Ms. Nidhi Goyal

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: M.Sc. IT – I (1st sem) **Name of the Teacher: Dr. Nidhi Goyal**
Subject: Computer Algorithm **Period : 4th**
Paper : **Room No : BCA Lab I**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Introduction to Data Structures: Definition, Types of Data Structures, Stacks and its operations(Push, Pop), Queue and its operations (Insert, Delete), Tree (Binary Tree, General Tree and its Traversal), Graph(Types and its Traversal).
Week 2	19-09-2022 to 24-09-2022	Algorithms and Analysis: Definition; Analysing algorithms; space and time complexity, Asymptotic Notation (O, Ω, θ)), Practical complexities, Best, average and worst case performance of algorithms, examples, Recursive algorithms, Introduction to recurrence relations.
Week 3	26-09-2022 to 01-10-2022	Divide and Conquer: General method, Binary search, Merge sort, Quick sort.
Week 4	03-10-2022 to 08-10-2022	Divide and Conquer: Selection problem, Strassen's matrix multiplication and analysis of these problems.
Week 5	10-10-2022 to 15-10-2022	Greedy Method: General Method, Knapsack problem, Job sequencing with deadlines
Week 6	17-10-2022 to 22-10-2022	Greedy Method: Minimum spanning Trees (Prim's Algorithm, Kruskal's Algorithm), Single source shortest paths and analysis of these problems.
Week 7	25-10-2022 to 27-10-2022	Revision of syllabus
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Dynamic Programming: General method, Optimal binary search trees, 0/1 Knapsack
Week 9	07-11-2022 to 12-11-2022	Dynamic Programming: the traveling salesperson problem, Single Source Shortest Path Problem (Bellman Ford Algorithm), All pair shortest path problem (Floyd's Algorithm).
Week 10	14-11-2022 to 19-11-2022	Back Tracking: General method, N queen's problem, Graph coloring. Hamiltonian cycles, Analysis of these problems.
Week 11	21-11-2022 to 26-11-2022	Branch-And-Bound: General Method, 0/1 Knapsack, Traveling Salesperson problems.
Week 12	28-11-2022 to 03-12-2022	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 13	05-12-2022 to 09-12-2022	NP-scheduling problems [Scheduling Identical Processors, Job Shop Scheduling].

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH
Teaching Plan Odd Semester (For Ongoing Classes UG-PG)
Session (2022-2023)

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 : 202**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Introduction, Types of Non-Linear Equations: Polynomial Equations, Transcendental Equations, Methods of Finding Solutions of Non-Linear equations: Direct Method, Iterative Method.
Week 2	16-08-2022 to 20-08-2022	Iterative Methods: Bisection Method, False-Position Method
Week 3	22-08-2022 to 27-08-2022	Secant Method, Newton - Raphson Methods, Zeros of a polynomial using Birge – Vieta Method. Convergence of Iterative Methods,
Week 4	29-08-2022 to 03-09-2022	Simultaneous Linear Equations: Solution of Simultaneous Linear Equations using Direct and Iterative Methods: Direct Methods: Gauss – Elimination Method
Week 5	05-09-2022 to 10-09-2022	Gauss-Jordan Method, Concept of Pivoting, Iterative Method: Gauss-Seidal Method
Week 6	12-09-2022 to 17-09-2022	Introduction to differentiation, integration and matrix algebra.
Week 7	19-09-2022 to 24-09-2022	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	26-09-2022 to 01-10-2022	Introduction, Types of Non-Linear Equations: Polynomial Equations, Transcendental Equations, Methods of Finding Solutions of Non-Linear equations: Direct Method, Iterative Method.
Week 9	03-10-2022 to 08-10-2022	Floating Point Arithmetic, Normalization and their consequences
Week 10	10-10-2022 to 15-10-2022	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 Relative Error and Significant digits and Error Propagation: Error Propagation in Addition Operation, Subtraction Operation, Multiplication Operation and Division Operation.
Week 11	17-10-2022 to 22-10-2022	Numerical Integration: Introduction, Newton-Cotes Integration Formulae: Trapezoidal Rule, Simpson's 1/3rd Rule, Simpson's 3/8th Rule.
Week 12	25-10-2022 to 27-10-2022	Revision of Syllabus
Mid Semester Exam (28th October 2022 – 4th November 2022)		

Week 13	5-11-2022	Solution of Ordinary Differential Equations: Introduction, Euler's Method, Runga–Kutta Methods: 2nd order & 4th order, Predictor Corrector Methods: Modified Euler's Method
Week 14	07-11-2022 to 12-11-2022	Approximation: Approximation of functions: Taylor Series Representation, Chebyshev Polynomials.
Week 15	14-11-2022 to 19-11-2022	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 16	21-11-2022 to 25-11-2022	Newton's Method of Interpolation: Newton' s Forward Difference Interpolation Formula, Newton' s Divided Difference Interpolation Formula.

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

Session (2022-2023)

Class: BCA I (1st sem) **Name of the Teacher: Dr. Nidhi Goyal**
Subject: Fundamentals of Mathematical Statistics **Period : 3rd**
Paper : BCA-16-102 **Room No : 201**

S. No	Dates	Topics to be covered
Week 1	16-08-2022 to 20-08-2022	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 2	22-08-2022 to 27-08-2022	Measures of Central Tendency: Kinds of measures of central tendency (statistical averages or averages):
Week 3	29-08-2022 to 03-09-2022	Arithmetic Mean: Simple Arithmetic Mean, Methods of calculating Simple Arithmetic Mean, Arithmetic Mean in case of Individual Series, Discrete series and continuous series,
Week 4	05-09-2022 to 10-09-2022	Weighted Arithmetic Mean, Combined Arithmetic Mean.
Week 5	12-09-2022 to 17-09-2022	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 6	19-09-2022 to 24-09-2022	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 7	26-09-2022 to 01-10-2022	Median: Methods of Calculating Median in case of Individual, Discrete series and continuous series
Week 8	03-10-2022 to 08-10-2022	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 9	10-10-2022 to 15-10-2022	Range: Computation of Range, Inter Quartile Range, Computation of Inter Quartile Range, Percentile Range and Computation of Percentile Range.
Week 10	17-10-2022 to 22-10-2022	Mean Deviation, Computation of Mean Deviation, Standard Deviation, Calculation of Standard Deviation, Variance, Calculation of Standard Deviation for individual Series, Discrete Series and 8 Continuous Series, Coefficient of Standard Deviation and coefficient of variation, Combined Standard Deviation, Correcting incorrect Standard Deviation
Week 11	25-10-2022 to 27-10-2022	Revision of Syllabus
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	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 14	07-11-2022 to 12-11-2022	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 15	14-11-2022 to 19-11-2022	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 16	21-11-2022 to 26-11-2022	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.

Dr. Monika Gogna

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: BCA 1st Sem **Name of the Teacher: Dr. Monika Gogna**
Subject: Problem Solving through C **Period : 6th(3-6)**
Paper : BCA-16-104 **Room No : 201**

S. No	Dates	Topics to be covered
Week 1	16-08-2022 to 20-08-2022	History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants,
Week 2	22-08-2022 to 27-08-2022	Variables, Data Types, rules for constructing variables. Operators and Expressions: C Instructions,
Week 3	29-08-2022 to 03-09-2022	Arithmetic operators, Relational operators, Logical operators, Assignment Operators,
Week 4	05-09-2022 to 10-09-2022	Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements
Week 5	12-09-2022 to 17-09-2022	Structure of a C program , Compilation and Execution. UNIT - II Decision Control Structure: Decision making with IF-statement, IF-Else
Week 6	19-09-2022 to 24-09-2022	Nested IFElse, The else if Clause. Loop Control Structure: While and do-while, for loop and Nested for loop
Week 7	26-09-2022 to 01-10-2022	Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging.
Week 8	03-10-2022 to 08-10-2022	Decision using switch, Thegoto statement. Functions: Library functions and user defined functions, Global and Local variables,
Week 9	10-10-2022 to 15-10-2022	Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C.
Week 10	17-10-2022 to 22-10-2022	Introduction, Array declaration, Accessing values in an array, Initializing values in an array, Single and Two Dimensional Arrays, Initializing a 2-Dimensional Array, Memory Map of a 2-Dimensional Array,
Week 11	25-10-2022 to 27-10-2022	Passing array elements to a function: Call by value and call by reference, Arrays of characters, Insertion and deletion operations, Searching the elements in an array, Using matrices in arrays, Passing an Entire Array to a Function.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	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 14	07-11-2022 to 12-11-2022	Dynamic Memory Allocation: malloc(), calloc(), realloc(), free() function. String Manipulation in C: Declaring and Initializing string variables, Reading and writing strings, String Handling functions(strlen(), strcpy(), strcmp(), strcat()).
Week 15	14-11-2022 to 19-11-2022	Declaration of structures, Structure Initialization, Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union.
Week 16	21-11-2022 to 26-11-2022	Files in C: Introduction, Opening and Closing files, Basic I/O operation on files.

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: BCA 3rd Sem Name of the Teacher: Dr.Monika Gogna & Dr.Nidhi Goyal
Subject: Information System Design and Implementation Period : 4th(1-2,5-6)
Paper : BCA-16-303 Room No : 202

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Definition and characteristics of a system. Elements of a system Environment: Boundaries and interface.
Week 2	16-08-2022 to 20-08-2022	System Performance-statement of Constraints, Identification of Specific System Objectives,
Week 3	22-08-2022 to 27-08-2022	Types of systems: Physical or Abstract Systems, Open and Closed System, Man - made information systems.
Week 4	29-08-2022 to 03-09-2022	description of Outputs. Feasibility Study – Feasibility considerations, Steps in feasibility analysis. Feasibility Report.
Week 5	05-09-2022 to 10-09-2022	Introduction to various phases-Recognition of Need, Feasibility Study, Analysis, Design, Implementation, Post– Implementation and Maintenance.
Week 6	12-09-2022 to 17-09-2022	The Process of Design-Logical and Physical Design, Design methodologies: Structured design, Functional Decomposition
Week 7	19-09-2022 to 24-09-2022	Skills of a System Analyst, various roles of the Analyst.,
Week 8	26-09-2022 to 01-10-2022	Testing, System testing, Quality assurance and its goals in its system life cycle, Levels of quality assurance, Trends in testing.
Week 9	03-10-2022 to 08-10-2022	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.
Week 10	10-10-2022 to 15-10-2022	Introduction, Conversion- Activity network for Conversion, File Conversion, User Training: Elements of user Training Post implementation review.
Week 11	17-10-2022 to 22-10-2022	Introduction, Information Gathering tools: Review of Literature, Procedures and forms. On -site observation. Interviews and questionnaires.
Week 12	25-10-2022 to 27-10-2022	Software Maintenance - Primary activities of a Maintenance Procedure, Reducing Maintenance Costs.
Mid Semester Exam (28th October 2022 – 4th November 2022)		

Week 13	5-11-2022	Various tools of structured analysis: Data flow diagram (DFD), Data Dictionary, Decision tree and structured English, Decision table, Pros and cons of each tools.
Week 14	07-11-2022 to 12-11-2022	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.
Week 15	14-11-2022 to 19-11-2022	Revision
Week 16	21-11-2022 to 25-11-2022	Revision

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: M.Sc(IT) 1st Sem **Name of the Teacher: Dr. Monika Gogna**
Subject: Operating System Concepts **Period : 6th(1) and 1st(4-6)**
Paper : MS-42 **Room No : Lab1**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	History, Structure of OS, Functions/ Operations of OS, Types: Single User, Multi-user, Simple Batch Processing
Week 2	19-09-2022 to 24-09-2022	Multiprogramming, Multitasking, Parallel systems, Distributed system, Real time system
Week 3	26-09-2022 to 01-10-2022	Process, Process state, Process Control Block; Process scheduling: Scheduling queues, Schedulers,
Week 4	03-10-2022 to 08-10-2022	Context switch; Operation on process: Process creation and termination; interrupt mechanism, threads,
Week 5	10-10-2022 to 15-10-2022	Scheduling Algorithms: Pre-emptive and non preemptive scheduling, FCFS, SJFS, RRS, priority scheduling, Multilevel queue scheduling, Multilevel feedback queue scheduling, Inter process communication: Shared memory systems, Message passing systems.
Week 6	17-10-2022 to 22-10-2022	Hierarchy of memory types, Cache memory: Types: Associative memory, direct mapped, set associative.
Week 7	25-10-2022 to 27-10-2022	Address binding, Address Space, Memory Protection, Contiguous and Non- Contiguous allocation, Swapping, Fragmentation; Paging: Protection, Shared pages,
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Techniques for structuring of page table; Segmentation: Segmentation with paging; Virtual 10 Memory: Demand paging; Page replacement Algorithms: FIFO, Optimal, LRU, LFU, MFU, Working set, Thrashing;
Week 9	07-11-2022 to 12-11-2022	File(s): Attributes, Operations, Types, Structure; Access Methods: Sequential, Direct access, Index; Directory Structure: Single level, Two level
Week 10	14-11-2022 to 19-11-2022	Tree Structured, Acyclic Graph; File System mounting; File sharing; Protection: Types of access, access control.
Week 11	21-11-2022 to 26-11-2022	File system implementation, Directory implementation, Allocation methods: Contiguous Allocation, Linked Allocation, Indexed Allocation;
Week 12	28-11-2022 to 03-12-2022	Disk scheduling: FCFS, SSTF, SCAN, C-SCAN, LOOK; Disk management; Swap space management; RAID.
Week 13	05-12-2022 to 09-12-2022	Revision

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: M.sc(IT) 3rd Sem **Name of the Teacher: Dr. Monika Gogna**
Subject: Theory of Computation **Period : 4th(1-4)**
Paper : MS-69 **Room No : Lab2**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Definition, Description of Automata, Transition Systems, Language, Grammar, Deterministic & Non-Deterministic Finite State Machines,
Week 2	16-08-2022 to 20-08-2022	Equivalence of DFA and NDFA, Finite State Machine with output (Moore Machine and Meally Machine),
Week 3	22-08-2022 to 27-08-2022	Conversion of Moore Machine to Meally Machine & vice-versa
Week 4	29-08-2022 to 03-09-2022	Minimization of Finite Automata.
Week 5	05-09-2022 to 10-09-2022	Chomsky Classification of Languages, Languages and their Relations, Languages and Automata.
Week 6	12-09-2022 to 17-09-2022	Regular Expressions, Finite Automata and Regular Expressions, Conversion of NDFA to DFA, Arden's Theorem,
Week 7	19-09-2022 to 24-09-2022	Construction of FA equivalent to Regular Expression,
Week 8	26-09-2022 to 01-10-2022	Equivalence of two Finite Automata, Equivalence of two Regular Expressions,
Week 9	03-10-2022 to 08-10-2022	Pumping lemma for Regular Sets and applications, Closure Properties of Regular Sets,
Week 10	10-10-2022 to 15-10-2022	Construction of Regular Grammar generating Transition System for a DFA,
Week 11	17-10-2022 to 22-10-2022	Construction of Transition System accepting Language for a Regular Grammar , limitations of finite state machine.
Week 12	25-10-2022 to 27-10-2022	Context free grammar, Simplification of Context Free Grammars, Normal Forms for Context Free Grammers: Chomsky Normal Form, Greibach Normal Form, Pumping Lemma, CYK algorithm.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	Push down stack machine, Design of deterministic and non-deterministic push-down stack, Parser design.
Week 14	07-11-2022 to 12-11-2022	Properties of LR(K) Grammar, Closure properties of Languages.

Week 15	14-11-2022 to 19-11-2022	Turing machine definition and design of Turing Machine, Church-Turing Thesis, Variations of Turing Machines, combining Turing machine, Universal Turing Machine, Post Machine, Chomsky Hierarchy, Halting problem, Post Correspondence problem.
Week 16	21-11-2022 to 25-11-2022	Revision

Dr. Anu Chawla

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: BCA III (5th Semester) **Name of the Teacher: Dr. Anu Chawla**
Subject: Discrete Mathematical Structure **Paper: BCA-16-502**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Introduction to set theory.
Week 2	16-08-2022 to 20-08-2022	Set Notation and Description, subset, basic set operations
Week 3	22-08-2022 to 27-08-2022	Venn Diagrams, laws of set theory, partitions of sets
Week 4	29-08-2022 to 03-09-2022	min sets, max sets, duality principle, Numerical implementations of set theory
Week 5	05-09-2022 to 10-09-2022	Graph Theory : Graph and planar graphs – Basic Terminology, Multi-graphs
Week 6	12-09-2022 to 17-09-2022	Weighted Graphs, Paths and Circuits
Week 7	19-09-2022 to 24-09-2022	Shortest Paths, Eulerian Paths and Circuits
Week 8	26-09-2022 to 01-10-2022	Travelling Salesman Problem, Planar Graphs
Week 9	03-10-2022 to 08-10-2022	Recurrence : Recurrence Relations and Recursive Algorithms – Linear-Recurrence Relations with Constant Coefficient
Week 10	10-10-2022 to 15-10-2022	Homogeneous Solutions : Particular Solution, Total Solution
Week 11	17-10-2022 to 22-10-2022	Non-Homogeneous Solutions : Particular Solution, Total Solution
Week 12	25-10-2022 to 27-10-2022	Solution by the Method of Generating functions.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	basic definitions of relations and functions, graphics of relations properties of relations: injective,
Week 14	07-11-2022 to 12-11-2022	surjective and bijective functions, compositions. Automata Theory : Finite State Machines–Equivalent Machines,
Week 15	14-11-2022 to 19-11-2022	Finite State Machines as language Recognizers Analysis of Algorithms - Time Complexity, Complexity of Problems.

Week 16	21-11-2022 to 25-11-2022	Revision

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: BCA II **Name of the Teacher:Dr. Anu Chawla**
Subject: Data Structures **Period : Lecture 1 (3-6)**
Paper : BCA-16-305 **Room No : 202**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Basic Concepts: Introduction to Complexity,
Week 2	16-08-2022 to 20-08-2022	Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures.
Week 3	22-08-2022 to 27-08-2022	Arrays: Introduction, Types of Array, Memory representation, Applications and operations
Week 4	29-08-2022 to 03-09-2022	Linked List: Operations:-traversing, searching, inserting, deleting, operations on header linked list,
Week 5	05-09-2022 to 10-09-2022	circular linked list, doubly linked list, memory representation,
Week 6	12-09-2022 to 17-09-2022	Applications, polynomial manipulation.
Week 7	19-09-2022 to 24-09-2022	Queue: Introduction, Types,
Week 8	26-09-2022 to 01-10-2022	Memory Representation and Applications.
Week 9	03-10-2022 to 08-10-2022	Stacks: Introduction, memory representation,
Week 10	10-10-2022 to 15-10-2022	Applications and operations, Recursion.
Week 11	17-10-2022 to 22-10-2022	Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree,
Week 12	25-10-2022 to 27-10-2022	Binary Tree Traversal, Searching, Insertion and deletion in Binary trees, Binary Search tree.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS)
Week 14	07-11-2022 to 12-11-2022	Trees – Definition and Basic concepts, Representation in Contiguous Storage, Binary Tree, Binary Tree Traversal,
Week 15	14-11-2022 to 19-11-2022	Searching, Insertion and deletion in Binary trees, Binary Search tree. Graphs: Introduction, Memory Representation, Graph Traversal (DFS and BFS)
Week 16	21-11-2022 to 25-11-2022	Revision

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: M.Sc. (IT) -I
Subject: Linux Administration and Programming
Paper : MS - 66

Name of the Teacher:Dr. Anu Chawla
Period : Lecture 2(1-4)
Room No : IT Block, Lab3

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Introduction to Linux: Functions of an operating system, Linux's History, different flavors of Linux, Minimum System Requirements for installing Linux:
Week 2	19-09-2022 to 24-09-2022	Using LILO; Linux's fdisk ,Using Linux: Starting and Stopping your Linux System,
Week 3	26-09-2022 to 01-10-2022	Linux Shutdown Commands, Login, Passwords; Linux Error Messages, Search Paths, Input and Output Redirection, Man pages, Wildcards: * and ?, Environment Variables, process Commands: ps, kill, su command;
Week 4	03-10-2022 to 08-10-2022	GREP pattern searching command, vi text-editor. 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;,
Week 5	10-10-2022 to 15-10-2022	Important directories in the Linux file System: / , /home, /bin, /usr, /usr/bin, /usr/spool, /dev, /usr/bin, /sbin, /etc. File and Directory Permissions: File and Directory ownership, User and ownership, Groups, Changing group ownership, File Permissions, UMASK Setting, Changing File Permission, Changing directory permissions; Bourne Again Shell (BASH): Command-line Completion, Wildcards, Command History, Aliases, Pipelines, setting shell prompts, Job control,
Week 6	17-10-2022 to 22-10-2022	Customizing bash, bash variable Shell Programming: Creating and Running Shell Programs, Using variables, Positional Parameters and other built-in Shell Variables; importance of quotation marks, test Command, Conditional Statements: if Statement, case Statement; Iteration Statements:
Week 7	25-10-2022 to 27-10-2022	for Statement, while Statement, until Statement, shift Command, select Statement, repeat Statement, Functions.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Linux for System Administrators: System Administration Basics, The root Account,
Week 9	07-11-2022 to 12-11-2022	Starting and Stopping the System; Mounting File Systems: Mounting a Device, Creating a New file System, Un-mounting file Systems, Checking file Systems, Compressing files with gzip and compress: Using tar, Backups, Setting the Login Message, Setting of DNS, Ping, WWW, and e-mail
Week 10	14-11-2022 to 19-11-2022	PERL: Creating and Executing Perl Programs, Handling Data in Perl: Variables, Numbers, Strings, File Operators: Arrays, Perl Programming Constructs: Statement Blocks, If Statements, unless Statements, for Statements,

Week 11	21-11-2022 to 26-11-2022	for each Statements, while Statements, until Statements, Functions: Passing Arguments to Functions, Using Return Values; Perl Operators.
Week 12	28-11-2022 to 03-12-2022	System Calls: C as System Programming Language, I/O system calls – umask(); create(); open(); read(); write(); lseek(); dup(); link(); access(); chmod(); chown();Process management system calls; fork(); getpid(); getppid(); exit(); wait(); sleep() ; Signal system calls – kill(); signal().
Week 13	05-12-2022 to 09-12-2022	Revision

Ms. Sheenam

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: PGDCA 1st Sem. **Name of the Teacher: Sheenam**
Subject: Data Base Management System **Period :5th(1-6), 6th (1-6)**
Paper :PGD-1103 **Room No : Lab4**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Introduction to Database and file oriented approach, Difference between Database and file oriented approach, DBMS Terminology.
Week 2	19-09-2022 to 24-09-2022	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	26-09-2022 to 01-10-2022	Introduction to Data Models, Entity Relationship Model, Entities, Attributes, E-R Diagrams, Conceptual Design of a relational data base model.
Week 4	03-10-2022 to 08-10-2022	Comparison of Network, Hierarchical and Relational Model. Client/Server Architecture-Introduction, advantages ,disadvantages, Comparison with DBMS.
Week 5	10-10-2022 to 15-10-2022	Distributed Databases, Structure and Design of Distributed Databases .Advantages and disadvantages of DDBMS. Framework of DDBMS.
Week 6	17-10-2022 to 22-10-2022	Data Types, Creating Tables, Creating a Table with data from Another table, Inserting Values into a Table, Updating Column(s) of a Table,
Week 7	25-10-2022 to 27-10-2022	Deleting Row(s) from a Table, Dropping a Column, Querying database tables,Querying Multiple Tables using Equi-Joins, Cartesian Joins,Outer Joins, Self-Joins, SET Operators: Union, Intersect, Minus
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Conditional retrieval of rows, Working with Null Values, Matching a pattern from a table,Functions: Character Functions, Date Functions, Group Functions,
Week 9	07-11-2022 to 12-11-2022	Ordering the result of a Query Aggregate Functions, Grouping the Result,Relational Model : Storage organization for Relations,
Week 10	14-11-2022 to 19-11-2022	Relational Algebra, Relational Calculus, Concurrency –Introduction, Locking technique, Concurrency control mechanism
Week 11	21-11-2022 to 26-11-2022	Functional dependencies, multivalued dependencies.
Week 12	28-11-2022 to 03-12-2022	Normalizations- Introduction, Concept of 1st, 2nd, 3rd, 4th Normal forms with their anomalies.
Week 13	05-12-2022 to 09-12-2022	Database Integrity-Introduction, concepts, Security, Different types of security mechanism

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: M.Sc(IT) 3rd sem **Name of the Teacher: Sheenam**
Subject: Computer Graphics **Period :2nd (4-6) , 3rd (1-3,5-6)**
Paper : MS-39 **Room No : Lab2**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Introduction to Computer Graphics,
Week 2	16-08-2022 to 20-08-2022	Display Devices, Display Processors, Character Generation.Line Drawing algorithms-Direct method, DDA method of line drawing.
Week 3	22-08-2022 to 27-08-2022	Bresenham's line drawing algorithm Interactive graphical techniques: Positioning, (Elastic or Rubber Band lines, Inking, zooming, panning)
Week 4	29-08-2022 to 03-09-2022	Circle drawing algorithm- 2-point, 4-point, trigonometric method, 8-point.Midpoint and Bresenham's circle drawing algorithm.
Week 5	05-09-2022 to 10-09-2022	Homogeneous coordinate system;.Basic Transformations-Translation, Rotation,Scaling,Reflection, Shear, composite transformation like- Rotation about an Arbitrary Point, Reflection through an Arbitrary Line;
Week 6	12-09-2022 to 17-09-2022	Basic Graphical functions; Mouse Programming, Graphic Languages: Primitives (Constants, actions, operators, variables)
Week 7	19-09-2022 to 24-09-2022	Window to viewport coordinate transformation. Clipping: introduction to Point clipping .Line clipping algorithms: Cohen-Sutherland,Liang-Barsky, Polygon Clipping line clipping algorithm.
Week 8	26-09-2022 to 01-10-2022	transformation of points and unit square.Animated algorithms for sorting, Towers of Hanoi.
Week 9	03-10-2022 to 08-10-2022	Three Dimensional Display Methods, Parallel Projection, Perspective Projection;
Week 10	10-10-2022 to 15-10-2022	Translation, Rotation, Scaling, Composite Transformation;
Week 11	17-10-2022 to 22-10-2022	Hidden line and surface elimination-Z-buffer, back face, scan line, depth sorting.
Week 12	25-10-2022 to 27-10-2022	Representation of Space Curves, Cubic Splines, Bezier Curves, B-spline Curves

Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	B-spline Curve Fit
Week 14	07-11-2022 to 12-11-2022	B-spline Curve Subdivision , Parametric Cubic Curves, Quadric Surfaces. Bezier Surfaces
Week 15	14-11-2022 to 19-11-2022	Concept of Animation, Saving, Loading and Printing graphics images from/to disk.
Week 16	21-11-2022 to 25-11-2022	Display subroutines, plotting and geometric transformations,

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

Session (2022-2023)

Class: BCA 5th sem **Name of the Teacher:Sheenam**
Subject: Computer Networks **Period : 2nd (1-2),4th (3-4)**
Paper : BCA-16-501 **Room No : 101(I T Block)**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Network Hardware and Software,
Week 2	16-08-2022 to 20-08-2022	Network Topologies, Uses of Computer Networks, OSI Reference Model, TCP/IP reference model,
Week 3	22-08-2022 to 27-08-2022	Comparison of OSI with TCP/IP model.Transmission media: Twisted pair, Coaxial cable, Fiber optics, Wireless Transmission (Radio, Microwave, and Infrared)
Week 4	29-08-2022 to 03-09-2022	Switching: Circuit Switching, Message Switching, Packet Switching & their comparisons. ISDN and its services
Week 5	05-09-2022 to 10-09-2022	Multiplexing: Frequency Division, Time Division, Wave Length Division, MODEMS.
Week 6	12-09-2022 to 17-09-2022	Design Issue, Framing, Errors Detection and Correction Code: Check sum, CRC, Hamming code, Data Link Protocols for noisy and noiseless channels,
Week 7	19-09-2022 to 24-09-2022	Sliding Window Protocol: Stop and Wait ARQ, Go-back-N ARQ, Selective Repeat ARQ.
Week 8	26-09-2022 to 01-10-2022	Introduction to Static and Dynamic channel allocation, IEEE standards 802.3.
Week 9	03-10-2022 to 08-10-2022	Design Issues, network layer addressing, network layer datagram, IP addressed Classes.
Week 10	10-10-2022 to 15-10-2022	Sub netting-Sub network, Subnet mask, Routing Algorithm: Shortest Path Routing, Flooding,
Week 11	17-10-2022 to 22-10-2022	Broadcast and Multicast routing, Congestion control: Principles of Congestion Control, Congestion
Week 12	25-10-2022 to 27-10-2022	prevention policies, Leaky bucket and token bucket algorithms.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	Domain Name system (DNS)

Week 14	07-11-2022 to 12-11-2022	DNS name space, DNS Servers, World Wide Web, HTTP, e-mail: Architecture and Services, Message Component,
Week 15	14-11-2022 to 19-11-2022	Multipurpose Internet Mail Extensions (MIME), Simple Mail Transfer Protocol (SMTP), Post Office Protocol (POP),
Week 16	21-11-2022 to 25-11-2022	Remote Login and File transfer protocol, Introduction to Network Security.

Ms. Jasdeep Kaur

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

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

Session (2022-2023)

Class: BCA 5th semester **Name of the Teacher: Jasdeep Kaur**
Subject: Java Programming **Period :2nd**
Paper : BCA-16-503 **Room No : 101**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Java and the Internet: The Java programming language and its characteristics; Java development kit, Java run- time environment; Java compiler Fundamentals of Java: Java Vs. C++, Byte Code, Java Virtual Machine.
Week 2	16-08-2022 to 20-08-2022	constants, variables, data types, operators, expressions, control structures.
Week 3	22-08-2022 to 27-08-2022	defining class, creating objects, accessing class members, constructors, Garbage Collection, method overloading.
Week 4	29-08-2022 to 03-09-2022	Inheritance: Different types of Inheritance, member access, using super keyword to call super class constructors, creating a multilevel hierarchy, method overriding, dynamic method dispatch, using abstract classes, using Final keyword.
Week 5	05-09-2022 to 10-09-2022	Arrays and Strings: One-dimensional and two-dimensional Arrays, String Handling using String and StringBuffer class, String Functions.
Week 6	12-09-2022 to 17-09-2022	Packages: Types of packages, defining a package, Importing packages.
Week 7	19-09-2022 to 24-09-2022	Access protection Interfaces: Defining an Interface, Implementing Interfaces, Variables in Interfaces, achieving multiple inheritance using interfaces, Interface and Abstract classes
Week 8	26-09-2022 to 01-10-2022	String Handling using String and StringBuffer class, String Functions
Week 9	03-10-2022 to 08-10-2022	Packages: Types of packages, defining a package. Importing packages, Access protection
Week 10	10-10-2022 to 15-10-2022	Output. Arrays and Strings: One-dimensional and two-dimensional Arrays
Week 11	17-10-2022 to 22-10-2022	I/O Basics: streams, the predefined streams; Reading console Input, Writing console
Week 12	25-10-2022 to 27-10-2022	Exception Handling: Java Exception handling model, Types of exception, using Try and catch, Multiple Try and Catch clauses, Nested Try statements, finally block.
Mid Semester Exam (28th October 2022 – 4th November 2022)		

Week 13	5-11-2022	Multi-threaded Programming: The Java Thread model, the Thread class and Runnable interface, Creating a Thread using Runnable Interface and extending Thread.
Week 14	07-11-2022 to 12-11-2022	User defined exceptions., Creating Multiple Threads, Thread Priorities, Synchronizations: Methods, Statements, Inter Thread Communication, Deadlock, Suspending, Resuming and Stopping Threads.
Week 15	14-11-2022 to 19-11-2022	Applet Programming: Introduction, Types of applet, Life Cycle, Incorporating an applet into web page using Applet. Running applets, using Graphics class and its methods to draw lines.
Week 16	21-11-2022 to 25-11-2022	Methods to draw: Tagrectangles, circles, ellipses, arcs and polygons. Using AWT controls: Introduction to AWT, Creating GUI Applications using AWT AWT controls: Label, TextBox, TextArea.

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

Session (2022-2023)

Class: PGDCA 2nd sem **Name of the Teacher: Jasdeep Kaur**
Subject: Computer prog. using C **Period: 1st**
Paper: PGD-1102 **Room No: Lab 4**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Programming Process: Steps in developing of a program, Data Flow Diagram,
Week 2	19-09-2022 to 24-09-2022	Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging. Fundamentals of C Languages: History of C, Character Set, Identifiers and Keywords, Constants, Types of C Constants.
Week 3	26-09-2022 to 01-10-2022	Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables. Header files, Storage Classes: automatic, register, external, static.
Week 4	03-10-2022 to 08-10-2022	Operators and Expressions Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators.
Week 5	10-10-2022 to 15-10-2022	Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted Statements, Structure of a C program, Compilation and Execution.
Week 6	17-10-2022 to 22-10-2022	Decision Control Structure: Decision making with IF-statement, IF-Else and Nested IF-Else, The else if Clause, Loop Control Structure: While and do-while, for loop and
Week 7	25-10-2022 to 27-10-2022	Nested for loop, Case Control Structure: Decision using switch, The goto statement.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Arrays: Introduction, Array declaration, accessing values in an array, Initializing values in an array, Single- and Two-Dimensional Arrays. Initializing a 2-Dimensional Array, Memory Map of a 2-Dimensional Array
Week 9	07-11-2022 to 12-11-2022	Passing array elements to a function: Call by value and call by reference, Arrays of characters, Insertion and deletion operations.
Week 10	14-11-2022 to 19-11-2022	Functions: Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function, Methods of parameter passing to functions, recursion, Storage Classes in C. Searching the elements in an array, using matrices in arrays, Passing an Entire Array to a Function.
Week 11	21-11-2022 to 26-11-2022	Pointers: 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. Preprocessors.
Week 12	28-11-2022 to 03-12-2022	Structures and Unions: Declaration of structures, Structure Initialization, Accessing structure members, Arrays of structure, Nested structures, Structure with pointers, Union.

Week 13	05-12-2022 to 09-12-2022	Files operations: Opening and Closing files, Basic I/O operation on files. Console I/O, formatted functions sprint(),sscanf(),gets(),puts(),

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

Session (2022-2023)

Class: MSc (IT) 3rd sem **Name of the Teacher: Jasdeep Kaur**
Subject: Systems Approach to Management and Optimization Tech
Period :6th
Paper: MS-14 **Room No :202**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Concepts of Computer Based Systems: Data, Information, Information Systems.
Week 2	16-08-2022 to 20-08-2022	Model of computer-based information system.
Week 3	22-08-2022 to 27-08-2022	Basics of Operations Research (OR): Origin and Development of OR, Characteristics of OR, Models in OR, OR.
Week 4	29-08-2022 to 03-09-2022	Decision Making, Role of Computers in OR, Limitations of OR
Week 5	05-09-2022 to 10-09-2022	Linear Programming: Mathematical Formulation, Graphical representation
Week 6	12-09-2022 to 17-09-2022	Introduction to Management Information System, Decision Support System and Knowledge Based Systems.
Week 7	19-09-2022 to 24-09-2022	Simplex method.
Week 8	26-09-2022 to 01-10-2022	Accounting Information System: Characteristics, sample system, subsystems for filling customer order. order replenishment stock, performing general ledger processes; features. Tally
Week 9	03-10-2022 to 08-10-2022	Marketing Information System: Basic concepts, model, subsystems including Marketing Research, Marketing Intelligence, Product, Place, Promotion and Pricing subsystems.
Week 10	10-10-2022 to 15-10-2022	Simplex method, Duality in Linear programming, Dual Simplex Method
Week 11	17-10-2022 to 22-10-2022	The Revised Simplex Method, Sensitivity Analysis
Week 12	25-10-2022 to 27-10-2022	Special types of Linear Programming problems: Transportation.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	Dynamic Programming: Deterministic & Probabilistic Dynamic Programming. Manufacturing Information System: Model and subsystems including Accounting information, Industrial Engineering, Inventory, Quality and Cost Subsystems
Week 14	07-11-2022 to 12-11-2022	Financial Information System: Model and Subsystems including Forecasting, Funds Management and Control Subsystems. LPP Assignment Problems.
Week 15	14-11-2022 to 19-11-2022	Integer Programming: Introduction, Branch and Bound Techniques. Binary Linear Programming, Assignment and Traveling salesman problems.

Week 16	21-11-2022 to 25-11-2022	Human Resources Information Systems: Model and Subsystems including human resources research. Human resources intelligence, HRIS Database, HRIS output. UNI

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

Session (2022-2023)

Class: MSc.IT -3rd **Name of the Teacher: Sarbjit Kaur**
Subject: NET FRAMEWORK AND C# **Period :4(Mon-Fri),7(Mon-Sat)**
Paper : MS - 32 **Room No : Lab2**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	The .NET strategy, the origins of the .NET technology, the .NET framework, the common language runtime, framework base classes
Week 2	16-08-2022 to 20-08-2022	user and programs interface, visual studio .NET, .NET languages, benefits of the .NET approach.
Week 3	22-08-2022 to 27-08-2022	Introducing C#, Overview of C#, Literals, Variables, Data Types
Week 4	29-08-2022 to 03-09-2022	Operators, Expressions, Branching, Looping
Week 5	05-09-2022 to 10-09-2022	Methods, Arrays, Strings, Structures,
Week 6	12-09-2022 to 17-09-2022	Enumerations, difference between C++ and C#, difference between Java and C#
Week 7	19-09-2022 to 24-09-2022	Classes, Objects, Inheritance, Polymorphism, Interfaces,
Week 8	26-09-2022 to 01-10-2022	Operator Overloading, Delegates, Events, Errors and Exceptions.
Week 9	03-10-2022 to 08-10-2022	I/O: System. I/O, Streams, TextWriter, TextReader, BinaryWriter, Binary Reader, File Stream, File
Week 10	10-10-2022 to 15-10-2022	Writing Windows Forms Applications: Understanding Windows Forms, Window form controls, Menus, MDI Forms
Week 11	17-10-2022 to 22-10-2022	Using Inheritance in Windows Forms, Using Common Dialog Controls, Deploying Windows Forms Applications
Week 12	25-10-2022 to 27-10-2022	Introduction to deployment, Click Once deployment, Creating an Installation Package for project
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	Introduction to ASP.NET, Using Validation Controls, Managing State in ASP.NET Web Applications
Week 14	07-11-2022 to 12-11-2022	Deploying ASP.NET Applications with Windows Installer.

Week 15	14-11-2022 to 19-11-2022	ADO .NET Architecture, Components, Database, DataReader, DataAdapter, DataSet
Week 16	21-11-2022 to 25-11-2022	Viewing data using Data Grid View Control, Creating Applications.

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

Session (2022-2023)

Class: PGDCA **Name of the Teacher: Sarbjit Kaur**
Subject: Computer Fundamental **Period :2(Mon-Sat)**
Paper : 1101 **Room No : Lab 4**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Characteristics of computer; History of computers; classification of computers based on size, architecture, and chronology; Applications of computers; Hardware, Software, and Firmware. Types of software: System andApplication software; Input, Process and Output, Block diagram of a computer.
Week 2	19-09-2022 to 24-09-2022	BIT, BYTE, Memory, Memory size; RAM, ROM, PROM, EPROM, Magnetic tapes, Disks, Organization of data on disks: Tracks, sectors, cylinders, heads, access time, seek time and latency time.
Week 3	26-09-2022 to 01-10-2022	ASCII and EBCDIC Codes, Binary, Octal, Decimal and Hexadecimal Number Systems and their Conversion, Integer and Floating Point Representation Input/Output devices
Week 4	03-10-2022 to 08-10-2022	GUI, Icons, Toolbar, Control panel, Files and folder management under windows , Accessories, Network Neighborhood, System Tools, Recycle Bin
Week 5	10-10-2022 to 15-10-2022	Booting sequence; Warm and Cold Booting;Concept of File and directory, Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL; External Commands: XCOPY, ATTRIB, BACKUP, RESTORE,FORMAT, DISKCOPY, Introduction to CONFIG.SYS and AUTOEXEC.BAT files.
Week 6	17-10-2022 to 22-10-2022	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
Week 7	25-10-2022 to 27-10-2022	Understanding File Access Permissions using chmod, chown, chgrp. Comparison of main features of DOS, LINUX and Windows Operating Systems.
Mid Semester Exam (28th October 2022 – 4th November 2022)		

Week 8	5-11-2022	Basics of Word Processing: 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 Formatting: Character, Paragraph and Page formatting, working with indents, Bulleted and numbered lists, adding Headers and Footers, setting up Multiple Columns
Week 9	07-11-2022 to 12-11-2022	Working with tables: Inserting/creating table using toolbar and drawing, formatting table, adding/deleting rows/columns, Applying borders to tables Clipart: Using clip art, Creating Word Art Mail merge: Creating merged envelops, creating merged mailing labels
Week 10	14-11-2022 to 19-11-2022	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 11	21-11-2022 to 26-11-2022	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 12	28-11-2022 to 03-12-2022	Basic features, selecting design templates, creating, saving and printing a simple presentation
Week 13	05-12-2022 to 09-12-2022	various views, Adding pictures, shapes, clipart, audio and movie.

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

Session (2022-2023)

Class: BCA-5th Sem. **Name of the Teacher: Sarbjit Kaur**
Subject: Web Application Development using PHP **Period :3(Mon),6(Thus-Sat)**
Paper : BCA-16-504 **Room No : 101**

S. No	Dates	Topics to be covered
Week 1	13-08-2022	Client Side Scripting Vs Server Side Scripting, Understanding Web Servers: Local Servers and Remote Servers
Week 2	16-08-2022 to 20-08-2022	Installing WAMP and configuring PHP environment, Static website Vs Dynamic website development, Embedding PHP code in Web Pages
Week 3	22-08-2022 to 27-08-2022	Tokens, Variables, Variable Scope, Constants, Data Types, number handling in PHP, operands, operators, expressions, operator precedence, comments, echo and Print statement
Week 4	29-08-2022 to 03-09-2022	Branching statements: if-else, ternary operator, switch; looping statements: while, do-while, for; file inclusion Statements
Week 5	05-09-2022 to 10-09-2022	Functions: Function definition, Creating and invoking user-defined functions, Formal parameters versus actual parameters, Function and variable scope, Recursion, Library functions
Week 6	12-09-2022 to 17-09-2022	String Handling: interpolation with curly braces, characters and string indexes, string operators, heredoc, string functions, Formatting Strings, Comparing and searching Strings and substrings
Week 7	19-09-2022 to 24-09-2022	Arrays: PHP Arrays, Creating Arrays, Accessing Array elements, Multidimensional Arrays, Inspecting Arrays, Deleting from Arrays, Iterating with each() and foreach(), Iterative functions: current(), next(), prev(), reset(), end()
Week 8	26-09-2022 to 01-10-2022	Forms: Working with HTML Form controls and PHP, Super global variables, super global array, importing user input
Week 9	03-10-2022 to 08-10-2022	Accessing user input Integrating PHP and Database: Connecting to database, Making SQL queries, Executing queries, Fetching data sets
Week 10	10-10-2022 to 15-10-2022	Integrating Forms and Databases: Basic form submission to a database, editing data with an HTML form,

Week 11	17-10-2022 to 22-10-2022	Maintaining User State: Introduction to Cookies, Setting time in a cookie with PHP, Deleting a cookie, creating session cookie
Week 12	25-10-2022 to 27-10-2022	Introduction to sessions, Starting a session, Registering Session variables, working with session variables
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	Destroying session, passing session Ids
Week 14	07-11-2022 to 12-11-2022	encoding and decoding session variables, increase session expire time, working of session without cookie.
Week 15	14-11-2022 to 19-11-2022	Working with File System: Understanding PHP file permissions, Opening and closing a file
Week 16	21-11-2022 to 25-11-2022	File reading and writing functions, File system and directory functions

Mr. Sudhir Kumar Sharma

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

Session (2022-2023)

Class: BCA 1st Semester **Name of the Teacher: Sudhir Kumar Sharma**
Subject: Computer Fundamentals and Computing Software Period : 1st and 5th
Paper : BCA-16-103 **Room No : 201**

S. No	Dates	Topics to be covered
Week 1	16-08-2022 to 20-08-2022	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;
Week 2	22-08-2022 to 27-08-2022	Applications of computers; commonly used terms– Hardware, Software, Firmware. Basic Computer Organization: Block diagram of computer system, Input unit, Processing Unit and Output Unit;
Week 3	29-08-2022 to 03-09-2022	Description of Computer input devices: Keyboard, Mouse, Trackball, Pen, Touch screens, Scanner, Digital Camera; Output devices: Monitors, Printers, Plotters.
Week 4	05-09-2022 to 10-09-2022	Computer Memory: Representation of information: BIT, BYTE, Memory, Memory size; Units of measurement of storage;
Week 5	12-09-2022 to 17-09-2022	Main memory: Storage evaluation criteria, main memory organization, RAM, ROM, PROM, EPROM; Secondary storage devices: Sequential Access Memory, Direct Access Memory
Week 6	19-09-2022 to 24-09-2022	Magnetic Tapes, Magnetic disks, Optical disks: CD, DVD; Memory storage devices: Flash Drive, Memory card.
Week 7	26-09-2022 to 01-10-2022	Types of software: System and Application software; Programming Languages: Generation of Languages; Translators - Interpreters, Compilers, Assemblers and their comparison.
Week 8	03-10-2022 to 08-10-2022	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 9	10-10-2022 to 15-10-2022	Types of DOS commands: Internal and External; Internal Commands: DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, PROMPT, REN, RD, TIME, TYPE, VER, VOL; External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FIND, SYS, FORMAT, CHKDSK, DISKCOPY, LABEL, MOVE, TREE, DELTREE, DEFRAG, SCANDISK, UNDELETE. Batch Files: Introduction to simple batch files;
Week 10	17-10-2022 to 22-10-2022	Introduction to CONFIG.SYS and AUTOEXEC.BAT files. Understanding Graphical User Interface using Windows: Fundamentals of Windows, Types of Windows, Anatomy of

		windows, Icons, Recycle bin, Operations on Folders, Registry of Windows: Basics, Editing; Control panel.
Week 11	25-10-2022 to 27-10-2022	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,
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 13	5-11-2022	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: 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 14	07-11-2022 to 12-11-2022	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, Formatting data: formatting text, numbers, cells, Autoformatting cells and sheets, defining new autoformat, Using conditional formatting, Hiding and showing data
Week 15	14-11-2022 to 19-11-2022	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: Changing chart types, adding Titles,

Week 16	21-11-2022 to 26-11-2022	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. (Revision of All Syllabus)

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)Session (2022-2023)

Class: PGDCA 1st Semester **Name of the Teacher: Sudhir Kumar SharmaSubject: Data Communications and Network Period : 3rd**
Paper : PGD - 1104 **Room No : M.Sc (IT) LAB 4**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Introduction to Computer networks and applications: Network Structure and Architecture, Network Hardware and Software (protocol hierarchies, design issues for layers, interfaces and services
Week 2	19-09-2022 to 24-09-2022	connection oriented and connection less), Network structure and architecture-point to point, multicast, broadcast.
Week 3	26-09-2022 to 01-10-2022	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	03-10-2022 to 08-10-2022	Network Connecting Devices: Repeaters, Hubs, Bridges, Routers, Gateways and Switches, Network Reference models: OSI model, TCP / IP model. Comparison between OSI and TCP/IP.
Week 5	10-10-2022 to 15-10-2022	Introduction to Data Communication: Analog Signal, Digital Signal, Analog vs Digital Communication; Band Width Limitation, Data rate of a channel;
Week 6	17-10-2022 to 22-10-2022	Physical Layer: Transmission media: Guided (Twisted-pair, Coaxial and Optical fiber) and Unguided (Radio, Microwave and infrared),
Week 7	25-10-2022 to 27-10-2022	Switching: Circuit switching, Packet Switching, Message Switching, Telephone system, modems.
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Modulation techniques: AM, PM, FM; Multiplexing Techniques-FDM, WDM, and TDM

Week 9	07-11-2022 to 12-11-2022	The Data Link Layer: Design Issues, Error Detection and Correction: Nature of errors, Parity Check, CRC, Hamming Code,
Week 10	14-11-2022 to 19-11-2022	Elementary Data Link Protocols: Simplex. Stop and Wait Protocol
Week 11	21-11-2022 to 26-11-2022	Sliding Windows Protocol: one Bit sliding windows protocol, go back n, selective repeat, HDLC: High Level Data Link Protocol.
Week 12	28-11-2022 to 03-12-2022	The Network Layer: Design Issues, Routing Algorithms (Shortest Path, Flooding, Flow Based, Distance Vector, Link State, Broadcast, Hierarchical Routing)
Week 13	05-12-2022 to 09-12-2022	Congestion Control Algorithms and their general principles (Leaky Bucket, Token Bucket); Internetworking: tunneling, Internet Routing, fragmentation. (Revision of All Syllabus)

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan Odd Semester (For Post Graduate Classes - First Year)Session (2022-2023)

Class: M.Sc (IT) 1st Semester **Name of the Teacher: Sudhir Kumar SharmaSubject: Software Engineering** **Period : 5th** **Paper : MS-61** **Room No : BCA LAB 2**

S. No	Dates	Topics to be covered
Week 1	12-09-2022 to 17-09-2022	Introduction to Software Engineering: Definition, Software Engineering goals, Characteristics of well-engineered software,
Week 2	19-09-2022 to 24-09-2022	Software Process Models: Waterfall Model, Prototyping Model, Spiral Model, RAD, Agile Modelling.
Week 3	26-09-2022 to 01-10-2022	Software Requirement Specification (SRS): Software Requirements, Definition of SRS, Characteristics of SRS, Components of SRS, Designing of SRS.
Week 4	03-10-2022 to 08-10-2022	System Analysis: Principles of Structures Analysis, DFDs, E-R Diagrams, Data Dictionary.
Week 5	10-10-2022 to 15-10-2022	Software Design: Design Objectives, Design Principles, Concepts
Week 6	17-10-2022 to 22-10-2022	Design Process, Design Methodologies: Structured Design, Modular Design, Object Oriented Design, User Interface Design and its elements and its Characteristics.
Week 7	25-10-2022 to 27-10-2022	Software Project Planning & Scheduling: Objectives, Decomposition techniques,
Mid Semester Exam (28th October 2022 – 4th November 2022)		
Week 8	5-11-2022	Planning and Scheduling Tools: GANTT Chart, PERT Chart, Critical Path Method and Work Breakdown Structure;
Week 9	07-11-2022 to 12-11-2022	Cost estimation, Cost estimation Models: Single Variable Model, COCOMO Model; Software Risks, Risk Assessment.
Week 10	14-11-2022 to 19-11-2022	Software Metrics: Role of Metrics and Measurement, Types of Software Metrics: Product Metrics, Software Size Metrics: LOC and Function Points, Process Metrics, People Metrics.
Week 11	21-11-2022 to 26-11-2022	System Maintenance and Reliability: Maintenance and its types; Factors Affecting Software Reliability, Software Reliability vs Hardware Reliability, Software Reliability Metrics.

Week 12	28-11-2022 to 03-12-2022	Software Testing Techniques: Introduction to Software Testing Process, Objectives of Software Testing. BBT & its Techniques: Boundary Value Analysis, Equivalence Class Testing, and Cause-Effect Graph, White-Box Testing and its Techniques: Domain and Boundary Testing, Logic Based Testing, Data Flow Testing and Basic Path Testing.
Week 13	05-12-2022 to 09-12-2022	Software Testing Strategies: Characteristics, Integration Testing, Functional Testing, Object Oriented Testing, Alpha and Beta Testing. (Revision of All Syllabus)