

POST GRADUATE GOVERNMENT COLLEGE FOR GIRLS

SECTOR-42, CHANDIGARH

Teaching Plan Even Semester (UG and PG)

Session (2022-2023)

Class: BSc 6 Sem

Subject: Computer Science (E)

Room no: 128

Name of the Teacher: Ramninder Kaur

Paper: a) E-commerce b) Web Programming

Period: 2(1-3), 5(4-6)

S. No	Dates	Topics to be covered
Week 1	16/01/2023 – 21/01/2023	Basic Terminology : Web Server; Web Browser, Understanding Communication between a Browser and Web Server, Webpage, Website, Static Website, Dynamic Website, Internet, Intranet, Extranet, WWW, URL.
Week 2	23/01/2023- 28/01/2023	HTML : HTML Program Structure, Paragraph Breaks, Line Breaks; Emphasizing Text: Heading Styles, Drawing Lines; Text Styles :Bold, Italics, Underline; Other Text Effects in HTML web pages.
Week 3	30/01/2023- 04/02/2023	Centering of text and images etc; Lists: Unordered List, Ordered Lists, Definition lists. Adding Graphics to HTML Documents using the Border, Width, Height and Align attributes.
Week 4	06/02/2023- 11/02/2023	E-Commerce: Introduction, History, Motivation for E-Commerce, Types of Ecommerce, Advantages, Limitations, E-Commerce applications : Business-to-consumer, Business-to-Business, Consumer-to-Business, Consumer-to-Consumer, Business-within-Business.
Week 5	13/02/2023- 17/02/2023	Internet and www : Introduction, History, Benefits of www, Internet Service Providers, Web and Electronic commerce, Web architecture and its components, Interactive web applications, Web and database integration.
Week 6	20/02/2023- 25/02/2023	Tables: Caption Tag, Width, Border, Cell padding, Cell spacing, BGCOLOR, COLSPAN and ROWSPAN Attributes. Web software development tools, Search engines. Website designing and hosting : Website content and traffic management, Working of ISPs, Choosing an ISP, Choosing and registering a domain name.
Week 7	27/02/2023- 04/03/2023	Linking Documents : Anchor tag, External Document References, Internal Document References and Image Maps; Frames: Introduction to Frames: The <FRAMESET> tag, The <FRAME> tag, Targeting Named Frames

Week 8	06/03/2023-11/03/2023	DHTML: Introduction to Cascading Style Sheets (CSS), Style tag, Link tag, Types of CSS: In-Line, Internal, External. Forms: Attributes of Form element: Input element, Text Element, Password, Button, Submit Button, Reset Button, Checkbox, Radio, Text Area, Select and Option.
Week 9	13/03/2023-18/03/2023	Life cycle of website building Implementation and Maintenance of E-Commerce: Implementation strategies, Maintenance strategies, Legal and Ethical issues in E-commerce.
Week 10	20/03/2023-25/03/2023	Payment Systems : From Barter to money, Requirements of Internet-based payments, Electronic payment media : Credit cards, Debit cards, Smart cards, e-wallets, Issues and implications of payment systems, Latest trends in payment systems.
Week 11	27/03/2023-01/04/2023	JavaScript: Introduction and Features of JavaScript, Writing JavaScript into HTML, Tokens, Data Types, Variables, Operators, Control Constructs, Strings
Week 12	03/04/2023-08/04/2023	Marketing on the Internet: Internet marketing techniques and cycles, Attracting and Tracking customers, Pros and cons of online marketing. JavaScript: Arrays, Functions, Document Object Model, Core Language Objects, Client Side Objects, Event Handling,
Week 13	10/04/2023-15/04/2023	Applications related to client side form validation Built-In Objects in JavaScript: String Object, Math Object, Date Object; Introduction to PHP : PHP Installation and Configuration; Naming files, Comments, Variables, Operators.
Week 14	17/04/2023-21/04/2023	Arrays, Flow Control Structures. More language basics; User-defined functions; Input validation, Working with Mathematical, String, Date and Time functions Firewalls and Network Security: Types of firewall, Gateways Proxy Servers and its advantages and disadvantages.
Week 15	24/04/2023-29/04/2023	Transaction Security: Types of transaction, Requirements for transaction, Encryption: asymmetric and symmetric encryption; Digital signatures, Digital certificates, Implementation and management issues.

Class: BSc 4 Sem
Subject: Computer Science

Room no: 128

Name of the Teacher: Ramninder Kaur
Paper : a) Database Concepts
b) Data Structures
Period: 3(1-3), 1(4-6)

S. No	Dates	Topics to be covered
Week 1	16/01/2023 – 21/01/2023	<i>Basic Concepts:</i> A Historical perspective, File Systems vs. DBMS, Characteristics of the Data Base Approach
Week 2	23/01/2023- 28/01/2023	Data Base Approach: features. Abstraction and Data Integration, Database users Advantages and Disadvantages of DBMS. Implication of Database approach.
Week 3	30/01/2023- 04/02/2023	Data Independence (physical data independence and logical data independence): concept and difference. Relational Data Model: Relational model concepts, Integrity constraints over Relations.
Week 4	06/02/2023- 11/02/2023	Data Structures: Introduction to Complexity, Data Structure and Data Structure operations. Applications of Data Structure, Basic data Structures.
Week 5	13/02/2023- 17/02/2023	Arrays: Introduction, Types of Array, Memory representation, one dimensional, two dimensional and multidimensional arrays, Applications and operations.
Week 6	20/02/2023- 25/02/2023	Conventional Data Models: An overview of Network Data Model and Hierarchical Data Models. Comparison of data models. The 12 Rules (Codd's Rule) for an RDBMS
Week 7	27/02/2023- 04/03/2023	Stacks: Introduction, memory representation, Applications and operations on stack data structures(push, pop and traversal) with algorithms Linked List: Operations:-traversing, searching, inserting, deleting, operations on header linked list, circular linked list.
Week 8	06/03/2023- 11/03/2023	Doubly linked list, memory representation, Applications of linked list. Polynomial manipulation. Queues: Introduction, Types, Memory Representation and Applications. RDBMS: Entity Relationship model.
Week 9	13/03/2023- 18/03/2023	Relational Algebra and Calculus: Storage Organization for Relations, Relational Algebra: Operations - union, intersection, difference operations on relations
Week 10	20/03/2023- 25/03/2023	Cartesian product, projection, selection, division and relational algebra queries. Relational Calculus: Tuple oriented and domain oriented relational calculus and its operations.
Week 11	27/03/2023-	Trees – Definition and Basic concepts, Representation in

	01/04/2023	Contiguous Storage, Binary Tree, Binary Tree Traversal, Binary Search tree
Week 12	03/04/2023-08/04/2023	Graphs: Introduction, Memory Representation, Graph Traversal techniques (Depth First Search and Breadth First Search)
Week 13	10/04/2023-15/04/2023	Searching: Binary and Linear Search; Sorting: Bubble sort, Insertion sort, Selection sort, Merge Sort, Quick sort.
Week 14	17/04/2023-21/04/2023	Advance concepts: Client-Server Architecture, 3-tier Architecture of database, Distributed databases. Normalization: First, second and third Normal Form, Boyce Codd Normal Form.
Week 15	24/04/2023-29/04/2023	Database Integrity: entity and referential integrity; Security: Concurrency, Recovery of Database. Recapitulation

Class: BSc 2 Sem
Subject: Computer Science

Room no: 128

Name of the Teacher: Sonika
Paper : a) Operating system concepts
b) C Programming
Period: 6(1-3), 4(4-6)

S. No	Dates	Topics to be covered
Week 1	16/01/2023 – 21/01/2023	Operating Systems (OS): Introduction, need of operating system and functions of operating system
Week 2	23/01/2023-28/01/2023	Types of OS: Multi-user, Multitasking, Multiprocessing and Real time Operating Systems, Parallel systems, Distributed systems; Structure of Operating System.
Week 3	30/01/2023-04/02/2023	Process Management: Introduction to Process, PCB, Process States, CPU Scheduling: Scheduling Criteria
Week 4	06/02/2023-11/02/2023	Algorithms: FCFS, SJF, Priority, Round Robin, Multi level Queue Scheduling, Multilevel Feedback Queue Scheduling.
Week 5	13/02/2023-17/02/2023	Deadlocks: Introduction, Necessary and sufficient conditions for Deadlocks, Resource allocation graph. Introduction to methods for handling deadlocks, deadlock prevention.
Week 6	20/02/2023-25/02/2023	Deadlock avoidance: Banker Algorithm, deadlock detection and recovery. Steps in developing of a program, Data Flow Diagram, Decision Table, Algorithm development, Flowchart, Pseudo Code, Testing and Debugging.
Week 7	27/02/2023-04/03/2023	Memory Management: Logical vs Physical address space, Swapping, Introduction to Paging, Segmentation.
Week 8	06/03/2023-11/03/2023	Virtual Memory-Demand paging, Introduction to Page Replacement algorithms: FIFO, Optimal Page replacement and LRU
Week 9	13/03/2023-	History of C, Character Set, Identifiers and Keywords,

	18/03/2023	Constants, Types of C Constants, Rules for Constructing Integer, Real and character Constants, Variables, Data Types, rules for constructing variables.
Week 10	20/03/2023-25/03/2023	C Instructions, Arithmetic operators, Relational operators, Logical operators, Assignment Operators, Type Conversion in Assignments, Hierarchy of Operations, Standard and Formatted functions
Week 11	27/03/2023-01/04/2023	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 Nested for loop, Case Control Structure: Decision using switch, The goto statement.
Week 12	03/04/2023-08/04/2023	Library functions and user defined functions, Global and Local variables, Function Declaration, Calling and definition of function
Week 13	10/04/2023-15/04/2023	Methods of parameter passing to functions, recursion, Storage Classes in C.
Week 14	17/04/2023-21/04/2023	Declaring and Initializing string variables, Reading and writing strings, String Handling functions(strlen(), strcpy(), strcmp(), strcat()).
Week 15	24/04/2023-29/04/2023	Declaration of structures, Structure Initialization, Accessing structure members, Union, Difference between Structure and Union.

Class: BA/BSc IT 2nd Sem

Subject: IT (E)

Paper: Computer Programming using C

Name of the Teacher: Sonika

Period : 4(4-6)

Room No : CSc Lab2

S. No	Dates	Topics to be covered
Week 1	16/01/2023 – 21/01/2023	Introduction to computer based problem solving: requirements of problem solving by the computer, Problem identification, Problem definition, Examples for problem solving, Problem solving strategies: Program Design and implementation issues: Programs and Algorithms, Top-down design and stepwise refinement
Week 2	23/01/2023-28/01/2023	Implementation (use of procedures for Modular design, choice of variable names, documentation of programs, program testing); Programming Environment, Programming Language classification.
Week 3	30/01/2023-04/02/2023	History, Structure of a C program: Data types (int, float, char, double, void), Data structures; Operators and Expressions Arithmetic operators, Relational Operators, logical operators, Control constructs:
Week 4	06/02/2023-11/02/2023	Array declaration, one and two dimensional arrays; Functions Fundamentals: General form, function arguments, Return Value , Basic I/O: Formatted input/ Output, Unformatted Input/Output; Program Design examples; Advanced features: Type modifiers and storage class specifiers for data types, Bit Operators, ? Operator, & operator, *operator, Type casting.

		Type conversion
Week 5	13/02/2023-17/02/2023	Control constructs: do-while, switch statements, break and continue, exit() function, goto and label; Scope Rules: Local and Global variables.
Week 6	20/02/2023-25/02/2023	Functions: Parameter passing –call by value and call by reference, calling functions with Arrays, argc and argv; Recursion: Basic concepts
Week 7	27/02/2023-04/03/2023	Dynamic Data structures in C: Pointers, the & and *operators, Pointer expression, Pointer assignments
Week 8	06/03/2023-11/03/2023	Pointer Vs Arrays, Arrays of pointers, Pointers to Pointers, Initializing Pointers.
Week 9	13/03/2023-18/03/2023	Declaring a structure, Referencing structure elements, Array of structures, Passing structures to functions
Week 10	20/03/2023-25/03/2023	Structure Pointers, Declaring a structure pointer, Arrays and Structures within Structures.
Week 11	27/03/2023-01/04/2023	Unions: Declaration, Uses, Enumerated data types, typedef,
Week 12	03/04/2023-08/04/2023	File Handling: The file Pointers, file accessing functions (fopen, fclose, putc, getc, fprintf);
Week 13	10/04/2023-15/04/2023	C preprocessor: # define, # include, #undef, #conditional Compilation directives (#if, #else, #elif, #endif, #def and #undef);
Week 14	17/04/2023-21/04/2023	C Standard Library and Header files, Header files (stdlib.h), ctype.h, string.h, math.h, stlib.h, time.h)etc., Standard library functions,
Week 15	24/04/2023-29/04/2023	Mathematical functions, Date and time functions, Variable argument list functions, Utility functions, Character class test functions.

Class: BA/BSc IT 4th Sem

Subject: IT (E)

Paper: Computer networks and Web Programming

Name of the Teacher: Sonika

Period : 3(1-3)

Room No : CSc Lab2

S. No	Dates	Topics to be covered
Week 1	16/01/2023 – 21/01/2023	Networking: Definition, Network hardware and Software, Network Topologies, Types and Uses of Computer Networks
Week 2	23/01/2023-28/01/2023	OSI reference model and TCP/IP reference Model. Internet, WWW, URL, Introduction to Search engines.
Week 3	30/01/2023-04/02/2023	HTML: Introduction to HTML, Building blocks of HTML, lists, links, images, tables.
Week 4	06/02/2023-11/02/2023	Introduction to cascading style sheets (CSS), Types of Style sheets (Inline, embedded, external) ,class, applying CSS. Java Script: Features, tokens, data types, variables, operations, control constructs.
Week 5	13/02/2023-17/02/2023	strings arrays, functions, core language objects, Document object model, client side objects, event handling. Applications related to client side form validation
Week 6	20/02/2023-25/02/2023	Java Vs. C++, Byte lode, Java virtual machine, constants, variables, data types, operators, expressions, control structures, , method overriding
Week 7	27/02/2023-	Defining class, creating objects, accessing class members,

	04/03/2023	constructions, method overloading.
Week 8	06/03/2023-11/03/2023	Arrays, String handling Inheritance: Basics, member access, using super to call super class constructors, creating a multi level hierarchy.
Week 9	13/03/2023-18/03/2023	Packages and Interfaces: Defining a package, understanding CLASSPATH, Access protection: Importing packages, Interfaces, Defining an Interface
Week 10	20/03/2023-25/03/2023	Implementing. Interfaces, Applying, Interfaces, Variables in Interfaces
Week 11	27/03/2023-01/04/2023	Fundamentals, exception types, using Try and catch, Multiple Try and Catch clauses, Nested Try statements, Built – in exceptions.
Week 12	03/04/2023-08/04/2023	The Java Thread model, Thread priorities.
Week 13	10/04/2023-15/04/2023	Synchronizations, Messaging. The thread class and run able Interface
Week 14	17/04/2023-21/04/2023	The Main Thread: Creating a Thread, Implementing Runnable, Extending Thread, communication, Deadlock, suspending
Week 15	24/04/2023-29/04/2023	creating Multiple Threads, Thread Priorities; synchronizations: Methods, statements, Inter Thread communications, Resuming and stopping Threads, Applet fundamentals.

Class: BA/BSc IT 6th Sem
Subject: IT (E)
Paper: Linux Administration

Name of the Teacher: Sonika
Period : 2(1-3)
Room No : CSc Lab 2

S. No	Dates	Topics to be covered
Week 1	16/01/2023 – 21/01/2023	Introduction to Operating Systems, its need and services, Batch Systems, Time sharing systems, parallel systems,
Week 2	23/01/2023-28/01/2023	Distributed systems and real time systems. What is Linux ,Linux 'history, Minimum System Requirements;
Week 3	30/01/2023-04/02/2023	Working with Linux, Floppy-less installation, Boot and Root Disks, Choosing Text or Graphics installation.
Week 4	06/02/2023-11/02/2023	Setting up your Hard Drive, Formatting the Partitions, Setting up the Ethernet, Configuration X, Selecting packages to install.
Week 5	13/02/2023-17/02/2023	Using LILO: Partitioning the Hard Disks Linux Swap Space partitions, Linux' fdisk, Enabling the Swap Space for Installation, Creating the Linux file System partition Using LILO.
Week 6	20/02/2023-25/02/2023	Kill command, su command, and the grep command. Using the file system: common types of files, parent directory and sub directory, the root directory, How directories are named, Navigating the Linux file system.

Week 7	27/02/2023-04/03/2023	Kill command, su command, the grep command. Using the file system: common types of files, parent directory and sub directory, the root directory, How directories are named, Navigating the Linux file system.
Week 8	06/03/2023-11/03/2023	Linux file system:/, home,/bin,/usr/bin/usr/spool, /dev, /usr/bin,/sbin,etc. Linux for System Administrators: The root Account, Starting and Stopping the System, Mounting File Systems: Compressing files with gzip ,using tar and Backup, Setting up your system :Setting the system name, Setting the login Message.
Week 9	13/03/2023-18/03/2023	File and directory permissions: file and directory ownership, umask setting, changing directory permissions, What is shell, Pipeline, job control, customizing bash, bash commands, bash variables.
Week 10	20/03/2023-25/03/2023	Linux –tcsh introductions to tcsh,command completion, login ,logout, redirecting,piping,job control,tcsh variables, command summary
Week 11	27/03/2023-01/04/2023	Shell Programming: creating and running shell programs, using variables and Assigning a value to a variable.
Week 12	03/04/2023-08/04/2023	The tcsh Equivalent test command until statement, select command, repeat statement.
Week 13	10/04/2023-15/04/2023	Editing and Typesetting :text editors vi,starting vi ,vi modes, deleting text, copying and moving text, searching and replacing text, Setting preferences
Week 14	17/04/2023-21/04/2023	Networking &Network Services: TCP/IP? Setting up Dummy interface, Testing and Troubleshooting,
Week 15	24/04/2023-29/04/2023	The netstat command, ping command, Mail, News, NFS, NIS, WWW, FTP DNS.