BCA-II (4th Semester)**

Subject: **Operating System concepts & Linux (BCA-16-404)** **Section (s)** A & B

S.No	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	8.01.24	31.01.24	<ul style="list-style-type: none"> • Operating Systems (OS): Introduction, its needs and services, Types of OS • Process Management: Introduction to Process, PCB, Process States • CPU Scheduling: Scheduling Criteria, Algorithms 	Lecture method Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
2	1.2.24	29.2.24	<ul style="list-style-type: none"> • Introduction to Linux: Linux's shell, Kernel, Features, History, Minimum system requirements, Boot and Rootdisks, Terminal Handling commands, wildcards, Environment variables. • Deadlocks 	Lecture method Periodic Test Assignments, PPT, Quiz, Question Bank Online Content
3	1.3.24	31.3.24	<ul style="list-style-type: none"> • Understanding I/O Redirection and Piping: Introduction, cut, paste, sort, tee; Regular Expressions and grep • Memory Management, File system: • Introduction to common types of files, Filenames, directories, Absolute and relative filenames, creating files and directories, listing files (ls), pwd, mv, cp, moving directories, removing files and directories, using wildcards with files and directories, File and directory, Changing group ownership, umask settings 	Lecture method Periodic Test Assignments, PPT, Online Source and Content, Quiz Question Bank
4	1.4.24	Till the end of semester	<ul style="list-style-type: none"> • Virtual Memory: Demand paging, Introduction to Page Replacement algorithms: FIFO, OPT and LRU • Process Management: Types of processes, ps, bg, fg, nice, kill. • Understanding System Administration activities: Superuser (su) command, taking backups using tar, Managing disk space, Mounting and Un-mounting filesystem, Managing users, Managing printers • Vi editor 	Lecture method Periodic Test Assignments PPT, Seminar Online Source and Content, Quiz Question Bank

Mehr Chand Mahajan DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)
Session – (2023-24)

Name of the Teacher- Ms Deepti Sharda & Ms Punam

Department Computer Science & Applications

Class BCA-II (4th Semester)

Subject Database Management (BCA-16-405)

Section (s): A & B

S.No	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	8.01.24	31.01.24	Basic Concepts: A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach, Abstraction and Data Integration, Database users, Advantages and Disadvantages of DBMS	Lecture method Periodic Test Assignments PPT, Quiz, Question Bank, Online Sources and Content
2	1.2.24	29.2.24	Implication of Database approach. Data Base Systems Concepts and Architecture: Data Models, Schemas and Instances, DBMS architecture and Data Independence, Data base languages & Interfaces, DBMS functions and component modules. Relational Data Model : Relational model concepts, Integrity constraints over Relations, Relational Algebra - Basic Operations. Conventional Querying database tables, Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table, ordering the result of a query, Understanding SQL-II : Querying Multiple Tables using Equi-Joins, Cartesian Joins, Outer Joins, Self-Joins, SET Operators: Union, Intersect, Minus; Introduction to Nested Queries	Lecture method Periodic Test Assignments, PPT, Quiz, Question Bank Online Content
3	1.3.24	31.3.24	Data Models : An overview of Network and Hierarchical Data Models. RDBMS : Terminology, The 12 Rules (Codd's Rule) for an RDBMS. Aggregate Functions, Grouping the Result of a Query, creation and deletion of Views, Managing privileges with Grant and Revoke Command, COMMIT and ROLLBACK, Functions: Character Functions, Date Functions, Group Functions Relational Data Base Design : Functional Dependencies, Decomposition, Desirable properties of decomposition, Normal forms based on primary keys PL/SQL : Introduction to PL/SQL, The Advantage of PL/SQL, PL/SQL Block Structure, PL/SQL Architecture, Fundamentals of PL/SQL, PL/SQL Data Types, Variables and Constants, Scope and Visibility of a Variable, Assignments and Expressions, Operator Precedence, Conditional and Iterative Control	Lecture method Periodic Test Assignments, PPT, Online Source and Content, Quiz Question Bank
4	1.4.24	Till the end of semester	Cursor Management in PL/SQL, Implicit/explicit Cursor Attributes, Exception Handling in PL/SQL; Predefined Exceptions, User Defined Exceptions, Database Trigger, types of triggers, dropping triggers, storage for triggers. Entity Relationship Model: Entity Types, Entity Sets, Attributes & Keys, Relationships, Relationship Types, Roles and Structural Constraints, Design issues, weak entity types, ER Diagrams. Design of an E-R Database Schema, Reduction of an E-R Schema to Tables.	Lecture method Periodic Test Assignments PPT, Seminar Online Source and Content, Quiz Question Bank