

Indira Gandhi National College, Ladwa

Lesson Plan

Name of Teacher: Ms. Jyoti

Class: B.A. /B.Sc. I

Subject: Computer Sc. (Minor)

Paper I: Basics of Computer Science(B23-CSE-103)

Semester: I

Session: 2026-2027

Month	Topic / Chapter Covered	Other activities
August	Introduction to Computers: Definition of Computers, History and Generations of Computers, Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input& Output Unit.	Problems Discussion
September	Software: Definition of Software, Types of Software-System software, Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler.	Assignment-I Class Test Problems Discussion
October	Introduction to Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar, Opening and closing applications, icons- creating, renaming and removing. Date and Time setting, working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming.	Assignment-II Problems Discussion
November	Networking: Concept, Basic Element sofa Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	Revision, Problems discussion and Test Series

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Lesson Plan

Name of Teacher: Ms. Jyoti

Class: B.A. I / B.Sc./B.COM I

Subject: Computer Sc.

Paper I: Office and spread sheet Tools Learning

Semester: I

Session: 2026-2027

Month	Topic / Chapter Covered	Other activities
August	Operating System - Definition, Functions, Types of Operating System, Basics of Popular Operating Systems, The User Interface, Exploring Computer, Icons, taskbar, desktop, Using Menu and Menu-selection, managing files and folders, Control panel – display properties, add/remove software and hardware, Common utilities.	
September	Word Processing - Introduction to Word Processing, Menus, Creating, Editing & Formatting Document, Spell Checking, Printing, Views, Tables, Word Art, Mail Merge, Macros, Inserting hyperlinks, Searching for text, Modifying page setup, Applying document themes, Applying document style sets, Inserting headers and footers.	Assignment-I Class Test Problems Discussion
October	Spread Sheet: Elements of Electronics Spread Sheet, Applications, Creating and Opening of Spread Sheet, Menus, Manipulation of cells: Enter texts numbers and dates, Cell Height and Widths, copying of cells, Mathematical, Statistical and Financial function, Drawing different types of charts, Sort and Filter Data.	Assignment-II Problems Discussion
November	Presentation Software: Creating, Modifying and enhancing a presentation, Type of presentation views, Using sound, Animation, Working with Objects, Printing.	Revision, Problems discussion and Test Series

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Lesson Plan

Name of Teacher: Ms. Jyoti	Class: B.A. / B.Sc./B.Com. I
Subject: Computer Sc. (SEC)	Paper: Cloud Computing Skills (B23-CSE-201)
Semester: 2	Session: 2026-2027

Month	Topic / Chapter Covered	Other Activities
JANUARY	Basic Concepts of Cloud Computing Computer Network Basics. Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity. Cloud Service Providers in use and their Significance.	
FEBRUARY	Cloud Infrastructure Cloud Pros and Cons. Cloud Delivery Models. Cloud Deployment Models.	Assignment-I Class Test Problems Discussion
MARCH	Cloud Storage Management Concept of Virtualization and Load Balancing. Overview on Virtualization used for Enterprise Solutions. Key Challenges in managing Information. Identifying the problems of scale and management in big data.	Assignment-II Problems Discussion
APRIL	Building Cloud Networks Designing and Implementing a Data Center-Based Cloud Installing Open Source Cloud service. Amazon Web Services (AWS). Google Cloud Platform.	Revision, Test Series & Problems discussion

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Lesson Plan

Name of Teacher: Ms. Jyoti	Class: B.A. /B.Sc. I
Subject: Computer Sc. (Minor)	Paper: Programming Methodologies (B23-CSE-203)
Semester: II	Session: 2026-2027

Month	Topic / Chapter Covered	Other Activities
JANUARY	Problem Solving: Understanding the problem, Analyzing the problem, and Identifying the solution. Tools for Problem-Solving: Flowcharts and its Symbols. Algorithm designing. Examples of Algorithms with flow chart. Decision Table.	Problems Discussion
FEBURARY	Program: Concept of a program, Need for writing programs, Characteristics of a good program, Programming style, Documentation, and Program Maintenance. Debugging Programs: Syntax Errors, Run-Time Errors, Logical Errors. Process of conceptualizing a solution to a problem and moving from algorithm to programming..	Assignment-I Class Test Problems Discussion
MARCH	General Concepts: Clarity and Simplicity of Expressions, Use of proper names for Identifiers, Comments, Indentation; and Documentation. Programming Constructs: Sequence, Selection, and Iteration; Simulation (dry run) of the program for better understanding of algorithm; Comparison and Analysis of Algorithms through simulations.	Assignment-II Problems Discussion
APRIL	Methodologies: Structured programming, Top-down approach, Bottom-up approach, Functional programming, Modular programming, and Object-oriented programming.	Revision, Test Series & Problems discussion

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Lesson Plan

Name of Teacher: Ms. Jyoti

Class: B.A. / B.Sc. II

Subject: Computer (Major)

Paper II: operating system

Semester: III

Session: 2026-27

Month	Topic / Chapter Covered	Other activities
August	Introductory Concepts: Operating System, Functions and Characteristics, Historical Evolution of Operating Systems, Operating System Structure. Types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing. Operating System Services, Operating System Interface, Service System Calls, System Programs. Process Management: Process Concepts, Operations on Processes, Process States and Process Control Block. Inter-Process Communication.	Problems Discussion
September	CPU Scheduling: Scheduling Criteria, Levels of Scheduling, Scheduling Algorithms, Multiple Processor Scheduling, Algorithm Evaluation. Synchronization: Critical Section Problem, Semaphores, Classical Problem of Synchronization, Monitors. Deadlocks: Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery.	Assignment-I Class Test Problems Discussion
October	Memory Management Strategies: Memory Management of Single-User and Multiuser Operating System, Partitioning, Swapping, Contiguous Memory Allocation, Paging and Segmentation: Virtual Memory Management: Demand Paging, Page Replacement Algorithms, Thrashing.	Assignment-II Problems Discussion
November	Implementing File System: File System Structure, File System Implantation, file operations, Type of Files, Directory Implementation, Allocation Methods, and Free Space Management. Disk Scheduling algorithm- SSTF, Scan, C- Scan, Look, C-Look. SSD Management.	Revision, Test Series & Problems discussion

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Lesson Plan

Name of Teacher: Ms. Jyoti	Class: B.A. / B.Sc. II
Subject: Computer Sc. (Major)	Paper: Data Management With DBMS (B23-CSE-401)
Semester: IV	Session: 2026-2027

Month	Topic / Chapter Covered	Other activities
JANUARY	Basic Concepts: Data, Information, Records, Files, Schema and Instance etc. Limitations of File-Based Approach, Characteristics of Database Approach, Database Management System (DBMS), DBMS Functions and Components, Database Interfaces, Advantages and Disadvantages of DBMS. Database Users: Data and Database Administrator, Role and Responsibilities of Database Administrator, Database Designers, Application Developers etc. Database System Architecture: 1-Tier, 2-Tier & Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances, Data Independence – Logical and Physical Data Independence	Problems Discussion
FEBURARY	Data Models: Hierarchical, Network, and Relational Data Models. Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER Diagram, Symbolic Notations for Designing, ER Diagram	Assignment-I Class Test Problems Discussion
MARCH	SQL: Meaning, Purpose, and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL. Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product, etc. Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.	Assignment-II Problems Discussion

APRIL	Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency, Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF), Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form.	Revision, Test Series & Problems discussion
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Lesson Plan

Name of Teacher: Ms. Jyoti	Class: B.A. / B. Sc/B. Com II
Subject: Computer Sc. (VOC)	Paper I: Software Testing (B23-VOC-216)
Semester: IV	Session: 2026-2027

Month	Topic / Chapter Covered	Other activities
JANUARY	Introduction: Definition of Software Testing and its Role, Terms: - Failure, Error, Fault, Defect, Bug, Goals of Testing, Principles of Testing, Software Testing Life Cycle, Verification and Validation: -V-testing Life cycle	Problems Discussion
FEBURARY	Types of Testing: Black Box Testing: Overview: What is & When? Techniques: Boundary Value Analysis, Equivalence class testing, Decision Table White Box Testing: What is white box Testing, Need of white box Testing, Classification , Structural : Coverage, Path testing	Assignment-I Class Test Problems Discussion
MARCH	Levels of Testing Unit Testing : Overview, Integration Testing : Overview, Techniques: Graph based & Path based, Functional Testing, System Testing : Overview, Categories: Reliability Security Performance Recovery, Acceptance Testing : Overview, Types of Acceptance Testing	Assignment-II Problems Discussion
APRIL	Test Planning: Preparing a Test plan, Scope management, Decide Test Approach, Setting Up Criteria, for testing, Identifying responsibilities, Staffing, training needs, Resource requirements, Test deliverables, Testing Tasks.	Revision, Test Series & Problems discussion

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Lesson Plan

Name of Teacher: Ms. Jyoti
Subject: Computer Sc. (VOC)
Semester: V

Class: B.A./B.SC./B.Com. III
Paper II: Web Designing
Session: 2026-27

Month	Topic / Chapter Covered	Other activities
August	Web Programming Introduction: Architecture of a website, Different technologies in making the website; Introduction to HTML: History of HTML, Basic structure of an HTML document, Introduction to Static and Dynamic Websites, HTML Tag vs Element, HTML Attributes; HTML-Basic Formatting Tags; Grouping Using Div and Span, HTML-Lists: Unordered Lists, Ordered Lists, Definition list; Image and Image Mapping, Hyperlink.	Problems Discussion
September	HTML-Table: < table >, < th >, < tr >, < td >, < caption >, < thead >, < tbody >, < tfoot >, < colgroup >, < col >; Colspan & Rowspan HTML-Iframe: Iframe attributes, Using Iframe as the Target; HTML-Form: Form attributes, Form elements: < input >, < textarea >, < button >, < select >, < label >, < fieldset >, < legend > etc.	Assignment-I Class Test Problems Discussion
October	CSS: Introduction, Benefits of CSS, CSS Syntax, Types of CSS, CSS Selectors: Element selector, ID Selectors, Class Selectors, Grouping Selectors, Universal Selector, CSS - Pseudo Classes, pseudo element; Text Fonts: color, background-color, text-decoration, text-align, vertical-align, text-indent, text-transform, white space, letter-spacing, word-spacing, line-height; font properties: font-family, font-size, font-style, font-variant, font-weight.	Assignment-II Problems Discussion
November	Lists: list-style-type, list-style-position, list-style-image, list-style Tables: border, width & height, text-align, padding, colour; CSS Box Model: Border, Margin & Padding, width & height; CSS Positioning properties: Static positioning, Fixed Positioning, Relative Positioning, Absolute Positioning.	Revision, Test Series & Problems discussion

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Lesson Plan

Name of Teacher: Ms. Jyoti

Class: B.A. / B.Sc. III

Subject: Computer Sc.

PAPER I: Data Structures

Semester: V

Session: 2026-27

Month	Topic / Chapter Covered	Other activities
August	Introduction: Elementary data organization, Data Structure definition, Data type vs. data structure, Categories of data structures, Data structure operations, Applications of data structures, Algorithms complexity and time-space tradeoff, Big-O notation. Strings: Introduction, strings, String operations Pattern matching algorithms. Arrays: Introduction, Linear arrays, Representation of linear array in memory, Traversal, Insertions, Deletion in an array, Multidimensional arrays, Parallel arrays, Sparse matrix.	Problems Discussion
September	Linked List: Introduction, Array vs. linked list, Representation of linked lists in memory, Traversal, Insertion, Deletion. Searching in a linked list, Header linked list, Circular linked list, Two-way linked list, Garbage collection, Applications of linked lists. Algorithm of insertion/ deletion in SLL stack: primitive operation on stack, algorithms for push and pop. Representation of Stack as Linked List and array,	Assignment-I Class Test Problems Discussion
October	Stacks applications: polish notation, recursion. Introduction to queues, Primitive Operations on the Queues Circular queue, Priority queue, Representation of Queues as Linked List and array, Applications of queue. Algorithm on insertion and deletion in simple queue and circular queue. Trees - Basic Terminology, representation, Binary Trees.	Assignment-II Problems Discussion
November	Tree Representations using Array & Linked List, Basic operation on Binary tree, Traversal of binary trees:- In order, Preorder & post order, Applications of Binary tree. Algorithm of tree traversal with and without recursion. Introduction to graphs, Definition, Terminology, Directed, Undirected & Weighted graph, Representation of graphs	Revision, Test Series & Problems discussion