

Ms. Nidhi Goyal

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Undergraduate Classes - First Year)

Session (2023-2024)

Class: BCA I (1st sem)

Name of the Teacher: Dr. Nidhi Goyal

Subject: Fundamentals of Mathematical Statistics

Period : 6th

Paper : BCA-16-102

Room No : 201

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to statistics
Week 2	24-07-2023 to 28-07-2023	Basic Statistics: Types of Statistics, Different Statistical Techniques, Steps in Statistical Investigation, Uses and Limitations of statistics, Collection of Data: Sources of collecting primary and Secondary Data, Limitations of Secondary Data, Criteria of evaluating secondary data, Organization of data, Graphs of Grouped Frequency Distribution, Tabulation of Data, Parts of Table
Week 3	31-07-2023 to 05-08-2023	Measures of Central Tendency: Kinds of measures of central tendency (statistical averages or averages):
Week 4	07-08-2023 to 12-08-2023	Arithmetic Mean: Simple Arithmetic Mean, Methods of calculating Simple Arithmetic Mean, Arithmetic Mean in case of Individual Series, Discrete series and continuous series,
Week 5	14-08-2023 to 19-08-2023	Weighted Arithmetic Mean, Combined Arithmetic Mean.
Week 6	21-08-2023 to 26-08-2023	Geometric Mean: Simple Geometric Mean , Methods of calculating Simple Geometric Mean, Geometric Mean in case of Individual Series, Discrete series and continuous series, Weighted Geometric Mean, Combined Geometric Mean.
Week 7	28-08-2023 to 02-09-2023	Harmonic Mean: Simple Harmonic Mean ,Methods of calculating Simple Harmonic Mean, Harmonic Mean in case of Individual, Discrete series and continuous series, Weighted Harmonic Mean, Combined Harmonic Mean.
Week 8	04-09-2023 to 09-09-2023	Median: Methods of Calculating Median in case of Individual, Discrete series and continuous series
Week 9	11-09-2023 to 16-09-2023	Partition Value: Quartile, Quintiles, Hexiles, Septiles, Octiles, Deciles, Percentiles, Mode: Methods of Calculating Mode in case of Individual Series, Discrete series and continuous series
Week 10	18-09-2023 to 23-09-2023	Range: Computation of Range, Inter Quartile Range, Computation of Inter Quartile Range, Percentile Range and Computation of Percentile Range.
Week 11	25-09-2023 to 30-09-2023	Mean Deviation, Computation of Mean Deviation, Standard Deviation, Calculation of Standard Deviation, Variance, Calculation of Standard Deviation for individual Series,
Week 12	03-10-2023 to 07-10-2023	Discrete Series and 8 Continuous Series, Coefficient of Standard Deviation and coefficient of variation, Combined Standard Deviation, Correcting incorrect Standard Deviation
Week 13	09-10-2023 to 14-10-2023	Revision of Syllabus
Mid Semester Exam (16th October 2023 – 21st October, 2023)		

Week 15	25-10-2023 to 27-10-2023	Correlation Analysis : Correlation Analysis: Definition, Types of Correlation: Positive, Negative, Simple, Multiple, Partial, Total, Linear and Non-Linear. Need of Correlation Analysis, Correlation and Causation, Techniques for Measuring Correlation: Scatter Diagram Method, Graphic Method,
Week 16	31-10-2023 to 04-11-2023	Karl Pearson's Coefficient of Correlation: Correcting incorrect coefficient of correlation, calculating Karl Pearson's coefficient of correlation in case of grouped series, Probable Error, Coefficient of Determination, Spearman's coefficient of Correlation (Rank correlation): Calculation of Correct Coefficient of rank correlation, Difference between Rank Coefficient and Karl Pearson's coefficient of coefficient, Coefficient of concurrent deviation.
Week 17	06-11-2023 to 11-11-2023	Regression Analysis (Linear Regression): Definition, Difference between Correlation and Regression, Types of Regression Analysis: Simple, Multiple, Partial, Total, Linear and Non-Linear, Objectives of Regression Analysis, Methods of obtaining regression analysis: Regression Lines, Regression Equations.
Week 18	14-11-2023 to 18-11-2023	Methods of obtaining regression equations: Normal Equations and Regression Coefficient, Properties of Regression Coefficient, Standard Error of Estimate, Regression Coefficient in case of Grouped Data, Uses of Regression Analysis and Limitations of Regression Analysis.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BCA II (3rd Semester)

Name of the Teacher: Dr. Nidhi Goyal

Subject: Computer Oriented Numerical Methods

Period : 2nd

Paper : BCA-16-304

Room No : 101

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction, Types of Non-Linear Equations: Polynomial Equations, Transcendental Equations, Methods of Finding Solutions of Non-Linear equations: Direct Method, Iterative Method.
Week 2	24-07-2023 to 28-07-2023	Iterative Methods: Bisection Method, False-Position Method
Week 3	31-07-2023 to 05-08-2023	Secant Method, Newton - Raphson Methods, Zeros of a polynomial using Birge – Vieta Method. Convergence of Iterative Methods,
Week 4	07-08-2023 to 12-08-2023	Simultaneous Linear Equations: Solution of Simultaneous Linear Equations using Direct and Iterative Methods: Direct Methods: Gauss – Elimination Method
Week 5	14-08-2023 to 19-08-2023	Gauss-Jordan Method, Concept of Pivoting, Iterative Method: Gauss-Seidal Method
Week 6	21-08-2023 to 26-08-2023	Introduction to differentiation, integration and matrix algebra.
Week 7	28-08-2023 to 02-09-2023	Data Representation and Computer Arithmetic: Introduction, Concept of Exact and Approximate Numbers, Concept of Significant digits, Representation of Numbers in Memory, Storage of Integer Numbers: Signed Representation, 1's Complement Representation, 2's Complement Representation, Floating Point Numbers and their storage,
Week 8	04-09-2023 to 09-09-2023	Introduction, Types of Non-Linear Equations: Polynomial Equations, Transcendental Equations, Methods of Finding Solutions of Non-Linear equations: Direct Method, Iterative Method.
Week 9	11-09-2023 to 16-09-2023	Floating Point Arithmetic, Normalization and their consequences
Week 10	18-09-2023 to 23-09-2023	Errors, Measures of Accuracy: Absolute Error, Relative Error and Percentage Error, Error types: Data Errors, Truncation Errors, Round-Off Errors, Computational Errors, Rules, Relationship between
Week 11	25-09-2023 to 30-09-2023	Relative Error and Significant digits and Error Propagation: Error Propagation in Addition Operation, Subtraction Operation, Multiplication Operation and Division Operation.
Week 12	03-10-2023 to 07-10-2023	Numerical Integration: Introduction, Newton-Cotes Integration Formulae: Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule.

Week 13	09-10-2023 to 14-10-2023	Revision of Syllabus
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Solution of Ordinary Differential Equations: Introduction, Euler's Method, Runge–Kutta Methods: 2nd order & 4th order, Predictor Corrector Methods: Modified Euler's Method
Week 16	31-10-2023 to 04-11-2023	Approximation: Approximation of functions: Taylor Series Representation, Chebyshev Polynomials.
Week 17	06-11-2023 to 11-11-2023	Interpolation: Introduction, Lagrange Interpolation, Inverse Interpolation, Finite Differences: Forward Differences, Backward Differences, Divided Differences, Difference Tables: Forward Difference Table, Backward Difference Table, Divided Difference Table, Observations regarding Difference Tables,
Week 18	14-11-2023 to 18-11-2023	Newton's Method of Interpolation: Newton's Forward Difference Interpolation Formula, Newton's Divided Difference Interpolation Formula.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BCA II

Name of the Teacher: Mr. Sudhir Kumar Sharma and Dr. Nidhi Goyal

Subject: Data Structures

Period : 1st, 5th and 6th

Paper :

Room No : 101

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to subject
Week 2	24-07-2023 to 28-07-2023	Basic Concepts: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures.
Week 3	31-07-2023 to 05-08-2023	Arrays: Introduction, Types of Array, Memory representation, Applications
Week 4	07-08-2023 to 12-08-2023	Arrays : Operations and Sorting
Week 5	14-08-2023 to 19-08-2023	Stacks: Introduction, memory representation, Applications and operations, Recursion.
Week 6	21-08-2023 to 26-08-2023	Linked List: Operations:-traversing, searching, inserting,
Week 7	28-08-2023 to 02-09-2023	Linked List: deleting operations on header linked list, circular linked list
Week 8	04-09-2023 to 09-09-2023	Linked List: doubly linked list, memory representation, Applications, polynomial manipulation.
Week 9	11-09-2023 to 16-09-2023	Queue: Introduction, Types, Memory Representation and Applications.
Week 10	18-09-2023 to 23-09-2023	Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree,
Week 11	25-09-2023 to 30-09-2023	Binary Tree Traversal, Searching,
Week 12	03-10-2023 to 07-10-2023	Insertion and deletion in Binary trees, Binary Search tree.
Week 13	09-10-2023 to 14-10-2023	Revision of syllabus
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS)
Week 16	31-10-2023 to 04-11-2023	Searching: Binary and Linear Search;
Week 17	06-11-2023 to 11-11-2023	Sorting: Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick sort. Comparison of various Searching and Sorting algorithms.
Week 18	14-11-2023 to 18-11-2023	Revision of syllabus

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: M.Sc. IT – I (1st sem)
Subject: Computer Algorithm
Paper :

Name of the Teacher: Dr. Nidhi Goyal
Period : 3rd (M-W), 6th (F)
Room No : BCA Lab III

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	Introduction to Data Structures: Definition, Types of Data Structures, Stacks and its operations(Push, Pop)
Week 2	21-08-2023 to 26-08-2023	Queue and its operations (Insert, Delete), Tree (Binary Tree, General Tree and its Traversal), Graph(Types and its Traversal).
Week 3	28-08-2023 to 02-09-2023	Algorithms and Analysis: Definition; Analysing algorithms; space and time complexity, Asymptotic Notation (O , Ω , θ),
Week 4	04-09-2023 to 09-09-2023	Practical complexities, Best, average and worst case performance of algorithms, examples, Recursive algorithms, Introduction to recurrence relations.
Week 5	11-09-2023 to 16-09-2023	Divide and Conquer: General method, Binary search, Merge sort, Quick sort.
Week 6	18-09-2023 to 23-09-2023	Divide and Conquer: Selection problem, Strassen's matrix multiplication and analysis of these problems.
Week 7	25-09-2023 to 30-09-2023	Greedy Method: General Method, Knapsack problem, Job sequencing with deadlines
Week 8	03-10-2023 to 07-10-2023	Greedy Method: Minimum spanning Trees (Prim's Algorithm, Kruskal's Algorithm), Single source shortest paths and analysis of these problems.
Week 9	09-10-2023 to 14-10-2023	Revision of syllabus
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Dynamic Programming: General method, Optimal binary search trees, 0/1 Knapsack
Week 11	31-10-2023 to 04-11-2023	Dynamic Programming: the traveling salesperson problem, Single Source Shortest Path Problem (Bellman Ford Algorithm), All pair shortest path problem (Floyd's Algorithm).
Week 12	06-11-2023 to 11-11-2023	Back Tracking: General method, N queen's problem, Graph coloring, Hamiltonian cycles, Analysis of these problems.
Week 13	14-11-2023 to 18-11-2023	Branch-And-Bound: General Method, 0/1 Knapsack, Traveling Salesperson problems.
Week 14	20-11-2023 to 25-11-2023	NP-hard and NP-complete problems: Basic concepts, Statement of Cook's Theorem, Satisfiability SAT, Examples of NP-hard graph [Clique Decision Problem, Chromatic Number 8 Decision Problem]
Week 15	28-11-2023 to 30-11-2023	NP-scheduling problems [Scheduling Identical Processors, Job Shop Scheduling].

Dr. Monika Gogna

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: M.Sc(IT) 3rd Sem

Name of the Teacher: Dr. Monika Gogna

Subject: Theory of Computation

Period : 2nd(4-6), 4(3)

Paper : MS-69

Room No : lab4

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Definition, Description of Automata, Transition Systems, Language, Grammar,
Week 2	24-07-2023 to 28-07-2023	Deterministic & Non-Deterministic Finite State Machines
Week 3	31-07-2023 to 05-08-2023	Equivalence of DFA and NDFA,
Week 4	07-08-2023 to 12-08-2023	Finite State Machine with output (Moore Machine and Mealy Machine),
Week 5	14-08-2023 to 19-08-2023	Conversion of Moore Machine to Mealy Machine & vice-versa, Minimization of Finite Automata.
Week 6	21-08-2023 to 26-08-2023	Chomsky Classification of Languages, Languages and their Relations, Languages and Automata.
Week 7	28-08-2023 to 02-09-2023	Regular Expressions, Finite Automata and Regular Expressions, Conversion of NDFA to DFA,
Week 8	04-09-2023 to 09-09-2023	Arden's Theorem, Construction of FA equivalent to Regular Expression, Equivalence of two Finite Automata, Equivalence of two Regular Expressions, Pumping lemma for Regular Sets and applications, Closure Properties of Regular Sets,
Week 9	11-09-2023 to 16-09-2023	Construction of Regular Grammar generating Transition System for a DFA, Construction of Transition System accepting Language for a Regular Grammar, limitations of finite state machine
Week 10	18-09-2023 to 23-09-2023	Context free grammar, Simplification of Context Free Grammars, Normal Forms for Context Free Grammars:
Week 11	25-09-2023 to 30-09-2023	Chomsky Normal Form, Greibach Normal Form, Pumping Lemma, CYK algorithm.
Week 12	03-10-2023 to 07-10-2023	Push down stack machine, Design of deterministic and non-deterministic push-down stack, Parser design.
Week 13	09-10-2023 to 14-10-2023	Properties of LR(K) Grammar, Closure properties of Languages.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Turing machine definition and design of Turing Machine, Church-Turing Thesis, Variations of Turing Machines
Week 16	31-10-2023 to 04-11-2023	combining Turing machine, Universal Turing Machine, Post Machine,
Week 17	06-11-2023 to 11-11-2023	Chomsky Hierarchy, Halting problem, Post Correspondence problem.
Week 18	14-11-2023 to 18-11-2023	Revision

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Teaching Plan Odd Semester (For UG- Ongoing Classes)

Session (2023-2024)

Class: BCA 5th SEM
Subject: Discrete Mathematics
Paper :BCA-16-502

Name of the Teacher:Dr.Monika Gogna
Period :4th(4-6)
Room No :R.No.202

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Set Notation and Description, subset, basic set operations, Venn Diagrams, laws of set theory,
Week 2	24-07-2023 to 28-07-2023	partitions of sets, min sets, duality principle
Week 3	31-07-2023 to 05-08-2023	basic definitions of relations and functions, graphics of relations,
Week 4	07-08-2023 to 12-08-2023	properties of relations: injective, surjective and bijective functions, compositions.
Week 5	14-08-2023 to 19-08-2023	Finite State Machines–Equivalent Machines, Finite State Machines as language Recognizers;
Week 6	21-08-2023 to 26-08-2023	Analysis of Algorithms - Time Complexity, Complexity of Problems.
Week 7	28-08-2023 to 02-09-2023	Graph and planar graphs – Basic Terminology, Multi-graphs,
Week 8	04-09-2023 to 09-09-2023	Shortest Paths, Eulerian Paths and Circuits.
Week 9	11-09-2023 to 16-09-2023	Travelling Salesman Problem, Planar Graphs.
Week 10	18-09-2023 to 23-09-2023	Recurrence Relations and Recursive Algorithms
Week 11	25-09-2023 to 30-09-2023	Linear-Recurrence Relations with Constant Coefficients;
Week 12	03-10-2023 to 07-10-2023	Homogeneous Solutions : Particular Solution, Total Solution,
Week 13	09-10-2023 to 14-10-2023	Revision
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Weighted Graphs, Paths and Circuits,
Week 16	31-10-2023 to 04-11-2023	Solution by the Method of Generating functions.
Week 17	06-11-2023 to 11-11-2023	Revision
Week 18	14-11-2023 to 18-11-2023	Revision

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Undergraduate Classes - First Year)

Session (2023-2024)

Class: BCA 1st Sem

Subject: Problem Solving through C

Paper : BCA-16-104

Name of the Teacher: Dr. Monika Gogna

Period : 4th

Room No : 201

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants,
Week 2	24-07-2023 to 28-07-2023	Variables, Data Types, rules for constructing variables, C Instructions,
Week 3	31-07-2023 to 05-08-2023	Arithmetic operators, Relational operators, Logical operators, Assignment Operators
Week 4	07-08-2023 to 12-08-2023	Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program, Compilation and Execution. U
Week 5	14-08-2023 to 19-08-2023	Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging.
Week 6	21-08-2023 to 26-08-2023	Decision making with IF-statement, IF-Else and Nested IFElse, The else if Clause. Loop Control Structure: While and do-while, for loop and Nested for loop,
Week 7	28-08-2023 to 02-09-2023	Decision using switch, The goto statement. Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function,
Week 8	04-09-2023 to 09-09-2023	Methods of parameter passing to functions, recursion, Storage Classes in C. Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array,
Week 9	11-09-2023 to 16-09-2023	Memory Map of a 2-Dimensional Array, Passing array elements to a function: Call by value and call by reference, Arrays of characters,
Week 10	18-09-2023 to 23-09-2023	Insertion and deletion operations, Searching the elements in an array, Using matrices in arrays, Passing an Entire Array to a Function.
Week 11	25-09-2023 to 30-09-2023	Pointer declaration, Address operator "&", Indirection operator "*", Pointer and arrays, Pointers and 2-Dimensional Arrays,
Week 12	03-10-2023 to 07-10-2023	Pointer to an Array, Passing 2-D array to a Function, Array of Pointers.
Week 13	09-10-2023 to 14-10-2023	Dynamic Memory Allocation: malloc(), calloc(), realloc(), free() functions.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions (strlen(), strcpy(), strcmp(), strcat()).
Week 16	31-10-2023 to 04-11-2023	Declaration of structures, Structure Initialization, Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union.
Week 17	06-11-2023 to 11-11-2023	Files in C: Introduction, Opening and Closing files,
Week 18	14-11-2023 to 18-11-2023	Basic I/O operation on files.

Ms. Sheenam

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: M.Sc(IT) 3rd sem
Subject: Computer Graphics
Paper : MS-39

Name of the Teacher: Sheenam
Period :1st (3-4) , 3rd (5-6)
Room No : Lab4

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to Computer Graphics-Applications, Concepts.
Week 2	24-07-2023 to 28-07-2023	Display Devices, Display Processors, Character Generation.Line Drawing algorithms-Direct method, DDA method of line drawing.
Week 3	31-07-2023 to 05-08-2023	Bresenham's line drawing algorithm Interactive graphical techniques: Positioning, (Elastic or Rubber Band lines, Inking, zooming, panning)
Week 4	07-08-2023 to 12-08-2023	Circle drawing algorithm- 2-point, 4-point, trigonometric method, 8-point.Midpoint and Bresenham's circle drawing algorithm.
Week 5	14-08-2023 to 19-08-2023	Homogeneous coordinate system;.Basic Transformations- Translation, Rotation,Scaling,Reflection, Shear, composite transformation like- Rotation about an Arbitrary Point,
Week 6	21-08-2023 to 26-08-2023	Reflection through an Arbitrary Line; Basic Graphical functions; Mouse Programming, Graphic Languages: Primitives (Constants, actions, operators, variables)
Week 7	28-08-2023 to 02-09-2023	Window to viewport coordinate transformation. Clipping: introduction to Point clipping .Line clipping algorithms: Cohen-Sutherland,Liang-Barsky,
Week 8	04-09-2023 to 09-09-2023	Polygon Clipping, line clipping algorithm. Transformation of points and unit square. Animated algorithms for sorting,
Week 9	11-09-2023 to 16-09-2023	Towers of Hanoi, Three Dimensional Display Methods, Parallel Projection, Perspective Projection;
Week 10	18-09-2023 to 23-09-2023	Translation, Rotation-Concepts, examples, Numericals
Week 11	25-09-2023 to 30-09-2023	Scaling, Composite Transformation--Concepts, examples, Numericals
Week 12	03-10-2023 to 07-10-2023	Hidden line and surface elimination-Z-buffer, back face, scan line, depth sorting.

Week 13	09-10-2023 to 14-10-2023	Representation of Space Curves, Cubic Splines, Bezier Curves, B-spline Curves
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 15	25-10-2023 to 27-10-2023	B-spline Curve Fit
Week 16	31-10-2023 to 04-11-2023	B-spline Curve Subdivision , Parametric Cubic Curves, Quadric Surfaces. Bezier Surfaces
Week 17	06-11-2023 to 11-11-2023	Concept of Animation, Saving, Loading and Printing graphics images from/to disk.
Week 18	14-11-2023 to 18-11-2023	Display subroutines, plotting and geometric transformations,

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: PGDCA 1st Sem.

Subject: Data Base Management System

Paper :PGD-1103

Name of the Teacher: Sheenam

Period : 1st (1) 4th(2-6)

Room No : 201(IT Block)

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	Introduction to Database and file oriented approach, Difference between Database and file oriented approach, DBMS Terminology.
Week 2	21-08-2023 to 26-08-2023	General Architecture of a Data Base Management Software, Physical structure of DBMS .Data Base Management Software, Components of DBMS, Advantages and Disadvantages of DBMS.
Week 3	28-08-2023 to 02-09-2023	Introduction to Data Models, Entity Relationship Model, Entities, Attributes, E-R Diagrams, Conceptual Design of a relational data base model.
Week 4	04-09-2023 to 09-09-2023	Comparison of Network, Hierarchical and Relational Model. Client/Server Architecture-Introduction, advantages ,disadvantages, Comparison with DBMS.
Week 5	11-09-2023 to 16-09-2023	Distributed Databases, Structure and Design of Distributed Databases .
Week 6	18-09-2023 to 23-09-2023	Advantages and disadvantages of DDBMS. Framework of DDBMS.Data Types, Creating Tables
Week 7	25-09-2023 to 30-09-2023	Creating a Table with data from Another table, Inserting Values into a Table, Updating Column(s) of a Table,
Week 8	03-10-2023 to 07-10-2023	Deleting Row(s) from a Table, Dropping a Column, Querying database tables
Week 9	09-10-2023 to 14-10-2023	Querying Multiple Tables using Equi-Joins, Cartesian Joins, Outer Joins, Self-Joins, SET Operators: Union, Intersect, Minus
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table,Functions: Character Functions, Date Functions, Group Functions,
Week 11	31-10-2023 to 04-11-2023	Ordering the result of a Query Aggregate Functions, Grouping the Result,Relational Model : Storage organization for Relations,
Week 12	06-11-2023 to 11-11-2023	Relational Algebra, Relational Calculus, Concurrency –Introduction, Locking technique, Concurrency control mechanism
Week 13	14-11-2023 to 18-11-2023	Functional dependencies, multivalued dependencies.
Week 14	20-11-2023 to 25-11-2023	Normalizations- Introduction, Concept of 1st, 2nd, 3rd, 4th Normal forms with their anomalies.
Week 15	28-11-2023 to 30-11-2023	Database Integrity-Introduction, concepts, Security, Different types of security mechanism

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BCA 5th sem
Subject: Computer Networks
Paper : BCA-16-501

Name of the Teacher: Sheenam
Period : 2nd (1-4)
Room No 202(I T Block)

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Network Hardware and Software,
Week 2	24-07-2023 to 28-07-2023	Network Topologies, Uses of Computer Networks, OSI Reference Model, TCP/IP reference model,
Week 3	31-07-2023 to 05-08-2023	Comparison of OSI with TCP/IP model. Transmission media: Twisted pair, Coaxial cable, Fiber optics, Wireless Transmission (Radio, Microwave, and Infrared)
Week 4	07-08-2023 to 12-08-2023	Switching: Circuit Switching, Message Switching, Packet Switching & their comparisons.
Week 5	14-08-2023 to 19-08-2023	Multiplexing: Frequency Division, Time Division, Wave Length Division, MODEMS.
Week 6	21-08-2023 to 26-08-2023	Design Issue, Framing, Errors Detection and Correction Code: Check sum, CRC, Hamming code, Data Link Protocols for noisy and noiseless channels,
Week 7	28-08-2023 to 02-09-2023	Sliding Window Protocol: Stop and Wait ARQ, Go-back-N ARQ, Selective Repeat ARQ.
Week 8	04-09-2023 to 09-09-2023	Introduction to Static and Dynamic channel allocation, IEEE standards 802.3.
Week 9	11-09-2023 to 16-09-2023	Design Issues, network layer addressing, network layer datagram,
Week 10	18-09-2023 to 23-09-2023	IP addressed Classes, Sub netting-Sub network, Subnet mask,
Week 11	25-09-2023 to 30-09-2023	Routing Algorithm: Shortest Path Routing, Flooding,
Week 12	03-10-2023 to 07-10-2023	Broadcast and Multicast routing, Congestion control: Principles of Congestion Control,
Week 13	09-10-2023 to 14-10-2023	Congestion prevention policies, Leaky bucket and token bucket algorithms.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Domain Name system (DNS), ISDN and its services

Week 16	31-10-2023 to 04-11-2023	DNS name space, DNS Servers, World Wide Web, HTTP, e-mail: Architecture and Services, Message Component,
Week 17	06-11-2023 to 11-11-2023	Multipurpose Internet Mail Extensions (MIME), Simple Mail Transfer Protocol (SMTP), Post Office Protocol (POP),
Week 18	14-11-2023 to 18-11-2023	Remote Login and File transfer protocol, Introduction to Network Security.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: PGDCA 1st sem

Subject :Data Communications and Networks

Paper : PGD - 1104

Name of the Teacher: Sheenam

Period: 2nd (1-3) 1st (5-6)

Room No : 201(IT Block)

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	Network Structure and Architecture, Network Hardware and Software
Week 2	21-08-2023 to 26-08-2023	protocol hierarchies, design issues for layers, interfaces and services: connection oriented and connection less, Network structure and architecture-point to point, multicast, broadcast
Week 3	28-08-2023 to 02-09-2023	Classification of networks on the basis of Geographical Span (PAN, LAN, MAN and WAN) , LAN topologies (Bus, Ring, Star, Mesh, Tree and Hybrid).
Week 4	04-09-2023 to 09-09-2023	Network Connecting Devices: Repeaters, Hubs, Bridges, Routers, Gateways and Switches,
Week 5	11-09-2023 to 16-09-2023	Network Reference models: OSI model, TCP / IP model, Comparison between OSI and TCP/IP.
Week 6	18-09-2023 to 23-09-2023	Analog Signal, Digital Signal, Analog vs Digital Communication; Band Width Limitation, Data rate of a channel, Modulation techniques: AM, PM, FM; Multiplexing Techniques- FDM, WDM, and TDM
Week 7	25-09-2023 to 30-09-2023	Physical Layer: Transmission media: Guided (Twisted-pair, Coaxial and Optical fiber) and Unguided (Radio, Microwave and infrared)
Week 8	03-10-2023 to 07-10-2023	Switching: Circuit switching, Packet Switching, Message Switching, Telephone system, modems.
Week 9	09-10-2023 to 14-10-2023	Design Issues, Error Detection and Correction: Nature of errors, Parity Check, CRC, Hamming Code
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Elementary Data Link Protocols: Simplex Stop and Wait Protocol, Sliding Windows Protocol
Week 11	31-10-2023 to 04-11-2023	One Bit sliding windows protocol, go back n, selective repeat, HDLC: High Level Data Link Protocol
Week 12	06-11-2023 to 11-11-2023	Design Issues, Routing Algorithms (Shortest Path, Flooding, Flow Based
Week 13	14-11-2023 to 18-11-2023	Distance Vector, Link State, Broadcast, Hierarchical Routing
Week 14	20-11-2023 to 25-11-2023	Congestion Control Algorithms and their general principles (Leaky Bucket, Token Bucket)
Week 15	28-11-2023 to 30-11-2023	Internetworking: tunneling, Internet Routing, fragmentation.

Ms. Jasdeep Kaur

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BCA II (3rd Semester)

Name of the Teacher: Jasdeep Kaur

Subject: Information System Design and Implementation

Period: 1st

Paper: BCA-16-303

Room No: 101

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Systems Concepts and Information Systems Environment: Definition and characteristics of a system. Elements of a system Environment: Boundaries and interface.
Week 2	24-07-2023 to 28-07-2023	Types of systems: Physical or Abstract Systems, Open and Closed System, Man - made information systems.
Week 3	31-07-2023 to 05-08-2023	The System Development Life Cycle: Introduction to various phases- Recognition of Need, Feasibility Study, Analysis, Design, Implementation, Post- Implementation and Maintenance.
Week 4	07-08-2023 to 12-08-2023	The Role of System Analyst: Skills of a System Analyst, various roles of the Analyst.
Week 5	14-08-2023 to 19-08-2023	System Planning and the Initial Investigation: Bases for planning in system analysis, Initial investigation, determining the users information requirements.
Week 6	21-08-2023 to 26-08-2023	Problem definition and Project Initiation, Background Analysis, Fact Finding, Fact Analysis, Determination of Feasibility.
Week 7	28-08-2023 to 02-09-2023	Information Gathering: Introduction, Information Gathering tools: Review of Literature, Procedures and forms. On -site observation. Interviews and questionnaires.
Week 8	04-09-2023 to 09-09-2023	Tools of Structured Analysis: Various tools of structured analysis: Data flow diagram (DFD), Data Dictionary, Decision tree.
Week 9	11-09-2023 to 16-09-2023	structured English, Decision table, Pros and cons of each tools.
Week 10	18-09-2023 to 23-09-2023	Feasibility Study: System Performance-statement of Constraints, Identification of Specific System Objectives, description of Outputs.
Week 11	25-09-2023 to 30-09-2023	Feasibility Study – Feasibility considerations, Steps in feasibility analysis. Feasibility Report.
Week 12	03-10-2023 to 07-10-2023	System Design: The Process of Design-Logical and Physical Design, Design methodologies: Structured design.
Week 13	09-10-2023 to 14-10-2023	Functional Decomposition 26 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.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Implementation and Software Maintenance: Introduction, Conversion- Activity network for Conversion, File Conversion,
Week 16	31-10-2023 to 04-11-2023	User Training: Elements of user Training Post implementation review. Software Maintenance - Primary activities of a Maintenance Procedure, Reducing Maintenance Costs.
Week 17	06-11-2023 to 11-11-2023	Hardware and Software Selection: Types of Software, Procedure for Hardware/Software selection: Major phases in selection, Evaluation and Validation, Vendor Selection.
Week 18	14-11-2023 to 18-11-2023	Post – Installation Review. Software selection- Criteria for Software Selection, the evaluation process

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Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BCA-5th Sem.
Subject: JAVA Programming
Paper : BCA-16-503

Name of the Teacher: Jasdeep kaur
Period :4(3-6)
Room No : 202

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	I/O Basics: streams, the predefined streams; Reading console Input, Writing console Output.
Week 2	24-07-2023 to 28-07-2023	Arrays and Strings: One-dimensional and two-dimensional Arrays
Week 3	31-07-2023 to 05-08-2023	String Handling using String and StringBuffer class, String Functions.
Week 4	07-08-2023 to 12-08-2023	Packages: Types of packages, defining a package.
Week 5	14-08-2023 to 19-08-2023	Importing packages, Access protection.
Week 6	21-08-2023 to 26-08-2023	Interfaces: Defining an Interface, Implementing Interfaces, Variables in Interfaces.
Week 7	28-08-2023 to 02-09-2023	Achieving multiple inheritance using interfaces, Interface and Abstract classes.
Week 8	04-09-2023 to 09-09-2023	Exception Handling: Java Exception handling model, Types of exception, using Try and catch, Multiple Try and Catch clauses, Nested Try statements, finally block.
Week 9	11-09-2023 to 16-09-2023	Multi-threaded Programming: The Java Thread model, the Thread class and Runnable interface, Creating a Thread using Runnable Interface and extending Thread.
Week 10	18-09-2023 to 23-09-2023	User defined exceptions., Creating Multiple Threads, Thread Priorities, Synchronizations: Methods, Statements, Inter Thread Communication, Deadlock, Suspending, Resuming and Stopping Threads.
Week 11	25-09-2023 to 30-09-2023	Applet Programming: Introduction, Types of applet, Life Cycle, Incorporating an applet into web page using Applet .
Week 12	03-10-2023 to 07-10-2023	Running applets, using Graphics class and its methods to draw lines.
Week 13	09-10-2023 to 14-10-2023	Methods to draw: rectangles, circles, ellipses, arcs and polygons.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		

Week 15	25-10-2023 to 27-10-2023	Using AWT controls: Introduction to AWT, Creating GUI Applications using AWT AWT controls: Label, TextBox, TextArea.
Week 16	31-10-2023 to 04-11-2023	Check Boxes, Radio Buttons, Choice lists, Understanding Layout.
Week 17	06-11-2023 to 11-11-2023	Managers: FlowLayout, BorderLayout, GridLayout; Introduction to Event handling using Delegation Event Model.
Week 18	14-11-2023 to 18-11-2023	Java Database Connectivity (JDBC): JDBC Architecture, JDBC Drivers, Java.SQL package, Connecting to the Database and performing basic database operation like Insert, Delete, Update and Select.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: MSc-IT 3rd Sem.

Name of the Teacher: Jasdeep Kaur

Subject: Systems Approach to Management and Optimization Tech

Period :4th (1-2)and

1st (5-6)

Paper : MS-14

Room No :Lab4

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Concepts of Computer Based Systems: Data, Information, Information Systems, Model of computer based information system; Introduction to Management Information System, Decision Support System and Knowledge Based Systems.
Week 2	24-07-2023 to 28-07-2023	Accounting Information System : Characteristics, sample system, subsystems for filling customer order, order replenishment stock, performing general ledger processes; features.
Week 3	31-07-2023 to 05-08-2023	Use of Accounting Information System Package-Tally.
Week 4	07-08-2023 to 12-08-2023	Marketing Information System : Basic concepts, model, subsystems including Marketing Research, Marketing Intelligence, Product, Place, Promotion and Pricing subsystems.
Week 5	14-08-2023 to 19-08-2023	Basics of Operations Research (OR) : Origin and Development of OR, Characteristics of OR, Models in OR, OR and Decision Making, Role of Computers in OR, Limitations of OR
Week 6	21-08-2023 to 26-08-2023	Linear Programming : Mathematical Formulation, Graphical representation.
Week 7	28-08-2023 to 02-09-2023	Simplex method
Week 8	04-09-2023 to 09-09-2023	Duality in Linear programming, Dual Simplex Method,
Week 9	11-09-2023 to 16-09-2023	The Revised Simplex Method, Sensitivity Analysis.

Week 10	18-09-2023 to 23-09-2023	Special types of Linear Programming problems : Transportation
Week 11	25-09-2023 to 30-09-2023	Assignment problems
Week 12	03-10-2023 to 07-10-2023	Integer Programming : Introduction, Branch and Bound Techniques.
Week 13	09-10-2023 to 14-10-2023	Binary Linear Programming, Assignment and Traveling salesman problems.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Dynamic Programming : Deterministic & Probabilistic Dynamic Programming.
Week 16	31-10-2023 to 04-11-2023	Manufacturing Information System : Model and subsystems including Accounting information, Industrial Engineering, Inventory, Quality and Cost Subsystems.
Week 17	06-11-2023 to 11-11-2023	Financial Information System : Model and Subsystems including Forecasting, Funds Management and Control Subsystems.
Week 18	14-11-2023 to 18-11-2023	Human Resources Information Systems : Model and Subsystems including human resources research.

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Teaching Plan Odd Semester (For Postgraduate Classes - First Year)

Session (2023-2024)

Class: PGDCA 1st Sem
Subject: Computer Programming Using C
Paper : PGD - 1102

Name of the Teacher: Jasdeep Kaur
Period : 3rd
Room No : 201

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants,
Week 2	21-08-2023 to 26-08-2023	Variables, Data Types, rules for constructing variables, C Instructions,
Week 3	28-08-2023 to 02-09-2023	Arithmetic operators, Relational operators, Logical operators, Assignment Operators
Week 4	04-09-2023 to 09-09-2023	Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program , Compilation and Execution. U
Week 5	11-09-2023 to 16-09-2023	Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging.
Week 6	18-09-2023 to 23-09-2023	Decision making with IF-statement, IF-Else and Nested IFElse, The else if Clause. Loop Control Structure: While and do-while, for loop and Nested for loop,
Week 7	25-09-2023 to 30-09-2023	Decision using switch, Thegoto statement. Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function,
Week 8	03-10-2023 to 07-10-2023	Methods of parameter passing to functions, recursion, Storage Classes in C. Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array,
Week 9	09-10-2023 to 14-10-2023	Memory Map of a 2-Dimensional Array, Passing array elements to a function: Call by value and call by reference, Arrays of characters,
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Pointer declaration, Address operator "&", Indirection operator "*", Pointer and arrays, Pointers and 2-Dimensional Arrays, Pointer to an Array, Passing 2-D array to a Function, Array of Pointers.
Week 11	31-10-2023 to 04-11-2023	Dynamic Memory Allocation: malloc(), calloc(), realloc(), free() functions.

Week 12	06-11-2023 to 11-11-2023	String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions (strlen(), strcpy(), strcmp(), strcat()).
Week 13	14-11-2023 to 18-11-2023	Declaration of structures, Structure Initialization, Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union.
Week 14	20-11-2023 to 25-11-2023	Files in C: Introduction, Opening and Closing files,
Week 15	28-11-2023 to 30-11-2023	Basic I/O operation on files.

Ms. Sarbjit kaur

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: BCA-5th Sem.

Name of the Teacher: Sarbjit kaur

Subject: Web Application Development using PHP

Period :3(1-4)

Paper : BCA-16-504

Room No : 202

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to web applications: Client Side Scripting Vs Server Side Scripting,
Week 2	24-07-2023 to 28-07-2023	Understanding Web Servers: Local Servers and Remote Servers, Installing WAMP and configuring PHP environment, Static website Vs Dynamic website development
Week 3	31-07-2023 to 05-08-2023	Embedding PHP code in Web Pages PHP Basics: Tokens, Variables, Variable Scope, Constants, Data Types, number handling in PHP
Week 4	07-08-2023 to 12-08-2023	operands, operators, expressions, operator precedence, comments, ternary operator
Week 5	14-08-2023 to 19-08-2023	echo and Print statement Control structures: Branching statements: if-else,
Week 6	21-08-2023 to 26-08-2023	switch; looping statements: while, do-while, for; file inclusion Statements
Week 7	28-08-2023 to 02-09-2023	Functions: Function definition, Creating and invoking user-defined functions, Formal parameters versus actual parameters
Week 8	04-09-2023 to 09-09-2023	Library functions String Handling: interpolation with curly braces, characters and string indexes, string operators, heredoc, string functions, Formatting Strings
Week 9	11-09-2023 to 16-09-2023	Comparing and searching Strings and substrings Arrays: PHP Arrays, Creating Arrays, Accessing Array elements, Multidimensional Arrays,
Week 10	18-09-2023 to 23-09-2023	Inspecting Arrays, Deleting from Arrays, Iterating with each() and foreach(), Iterative functions: current(), next(), prev(), reset(), end()
Week 11	25-09-2023 to 30-09-2023	Forms: Working with HTML Form controls and PHP, Super global variables, super global array, importing user input, Accessing user
Week 12	03-10-2023 to 07-10-2023	input Integrating PHP and Database: Connecting to database, Making SQL queries, Executing queries, Fetching data sets
Week 13	09-10-2023 to 14-10-2023	Integrating Forms and Databases: Basic form submission to a database, editing data with an HTML form
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Maintaining User State: Introduction to Cookies, Setting time in a cookie with PHP, Deleting a cookie, creating session cookie,.
Week 16	31-10-2023 to 04-11-2023	Introduction to sessions, Starting a session, Registering Session variables, working with session variables, Destroying session, passing session Ids , encoding and decoding session variables, increase session expire time, working of session without cookie
Week 17	06-11-2023 to 11-11-2023	passing session Ids , encoding and decoding session variables, increase session expire time, working of session without cookie
Week 18	14-11-2023 to 18-11-2023	Working with File System: Understanding PHP file permissions, Opening and closing a file, File reading and writing functions, File system and directory functions

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Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: MSc-IT 1st Sem.

Name of the Teacher: Sarbjit kaur

Subject: Linux Administration and Programming

Period :2(3-6)

Paper : MS-66

Room No :Lab3

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	flavors of Linux, Minimum System Requirements for installing Linux: Using LILO; Linux's fdisk. Using Linux: Starting and Stopping your Linux System, Linux Shutdown Commands, Login, Passwords; Linux Error Messages, Search Paths
Week 2	21-08-2023 to 26-08-2023	Input and Output Redirection, Man pages, Wildcards: * and ?, Environment Variables, process Commands: ps, kill, su command; GREP pattern searching command, vi text-editor.
Week 3	28-08-2023 to 02-09-2023	Using the File System : Files Overview, Common types of files, file and directory management commands, Absolute and relative filenames; pwd, cd, rm, cat, mkdir, mv, cp,, Important directories in the Linux file System: / , /home, /bin, /usr, /usr/bin, /usr/spool, /dev, /usr/bin, /sbin, /etc.
Week 4	04-09-2023 to 09-09-2023	File and Directory Permissions: File and Directory ownership, User and ownership, Groups, Changing group ownership, File Permissions, UMASK Setting, Changing File Permission
Week 5	11-09-2023 to 16-09-2023	Changing directory permissions; Bourne Again Shell (BASH): Command-line Completion, Wildcards, Command History, Aliases, Pipelines, setting shell prompts, Job control, Customizing bash, bash variables
Week 6	18-09-2023 to 23-09-2023	Shell Programming: Creating and Running Shell Programs, Using variables, Positional Parameters and other built-in Shell Variables; importance of quotation marks, test Command,
Week 7	25-09-2023 to 30-09-2023	Conditional Statements: if Statement, case Statement; Iteration Statements: for Statement, while Statement, until Statement, shift Command, select Statement, repeat Statement, Functions. .
Week 8	03-10-2023 to 07-10-2023	Linux for System Administrators: System Administration Basics, The root Account, Starting and Stopping the System; Mounting File Systems: Mounting a Device
Week 9	09-10-2023 to 14-10-2023	Creating a New file System, Un-mounting file Systems, Checking file Systems, Compressing files with gzip and compress
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Using tar, Backups, Setting the Login Message, Setting of DNS, Ping, WWW, and e-mail.
Week 11	31-10-2023 to 04-11-2023	PERL: Creating and Executing Perl Programs, Handling Data in Perl: Variables, Numbers, Strings, File Operators: Arrays
Week 12	06-11-2023 to 11-11-2023	Perl Programming Constructs: Statement Blocks, If Statements, unless Statements, for Statements, for each Statements, while Statements, until Statements,
Week 13	14-11-2023 to 18-11-2023	Functions: Passing Arguments to Functions, Using Return Values; Perl Operators. 8. System Calls: C as System Programming Language
Week 14	20-11-2023 to 25-11-2023	I/O system calls – umask(); create(); open(); read(); write(); lseek(); dup(); link(); access(); chmod(); chown();

Week 15	28-11-2023 to 30-11-2023	Process management system calls; fork(); getpid(); getppid(); exit(); wait(); sleep() ; Signal system calls – kill(); signal().
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PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For UG-PG - Ongoing Classes)

Session (2023-2024)

Class: MSc-IT 3rd Sem.

Name of the Teacher: Sarbjit kaur

Subject: .NET Framework and C#

Period :2(1-2,5-6)

Paper : MS-32

Room No :Lab4

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Introduction to .NET environment: The .NET strategy, the origins of the .NET technology, the .
Week 2	24-07-2023 to 28-07-2023	NET framework, the common language runtime, framework base classes, user and programs interface
Week 3	31-07-2023 to 05-08-2023	visual studio .NET, .NET languages, benefits of the .NET approach.
Week 4	07-08-2023 to 12-08-2023	Introduction to C# :Introducing C#, Overview of C#, Literals, Variables
Week 5	14-08-2023 to 19-08-2023	Data Types, Operators, Expressions, Branching, Looping, Methods,
Week 6	21-08-2023 to 26-08-2023	Arrays, Strings, Structures, Enumerations, difference between C++ and C#, difference between Java and C#.
Week 7	28-08-2023 to 02-09-2023	Object Oriented Aspects of C# : Classes, Objects, Inheritance, Polymorphism,
Week 8	04-09-2023 to 09-09-2023	Interfaces, Operator Overloading, Delegates, Events, Errors and Exceptions.
Week 9	11-09-2023 to 16-09-2023	I/O and Object Serialization: I/O: System. I/O, Streams, TextWriter, TextReader, BinaryWriter, Binary Reader, File Stream, File;
Week 10	18-09-2023 to 23-09-2023	Serialisation: Binary, SOAP, XML and Custom Serialisation
Week 11	25-09-2023 to 30-09-2023	Writing Windows Forms Applications and Deploying Windows Forms Applications:
Week 12	03-10-2023 to 07-10-2023	Writing Windows Forms Applications: Understanding Windows Forms, Window form controls, Menus, MDI Forms, Using Inheritance in Windows Forms, Using Common Dialog Controls
Week 13	09-10-2023 to 14-10-2023	Deploying Windows Forms Applications: Introduction to deployment, Click Once deployment, Creating an Installation Package for project.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Writing ASP .NET applications and Deploying ASP .NET Applications: Introduction to ASP.NET, Using Validation Controls
Week 16	31-10-2023 to 04-11-2023	Managing State in ASP.NET Web Applications, Deploying ASP.NET Applications with Windows Installer.
Week 17	06-11-2023 to 11-11-2023	Accessing Data with ADO .NET: ADO .NET Architecture, Components, Database,
Week 18	14-11-2023 to 18-11-2023	DataReader, DataAdapter, DataSet, Viewing data using Data Grid View Control, Creating Applications.

Mr. Sudhir Kumar
Sharma

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: M.Sc (IT) 1st Year

Subject: Operating System Concepts

Paper : MS-42

Name of the Teacher: Sudhir Kumar Sharma

Period : 1st and 6th

Room No : LAB -3 (IT Block)

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	Introduction to Operating System: History, Structure of OS, Functions/ Operations of OS, Types: Single User, Multi-user, Simple Batch Processing, Multiprogramming, Multitasking, Parallel systems, Distributed system, Real time system.
Week 2	21-08-2023 to 26-08-2023	Process Management: Process, Process state, Process Control Block; Process scheduling: Scheduling queues, Schedulers, Context switch; Operation on process: Process creation and termination; interrupt mechanism, threads,
Week 3	28-08-2023 to 02-09-2023	Scheduling Algorithms: Pre-emptive and non pre-emptive scheduling, FCFS, SJFS, RRS, priority scheduling, Multilevel queue scheduling, Multilevel feedback queue scheduling, Inter process communication: Shared memory systems, Message passing systems.
Week 4	04-09-2023 to 09-09-2023	Process Synchronization: Concurrent Processes, Race condition, Shared data; Critical section problem: Mutual exclusion, Progress, Bounded waiting; Software solution: Busy form of waiting, lock and unlock primitives,
Week 5	11-09-2023 to 16-09-2023	Peterson's solution; Synchronization: Semaphores, Monitors, Reader Writer Problem, Producer Consumer Problem, Dining Philosopher Problem.
Week 6	18-09-2023 to 23-09-2023	System Deadlock: System Model; Deadlock Characterization: Necessary conditions, Resource Allocation graph; Deadlock prevention: Mutual Exclusion, Hold and Wait, No Preemption, Circular wait;
Week 7	25-09-2023 to 30-09-2023	Deadlock Avoidance: Safe state, unsafe state, Resource Allocation graph Algorithm, Banker's Algorithm; Deadlock Detection & Recovery from deadlock: Wait-for-graph
Week 8	03-10-2023 to 07-10-2023	Memory Management: Hierarchy of memory types, Cache memory: Types: Associative memory, direct mapped, set associative. Memory Allocation: Address binding, Address Space, Memory Protection, Contiguous and Non- Contiguous allocation,
Week 9	09-10-2023 to 14-10-2023	Swapping, Fragmentation; Paging: Protection, Shared pages, Techniques for structuring of page table; Segmentation: Segmentation with paging;
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Virtual Memory: Demand paging; Page replacement Algorithms: FIFO, Optimal, LRU, LFU, MFU, Working set, Thrashing;

Week 11	31-10-2023 to 04-11-2023	Storage Management: File(s): Attributes, Operations, Types, Structure; Access Methods: Sequential, Direct access
Week 12	06-11-2023 to 11-11-2023	Index; Directory Structure: Single level, Two level, Tree Structured, Acyclic Graph; File System mounting; File sharing; Protection: Types of access, access control.
Week 13	14-11-2023 to 18-11-2023	File system structure, File system implementation, Directory implementation, Allocation methods:
Week 14	20-11-2023 to 25-11-2023	Contiguous Allocation, Linked Allocation, Indexed Allocation; Disk scheduling:
Week 15	28-11-2023 to 30-11-2023	FCFS, SSTF, SCAN, C-SCAN, LOOK; Disk management; Swap space management; RAID.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: M.Sc (IT) 1st Year
Subject: Software Engineering
Paper : MS-61

Name of the Teacher: Sudhir Kumar Sharma
Period : 4th
Room No : Lab 3 (IT Block)

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	Introduction to Software Engineering: Definition, Software Engineering goals, Characteristics of well-engineered software, Software Process Models: Waterfall Model, Prototyping Model, Spiral Model, RAD, Agile Modelling.
Week 2	21-08-2023 to 26-08-2023	Software Requirement Specification (SRS): Software Requirements, Definition of SRS, Characteristics of SRS, Components of SRS, Designing of SRS.
Week 3	28-08-2023 to 02-09-2023	System Analysis: Principles of Structures Analysis, DFDs, E-R Diagrams, Data Dictionary.
Week 4	04-09-2023 to 09-09-2023	Software Design: Design Objectives, Design Principles, Concepts, Design Process,
Week 5	11-09-2023 to 16-09-2023	Design Methodologies: Structured Design, Modular Design, Object Oriented Design, User Interface Design and its elements and its Characteristics.
Week 6	18-09-2023 to 23-09-2023	Software Project Planning & Scheduling: Objectives, Decomposition techniques, Planning and Scheduling Tools: GANTT Chart, PERT Chart, Critical Path Method and Work Breakdown Structure;
Week 7	25-09-2023 to 30-09-2023	Cost estimation, Cost estimation Models: Single Variable Model, COCOMO Model; Software Risks, Risk Assessment.
Week 8	03-10-2023 to 07-10-2023	Software Metrics: Role of Metrics and Measurement, Types of Software Metrics: Product
Week 9	09-10-2023 to 14-10-2023	Metrics, Software Size Metrics: LOC and Function Points, Process Metrics, People Metrics. System Maintenance and Reliability:
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Maintenance and its types; Factors Affecting Software Reliability, Software Reliability vs Hardware Reliability, Software Reliability Metrics.
Week 11	31-10-2023 to 04-11-2023	Software Testing Techniques: Introduction to Software Testing Process, Objectives of Software Testing. BBT & its Techniques:
Week 12	06-11-2023 to 11-11-2023	Boundary Value Analysis, Equivalence Class Testing, and Cause-Effect Graph,
Week 13	14-11-2023 to 18-11-2023	White-Box Testing and its Techniques: Domain and Boundary Testing,
Week 14	20-11-2023 to 25-11-2023	Logic Based Testing, Data Flow Testing and Basic Path Testing
Week 15	28-11-2023 to 30-11-2023	Software Testing Strategies: Characteristics, Integration Testing, Functional Testing, Object Oriented Testing, Alpha and Beta Testing.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)

Session (2023-2024)

Class: PGDCA 1ST

Subject: Computer Fundamentals

Paper :PGD-1101

Name of the Teacher:Sudhir Kumar Sharma

Period : 2nd and 5th

Room No : 201

S. No	Dates	Topics to be covered
Week 1	16-08-2023 to 19-08-2023	Basics of Computers: Characteristics of computer; History of computers; classification of computers based on size, architecture, and chronology;
Week 2	21-08-2023 to 26-08-2023	Applications of computers; Hardware, Software, and Firmware. Types of software: System and Application software; Input, Process and Output, Block diagram of a computer.
Week 3	28-08-2023 to 02-09-2023	Representation of information: BIT, BYTE, Memory, Memory size; RAM, ROM, PROM, EPROM,
Week 4	04-09-2023 to 09-09-2023	Magnetic tapes, Disks, Organization of data on disks: Tracks, sectors, cylinders, heads, access time, seek time and latency time.
Week 5	11-09-2023 to 16-09-2023	ASCII and EBCDIC Codes, Binary, Octal, Decimal and Hexadecimal Number Systems and their Conversion, Integer and Floating Point Representation Input/Output devices.
Week 6	18-09-2023 to 23-09-2023	Disk Operating System: Booting sequence; Warm and Cold Booting;Concept of File and directory,
Week 7	25-09-2023 to 30-09-2023	Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL;
Week 8	03-10-2023 to 07-10-2023	External Commands: XCOPY, ATTRIB, BACKUP, RESTORE,FORMAT, DISKCOPY, Introduction to CONFIG.SYS and AUTOEXEC.BAT files.
Week 9	09-10-2023 to 14-10-2023	Windows: GUI, Icons, Toolbar, Control panel, Files and folder management under windows , Accessories, Network Neighborhood, System Tools, Recycle Bin , LINUX: Overview of LINUX structure, Basic Linux commands such as date, echo, cal, bc, passwd, File and Directory commands such as ls, mkdir, pwd, cd, rmdir, cat, cp, mv, rm Understanding File Access Permissions using chmod, chown, chgrp. Comparison of main features of DOS, LINUX and Windows Operating Systems.
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 10	25-10-2023 to 27-10-2023	Word Processing Software: creating, opening, saving, and printing document, Menu , Toolbars, Editing Text: Copy, Paste, Delete, Move etc., Finding and Replacing Text, Spell Check, Autocorrect feature, language setting and thesaurus

Week 11	31-10-2023 to 04-11-2023	Formatting: Character, Paragraph and Page formatting, working with indents, Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns, Working with tables: Inserting/creating table using toolbar and drawing, formatting table, adding/deleting rows/columns, Applying borders to tables
Week 12	06-11-2023 to 11-11-2023	Clipart: Using clip art, Creating Word Art Mail merge: Creating merged envelopes, creating merged mailing labels
Week 13	14-11-2023 to 18-11-2023	Spreadsheet Software : Worksheet overview: Row, Column, Cells, Menus, creating, opening, saving, and printing worksheet; working with Range , Editing information: Entering text, numbers and formulae, AutoSum, AutoFill, spell checking ,
Week 14	20-11-2023 to 25-11-2023	Working with Functions: Statistical, Mathematical and String functions, date and Time functions, Trigonometric functions , Working with charts: Line graphs, Pie charts, Bar graphs, adding Titles, Legends etc. to charts, Printing Charts
Week 15	28-11-2023 to 30-11-2023	Presentation Software: Basic features, selecting design templates, creating, saving and printing a simple presentation, various views, Adding pictures, shapes, clipart, audio and movie.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Undergraduate Classes - First Year)

Session (2023-2024)

Class: BCA 1ST

Name of the Teacher: Sudhir Kumar Sharma

Subject: Computer Fundamentals and Computing Software Period : 2nd and 5th

Paper :BCA-16-103

Room No : 201

S. No	Dates	Topics to be covered
Week 1	21-07-2023 to 22-07-2023	Computer Appreciation: Introduction to computers, characteristics of computer; History of computers; Classification of computers on size: (Micro, Mini, Mainframe and super computers), Working Principles, Generations; Applications of computers; commonly used terms– Hardware, Software, Firmware.
Week 2	24-07-2023 to 28-07-2023	Basic Computer Organization: Block diagram of computer system, Input unit, Processing Unit and Output Unit; Description of Computer input devices: Keyboard, Mouse, Trackball, Pen, Touch screens, Scanner, Digital Camera; Output devices: Monitors, Printers, Plotters.
Week 3	31-07-2023 to 05-08-2023	Computer Memory: Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement of storage; Main memory: Storage evaluation criteria, main memory organization, RAM, ROM, PROM, EPROM;
Week 4	07-08-2023 to 12-08-2023	Secondary storage devices: Sequential Access Memory, Direct Access Memory Magnetic Tapes, Magnetic disks, Optical disks: CD, DVD; Memory storage devices: Flash Drive, Memory card;
Week 5	14-08-2023 to 19-08-2023	Types of software: System and Application software; Programming Languages: Generation of Languages; Translators - Interpreters, Compilers, Assemblers and their comparison.
Week 6	21-08-2023 to 26-08-2023	Understanding Operating System using DOS : Introduction to operating systems and its functions, DOS and versions of DOS, Booting sequence; Warm and Cold Boot; Concepts of files and directories, Redirecting command input and output using pipes, Wildcard characters,
Week 7	28-08-2023 to 02-09-2023	Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL;
Week 8	04-09-2023 to 09-09-2023	External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FIND, SYS, FORMAT, CHKDSK, DISKCOPY, LABEL, MOVE, TREE, DELTREE, DEFRAG, SCANDISK, UNDELETE.
Week 9	11-09-2023 to 16-09-2023	Batch Files: Introduction to simple batch files; Introduction to CONFIG.SYS and AUTOEXEC.BAT files.
Week 10	18-09-2023 to 23-09-2023	Understanding Graphical User Interface using Windows: Fundamentals of Windows,
Week 11	25-09-2023 to 30-09-2023	Types of Windows, Anatomy of windows, Icons, Recycle bin, Operations on Folders, Registry of Windows: Basics, Editing; Control panel.
Week 12	03-10-2023 to 07-10-2023	Word Processing Package: Opening, saving and closing an existing document; renaming and deleting files; Using styles

		and templates: Introduction to templates and styles; applying, modifying and creating new (custom) styles; using a template to create a document, creating a template, editing a template, organizing templates, examples of style use, Changing document views, Moving quickly through a document,
Week 13	09-10-2023 to 14-10-2023	Working with text: select, cut, copy, paste, find and replace, inserting special characters, setting tab stops and indents, Checking spelling and Grammar, Autocorrect, Using built-in language tools, word completion, Autotext, Formatting text: Using Styles, formatting paragraphs, formatting characters, auto-formatting, creating lists; Formatting pages:
Mid Semester Exam (16th October 2023 – 21st October, 2023)		
Week 15	25-10-2023 to 27-10-2023	Using layout methods, creating headers and footers, Numbering pages, Changing page margins, Adding comments to a document, Creating a table of contents, Creating indexes and bibliographies, Printing a document, Using mail merge, Tracking changes to a document, Using fields, Linking to another part of a document, Using master documents, Creating fill-in forms.
Week 16	31-10-2023 to 04-11-2023	Spreadsheet Package: Introduction to Spreadsheets, sheets and cells; Opening and saving spreadsheet files; Working with sheets: inserting new sheet, deleting and renaming sheets, Viewing a spreadsheet: freezing rows and columns, splitting screen, Entering data: cell referencing, formatting cells, entering numbers, entering numbers as text, entering formulae, entering date and time, deactivating automatic changes, Speeding up data entry: using fill tool, fill series, defining fill series, Validating cell contents,
Week 17	06-11-2023 to 11-11-2023	Formatting data: formatting text, numbers, cells, Autoformatting cells and sheets, defining new autoformat, Using conditional formatting, Hiding and showing data, Sorting records, Printing a spreadsheet document: using print ranges, page formats, inserting page breaks, headers and footers; Working with Graphs and Charts : Creating Embedded Chart, formatting chart:
Week 18	14-11-2023 to 18-11-2023	Changing chart types, adding Titles, Legends and Gridlines, Printing Charts; Adding database functions: defining database ranges, sorting, filtering and grouping database ranges; Evaluating data: using DataPilot; Functions and Macros: using and editing existing macro, Creating Macros, Recording Macros, Running Macros.

		Presentation Packages: Basics of creating a presentation, Parts of main window, workspace views, creating a presentation, Incorporation of Animation.
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