

Department of Computer Science

Weekly Lesson Plan

Class: UG-1st Semester
Paper SEC: Basic IT Tools

Sr. No.	Topics to be covered	Start Date	End Date
1.	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications.	01.08.2025	02.08.2025
2.	Basics of Hardware and Software, Application Software, Systems Software, Utility Software.	04.08.2025	09.08.2025
3.	Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps.	11.08.2025	16.08.2025
4.	Test/Revision	18.08.2025	23.08.2025
5.	Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop.	25.08.2025	30.08.2025
6.	Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Changing System Date and Time, Changing Display Properties.	01.09.2025	06.09.2025
7.	To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management.	08.09.2025	13.09.2025
8.	Test/Revision	15.09.2025	20.09.2025
9.	Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN).	22.09.2025	27.09.2025
10.	Network Topology, Internet, Applications of Internet, Website Address and URL.	29.09.2025	04.10.2025
11.	Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet.	06.10.2025	11.10.2025
12.	Test/Revision	13.10.2025	18.10.2025
13.	Diwali Break	20.10.2025	25.10.2025
14.	E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox.	27.10.2025	01.11.2025
15.	Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message, searching emails, Attaching files with email, Email Signature.	03.11.2025	08.11.2025
16.	Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.	10.11.2025	15.11.2025
17.	Test/Revision	17.11.2025	22.11.2025
18.	Test/Revision/Seminar	24.11.2025	29.11.2025

Class: B.Sc CS-1st Semester
Paper MAJOR: Problem Solving Through C

Sr. No.	Topics to be covered	Start Date	End Date
1.	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant.	01.08.2025	02.08.2025
2.	Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets().	04.08.2025	09.08.2025
3.	Output functions viz. printf(), putchar(), puts().	11.08.2025	16.08.2025
4.	Test/Revision	18.08.2025	23.08.2025
5.	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression.	25.08.2025	30.08.2025
6.	Type Casting and Conversion. Decision making with if statement, if-else statement, nested if statement, else-if ladder.	01.09.2025	06.09.2025
7.	Switch and break statement, goto statement, Looping Statements: for, while, Do-while loop, jumps in loops	08.09.2025	13.09.2025
8.	Test/Revision	15.09.2025	20.09.2025
9.	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation; Two Dimensional arrays -Declaration, Initialization and Memory representation.	22.09.2025	27.09.2025
10.	Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions.	29.09.2025	04.10.2025
11.	Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation, Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring	06.10.2025	11.10.2025
12.	Test/Revision	13.10.2025	18.10.2025
13.	Diwali Break	20.10.2025	25.10.2025
14.	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers.	27.10.2025	01.11.2025
15.	Pointers and Arrays, User defined data types: Structures - Definition, Advantages of Structure.	03.11.2025	08.11.2025
16.	Declaring structure variables, accessing structure members, Structure members initialization, Array of Structures, Unions - Union definition; difference between Structure and Union.	10.11.2025	15.11.2025
17.	Test/Revision	17.11.2025	22.11.2025
18.	Test/Revision/Seminar	24.11.2025	29.11.2025

Class: B.Sc. Physical Science-1st Semester
Paper MINOR: Basics of Computer Science

Sr. No.	Topics to be covered	Start Date	End Date
1.	Introduction to Computers: Definition of Computers, History and Generations of Computers.	01.08.2025	02.08.2025
2.	Characteristics of computer, Classification of Computers.	04.08.2025	09.08.2025
3.	Fundamental Block diagram of Computer: CPU, Input & Output Unit.	11.08.2025	16.08.2025
4.	Test/Revision	18.08.2025	23.08.2025
5.	Software: Definition of Software, Types of Software-System software.	25.08.2025	30.08.2025
6.	Application software and Utility software.	01.09.2025	06.09.2025
7.	Types of Computer Languages, Assemblers, Interpreters, Compiler.	08.09.2025	13.09.2025
8.	Test/Revision	15.09.2025	20.09.2025
9.	Introduction to Operating Systems: Types of Operating System, Functions of Operating System.	22.09.2025	27.09.2025
10.	Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar, Opening and closing applications, Icons creating, renaming and removing.	29.09.2025	04.10.2025
11.	Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming	06.10.2025	11.10.2025
12.	Test/Revision	13.10.2025	18.10.2025
13.	Diwali Break	20.10.2025	25.10.2025
14.	Networking: Concept, Basic Elements of a Communication System.	27.10.2025	01.11.2025
15.	Data Transmission Media, LAN, MAN, WAN, Introduction of Internet and WWW,	03.11.2025	08.11.2025
16.	Basic working of a Web Browser, Introduction to popular web browsers.	10.11.2025	15.11.2025
17.	Test/Revision	17.11.2025	22.11.2025
18.	Test/Revision/Seminar	24.11.2025	29.11.2025

Class: B.Sc. CS-3rd Semester/ B.Sc. Physical Science-3rd Semester
Paper MAJOR/MINOR: Operating Systems

Sr. No.	Topics to be covered	Start Date	End Date
1.	Introductory Concepts: Operating System, Functions and Characteristics, Historical Evolution of Operating Systems, Operating System Structure.	01.08.2025	02.08.2025
2.	Types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing. Operating System Services, Operating System Interface, Service System Calls, System Programs.	04.08.2025	09.08.2025
3.	Process Management: Process Concepts, Operations on Processes, Process States and Process Control Block. Inter-Process Communication.	11.08.2025	16.08.2025
4.	Test/Revision	18.08.2025	23.08.2025
5.	CPU Scheduling: Scheduling Criteria, Levels of Scheduling, Scheduling Algorithms, Multiple Processor Scheduling, Algorithm Evaluation.	25.08.2025	30.08.2025
6.	Synchronization: Critical Section Problem, Semaphores, Classical Problem of Synchronization, Monitors.	01.09.2025	06.09.2025
7.	Deadlocks: Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery.	08.09.2025	13.09.2025
8.	Test/Revision	15.09.2025	20.09.2025
9.	Memory Management Strategies: Memory Management of Single- User and Multiuser Operating System,	22.09.2025	27.09.2025
10.	Partitioning, Swapping, Contiguous Memory Allocation, Paging and Segmentation;	29.09.2025	04.10.2025
11.	Virtual Memory Management: Demand Paging, Page Replacement Algorithms, Thrashing.	06.10.2025	11.10.2025
12.	Test/Revision	13.10.2025	18.10.2025
13.	Diwali Break	20.10.2025	25.10.2025
14.	Implementing File System: File System Structure, File System Implantation, file operations, Type of Files,	27.10.2025	01.11.2025
15.	Directory Implementation, Allocation Methods, and Free Space Management	03.11.2025	08.11.2025
16.	Disk Scheduling algorithm- SSTF, Scan, C- Scan, Look, C- Look. SSD Management.	10.11.2025	15.11.2025
17.	Test/Revision	17.11.2025	22.11.2025
18.	Test/Revision/Seminar	24.11.2025	29.11.2025

Class: B.Sc CS-5th Semester
Paper MAJOR: Database Management Systems

Sr. No.	Topics to be covered	Start Date	End Date
1.	Data Abstraction, Data Independence, Data Definition Language (DDL), Data Manipulation Language (DML).	01.08.2025	02.08.2025
2.	Entity-relationship model, network model, relational and object oriented data models.	04.08.2025	09.08.2025
3.	Integrity constraints, data manipulation operations.	11.08.2025	16.08.2025
4.	Test/Revision	18.08.2025	23.08.2025
5.	Relational algebra, Tuple and domain relational calculus, SQL3, DDL and DML constructs.	25.08.2025	30.08.2025
6.	Open source and Commercial DBMS - MYSQL, ORACLE, DB2, SQL server. Relational database design: Domain and data dependency.	01.09.2025	06.09.2025
7.	Armstrong's axioms, Normal forms, Dependency preservation, Lossless design.	08.09.2025	13.09.2025
8.	Test/Revision	15.09.2025	20.09.2025
9.	Concurrency control, ACID property, Serializability of scheduling. Locking and timestamp based schedulers.	22.09.2025	27.09.2025
10.	Multi-version and optimistic Concurrency Control schemes, Database recovery, Evaluation of relational algebra expressions.	29.09.2025	04.10.2025
11.	Query equivalence, Join strategies, Query optimization algorithms.	06.10.2025	11.10.2025
12.	Test/Revision	13.10.2025	18.10.2025
13.	Diwali Break	20.10.2025	25.10.2025
14.	Authentication, Authorization and access control, DAC, MAC and RBAC models.	27.10.2025	01.11.2025
15.	Intrusion detection, SQL injection, Object oriented and object relational databases.	03.11.2025	08.11.2025
16.	Logical databases, Web databases, Distributed databases, Data warehousing and data mining.	10.11.2025	15.11.2025
17.	Test/Revision	17.11.2025	22.11.2025
18.	Test/Revision/Seminar	24.11.2025	29.11.2025

Class: B.Sc.-5th Semester
Paper SEC: System Administration and Maintenance

Sr. No.	Topics to be covered	Start Date	End Date
1.	Basics of operating system, services, Installation and configuration, maintenance.	01.08.2025	02.08.2025
2.	Linux/Unix; What is Linux/Unix Operating systems, Kernel, API, CLI, GUI, Difference between Linux/I, Unix and other operating systems.	04.08.2025	09.08.2025
3.	Features and Architecture, Linux features, advantages, disadvantages.	11.08.2025	16.08.2025
4.	Test/Revision	18.08.2025	23.08.2025
5.	Linux Systems: Booting and Shutting Down processes.	25.08.2025	30.08.2025
6.	Rootly Powers, Controlling Processes, The File System, Adding New Users.	01.09.2025	06.09.2025
7.	Periodic Processes, Syslog and Log Files.	08.09.2025	13.09.2025
8.	Test/Revision	15.09.2025	20.09.2025
9.	Windows: Windows as operating system, history, versions, PC hardware, BIOS, Devices and drivers.	22.09.2025	27.09.2025
10.	Kernel Configuration and building, Application installation, configuration and maintenance, Server services and Client services.	29.09.2025	04.10.2025
11.	Difference between Windows XP/windows 7 and windows server 2003/2008.	06.10.2025	11.10.2025
12.	Test/Revision	13.10.2025	18.10.2025
13.	Diwali Break	20.10.2025	25.10.2025
14.	Windows Systems: Maintenance Strategies and Administrative Practices, Basics of Data Backup and Restore, Understanding and configuring Active Directory Domain services.	27.10.2025	01.11.2025
15.	Creating Active Directory groups, Organizational Units, and Sites, adding client computers and member servers to the domain.	03.11.2025	08.11.2025
16.	Deploying group policy and network access, Working with network shares and the distributed file system.	10.11.2025	15.11.2025
17.	Test/Revision	17.11.2025	22.11.2025
18.	Test/Revision/Seminar	24.11.2025	29.11.2025