

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Odd Semester)
Session: 2020-21

Name of the Teacher: Dr. Mandeep Kaur

Department: Computer Science and Application

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	13 Aug ,2020	30 Sep, 2020	Systems Concepts and Information Systems Environment: Definition and characteristics of a system. Elements of a system Environment: Boundaries and interface. Types of systems: Physical or Abstract Systems, Open and Closed System, Man - made information systems. The System Development Life Cycle: Introduction to various phases-Recognition of Need, Feasibility Study, Analysis, Design, Implementation, Post- Implementation and Maintenance. The Role of System Analyst: Skills of a System Analyst, various roles of the Analyst.	PPT, Assignments, Case study discussions, class tests
2	1 Oct, 2020	31 Oct, 2020	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 tools.	PPT, Assignments, Case study discussions, BrainStorming, Discussions, Related Material, class tests
3	1 Nov, 2020	30 Nov, 2020	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 tests
4	1 Dec, 2020	31 Dec,2020	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: Introduction, Conversion- Activity network for Conversion, File Conversion,	Assignments, Peer Learning, Related Material, mid-term exam
5	1 Jan, 2021	Till End of Semester	Implementation and Software Maintenance: User Training: Elements of user Training Post implementation review. Software Maintenance - Primary activities of a Maintenance Procedure, Reducing Maintenance Costs. Hardware and Software Selection: Types of Software, Procedure for Hardware/Software selection: Major phases in selection, Evaluation and Validation, Vendor Selection, Post – Installation Review. Software selection- Criteria for Software Selection, the evaluation process. Revision of syllabus	Assignments, case study discussions, Peer Learning, Related Material, Discussions

Session: 2020-21**Name of the Teacher:** Ms. Deeksha Gupta**Department:** Computer Science and Application**Class:** BCA-II (3rd semester)**Section(s):** A & B**Subject:** Computer Oriented Numerical Method (BCA-16-304)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	13 Aug, 2020	31 Aug, 2020	Data Representation and Computer Arithmetic, Storage of Integer Numbers, Normalization and their consequences, Errors, Measures of Accuracy, Error	Online Lecture method Online Periodic Test Online Assignments Online Remedial classes PPT, Question Bank
2	1 Sep, 2020	30 Sep, 2020	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	Online Lecture method Online Periodic Test Online Assignments Online Remedial classes PPT, Question Bank
3	1 Oct, 2020	31 Oct, 2020	Simultaneous Linear Equations: Gauss – Elimination Method, Gauss-Jordan Method, Concept of Pivoting, Iterative Method: Gauss-Seidal Method	Online Lecture method Online Periodic Test Online Assignments Online Remedial classes PPT, Question Bank
4	1 Nov, 2020	30 Nov, 2020	Interpolation: Lagrange Interpolation, Inverse Interpolation, Finite Differences, Difference Tables, Newton's Method of Interpolation.	Online Lecture method Online Periodic Test Online Assignments Online Remedial classes PPT, Question Bank
5	1 Dec, 2020	31 Dec, 2020	Numerical Integration: Newton-Cotes Integration Formulae: Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule.	Online Lecture method Online Periodic Test Online Assignments Online Remedial classes PPT, Question Bank
6	1 Jan, 2021	Till 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 Revision of syllabus	Online Lecture method Online Periodic Test Online Assignments Online Remedial classes PPT, Question Bank

Session: 2020-21**Name of the Teacher:** Ms.Punam Dawgotra**Department:** Computer Science and Application**Class:** BCA-II (3rd semester)**Section(s):** A & B**Subject:** Data Structures (BCA-16-305)

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	13 Aug ,2020	31 Aug, 2020	Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures	Online Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
2	1 Sep, 2020	30 Sep, 2020	Arrays: Introduction, Types of Array, Memory representation, Applications and operations. Searching: Binary and Linear Search Sorting: Bubble sort, Insertion sort, Selection sort,	Online Lecture Method, Reading & Discussion, Presentation, Programs Discussion, Online Resources
3	1 Oct, 2020	31 Oct, 2020	Linked List: Operations:-traversing, searching, inserting, deleting, Operations on header linked list, circular linked list, doubly linked list, memory representation, Applications, polynomial manipulation.	Online Lecture Method, Reading & Discussion, Programs Discussion and Demo, Class Test, Assignment Submission
4	1 Nov, 2020	30 Nov, 2020	Stacks: Introduction, memory representation, Applications and operations Queue: Introduction, Types, Memory Representation and Applications.	Online Lecture Method, Online Resources Reading & Discussion, Programs Demonstration, Presentation, Assignment submission
5	1 Dec, 2020	31 Dec,2020	Sorting: Quick sort, Merge Sort. Comparison of various Searching and Sorting algorithms.	Online Lecture Method, Online Resources Reading & Discussion, Programs Demonstration, Presentation, Assignment submission, Sample Questions Discussion
6	1 Jan, 2021	Till End of Semester	Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal, Searching, Insertion and deletion in Binary trees, Binary Search tree. Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS) Revision of syllabus	Lecture Method, Presentation, Programs Discussion, Referring online resources Sample Questions Discussion

Session: 2020-21

Name of the Teacher: Dr. Mandeep Kaur

Department: Computer Science and Application

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 Undertaken*
	From	To		
1.	Month 1	Month 1	Introduction to project management, role of a project manager, Project phases and product life cycles, Principles of modern software management	Lecture Method, PPT, notes-giving
2.	Month 2	Month 2	Software economics, Project Management Framework, Software Tools, Staff Acquisition and Team formation, Workflows and Checkpoints, Integration Management, project monitoring and controlling, Scope Management	Lecture Method, PPT, Class test, notes-giving, Group revisions
3.	Month 3	Month 3	WBS, Process instrumentation and seven core metrics, Iterative process planning, Project organizations and responsibilities, Process automation, Project Scheduling	Lecture Method, PPT, Class tests, example case discussion, Group revisions, notes-giving
4.	Month 4	Month 4	Project Network Diagrams, Gantt charts, Project Cost Management, Cost Budgeting and Control	Lecture Method, PPT, Class test & retest, Group revisions
5.	Month 5	Till end of semester	Revision of syllabus	Discussions and class Tests

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)

Session: 2020-21

Name of the Teacher:

Department: Computer Science and Application

Class: BCA-II (4th semester)

Section(s): A & B

Subject: Operating System Concepts & Linux (BCA-16-404)

S.No	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1	Month 1	Month 1	Operating Systems (OS): Introduction, its needs and services, Types of OS Process Management: Introduction to Process, PCB, Process States, CPU Scheduling: Scheduling Criteria and Algorithms: Introduction to Linux: Linux's shell, Kernel, Features, History, Minimum system requirements, Boot and Root disks	Lecture method Periodic Test Assignments PPT Online Source and Content Quiz Question Bank
2	Month 2	Month 2	Deadlocks: Necessary and sufficient conditions for Deadlocks, Introduction to methods for handling deadlocks, deadlock detection and recovery Linux: Terminal Handling commands, wildcards, Environment variables. Understanding I/O Redirection and Piping: Introduction, cut, paste, sort, tee; Regular Expressions and grep	Lecture method Periodic Test Assignments PPT, Seminar Online Source and Content, Quiz Question Bank
3	Month 3	Month 3	Memory Management: Logical vs Physical address space, Swapping, Introduction to Paging, Segmentation Using file system Introduction to common types of files, Filenames, directories, File System, 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, Seminar Online Source and Content Quiz Question Bank
4	Month 4	Month 4	Virtual Memory Demand paging, Introduction to Page Replacement algorithms: FIFO, OPT and LRU Process Management 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 file system, Managing users, Managing printers with lpd, mknod, lpc, lpq, lprm. Vi editor: starting vi, vi modes, inserting text, quitting vi, deleting text, copying and moving text, searching and replacing text.	Lecture method Periodic Test Assignments Remedial classes PPT Seminar Online Source and Content Quiz Question Bank
5.	Month 5	Till end of semester	Revision of syllabus	Discussions and class Tests

MCM DAV College for Women, Sector – 36A, Chandigarh
Monthly Teaching Plans (Even Semester)

Session: 2020-21**Name of the Teacher:** Ms. Deepti Sharda**Department:** Computer Science and Application**Class:** BCA-II (4th semester)**Section(s):** A & B**Subject:** Database Management System (BCA-16-405)

S. No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	Month 1	Month 1	Introduction to DBMS, introduction to RDBMS, Codd's Rule for RDBMS, Difference between DBMS and RDBMS. Normalization. Data Models and their types. Introduction to Client-Server Computing-Architecture , advantages Introduction to SQL *Plus : Introduction to SQL, Oracle Data types, DML, DDL, Querying database tables, Working with Null Values, Matching a pattern from a table, Ordering the Result of a Query, Aggregate Functions, Grouping the Result of a Query, ROLLUP Operation: Getting Sub Totals, CUBE Operation : Getting Cross Tabs, Command Summary of SQL *Plus Editor.	Online Lecture Method, Periodic Test, Assignments, Demonstration, Online Video
2.	Month 2	Month 2	Functions, Introduction to VIEWS, Rules of DML Statements on Join Views, Dropping a VIEW, Inline Views, Materialized Views. Querying Multiple Tables: Joins ; Set Operator ; Nested Queries. Database Security and Privileges, GRANT Command, REVOKE Command, Application Privileges Management, Enhancing Performance, Sequences, Maintaining Database Objects, COMMIT and ROLLBACK.	Online Lecture Method, Periodic Test, Assignments, Demonstration, Online Video
3.	Month 3	Month 3	PL/SQL-I : Introduction, advantage, Block Structure, Architecture, Fundamentals, Data Types, Variables and Constants, Scope and Visibility of a Variable, Assignments and Expressions, Operator Precedence, Referencing Non- PL/SQL Variables, Built-in Functions, Conditional and Iterative Control, SQL Within PL/SQL	Online Lecture Method, Periodic Test, Assignments, Demonstration, Online Video
4.	Month 4	Month 4	PL/SQL-II: Cursor Management, Exception Handling in PL/SQL; Advanced PL/SQL: Subprograms, Procedure, Functions, Stored Packages, Dropping, Using Stored Function in SQL Statements, Database Trigger	Online Lecture Method, Periodic Test, Assignments, Demonstration, Online Video
5.	Month 5	Till end of semester	Revision of syllabus	Discussions and class Tests