

Lesson Plan

Name of Assistant Professor : Lalita Yadav

Class : M.Sc 3rd Sem

Subject : **Computer Security** Code : 25CSC203DS03

Lesson Plan : August 2026 to DEC 2026

Week 1	Fundamentals of Computer Security: Overview of Computer Security: Key Concepts and Importance, Security Threats and Vulnerabilities: Malware, Phishing, Ransomware
Week 2	Access Control Models: Discretionary, Mandatory, and Role-Based Access Control (RBAC)
week 3	Cryptographic Principles: Symmetric and Asymmetric Encryption, Digital Signatures,
Week 4	Case Studies: Notable Cyber Attacks and their Impact. Assignment
week 5	Secure Systems and Applications: Secure Software Development Practices, Operating
week 6	System Security: Process Isolation, Secure Boot, Anti-malware Tools
week 7	Database Security: SQL Injection Prevention, Role-based Access, Application Security: OWASP Top 10
week 8	Secure APIs, Penetration Testing and Vulnerability Assessment. Assignment
week 9	Network and Wireless Security: Network Security Fundamentals: Firewalls, IDS/IPS, VPNs,
week 10	Wireless Network Security: WEP, WPA/WPA2, Emerging Protocols, Secure Network Design: Zero Trust Architecture,
week 11	Threat Monitoring and Incident Response, Case Studies: Securing IoT Devices. Assignment
week 12	Advanced Topics and Legal Aspects: Emerging Threats: Quantum Computing in Cryptography.
week 13	AI in Cybersecurity, Blockchain for Secure Transactions,
week 14	Digital Forensics and Cybercrime Investigation, Cybersecurity Laws and Frameworks: GDPR, HIPAA, NIST.
week 15	Security Management: ISO 27001 Standards . Assignment and test
week 16	Revision
week 17	Revision

Name of Assistant Professor : Lalita Yadav

Class : M.Sc 3rd Sem

Subject : Computer Graphics Code : 25CSC203DS05

Lesson Plan : August 2026 to Nov 2026

Week 1	Introduction: History, applications, and scope of computer graphics. Graphics Systems: Working of Raster and vector graphics, working of display devices, input/output devices, and color models (RGB, CMYK, HSV).
Week 2	2D Graphics and Picture Construction: 2D Primitives: Line- DDA, Bresenham's, Mid-point method, circle – Cartesian, Polar, Mid-point method. Polygon drawing algorithms. Assignment and test
week 3	Transformations: Translation, scaling, rotation, reflection, and shearing, composite transformation and coordinate transformations. Window-viewport transformation.
Week 4	Clipping: Line Clipping - Midpoint subdivision, Cohen-Sutherland, Liang-Barsky, NLN. Polygon clipping algorithms – Area sub-division method, Sutherland Hodgman.
week 5	Picture Construction Techniques: Geometric primitives and their representation. Filling Algorithms: boundary fill, flood fill, Scan line filling algorithms, Aliasing problem, anti-aliasing techniques.
week 6	Interactive Graphics: basic positioning methods, constraints, grids, gravity field, rubber-band methods, dragging, painting and drawing.
week 7	rubber-band methods, dragging, painting and drawing.
week 8	3D Primitives: Display methods: Projections: Perspective, Parallel, anomalies associated with projections,
week 9	DIWALI BREAK
week 10	depth cueing, visible line and surface rendering, stereoscopic views.
week 11	3D Transformations: Translation, rotation, scaling, and perspective projections. Visible-surface detection methods, back-face detection,
week 12	Depth-buffer method, A-buffer method, scan line method, depth sorting, and Area-subdivision method.
week 13	Lighting and Shading: Basic lighting models, Flat shading, Gouraud shading, Phong shading.
week 14	Introduction to Blender: Interface overview, navigation, and basic modeling tools. Mesh modeling, modifiers, and sculpting techniques. Materials, textures, and UV mapping. Keyframing and simple animations in Blender.
week 15	Basic Animation: Keyframing, interpolation techniques, and introduction to physics-based animation.

week 16	Revision
week 17	Revision

Name of Assistant Professor : Lalita Yadav

Class : M.Sc 3rd Sem

Subject : Internet and Web Design **Code** : 24CSC402MI01

Lesson Plan : August 2026 to Dec 2026

August

Introduction to Internet and World Wide Web: A brief Introduction to the Internet, Evolution of World Wide Web; Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools, Domain Name System, Home Page, Web page and Website.

September

Web Publishing: Hosting your Site; Internet Service Provider; Phases of Planning and designing your Website; Steps for developing your Site; Choosing the contents; Web Development: Introduction to HTML; Hypertext and HTML; HTML

Document Features; HTML command Tags; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text.

October

List: Definition and types of Lists – Ordered and Unordered, Table Creation and Layouts. Images; Inserting Graphics; Frame Creation and Layouts; Creating Links; Working with Forms and Menus; Working with Radio Buttons and Check Boxes; Text Boxes; Page layouts.

November

Cascading Style Sheets (CSS): Basic Concepts, Properties, Creation of Style Sheets. Common Tasks with CSS: Text, Fonts, Margins, Links, Tables, Colors. Marquee. Mouse Overs.

December

Filters and Transitions. Adding Links. Adding Tables. Adding Forms. Adding Image and Sound. Use of CSS in HTML Documents, Linking and Embedding of CSS in HTML.

Lesson Plan

Class and Section: Bsc Life Sc 3rd Sem

Faculty - Ms. Neha Narwal

Subject: Internet and Web Design

Paper Code: 24CSC402MI101

Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Introduction to Internet and World Wide Web: A brief Introduction to the Internet, Evolution of World Wide Web; Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools, Domain Name System, Home Page, Web page and Website.

12 September 2026-11 October 2026

Web Publishing: Hosting your Site; Internet Service Provider; Phases of Planning and designing your Website; Steps for developing your Site; Choosing the contents. Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text.

12 October 2026-11 November 2026

List: Definition and types of Lists - Ordered and Unordered, Table Creation and Layouts, Images: Inserting Graphics; Frame Creation and Layouts; Creating Links; Working with Forms and Menus; Working with Radio Buttons and Check Boxes; Text Boxes; Page layouts.

12 November 2026-06 December 2026

Cascading Style Sheets (CSS): Basic Concepts, Properties, Creation of Style Sheets. Common Tasks with CSS: Text, Fonts, Margins, Links, Tables, Colors. Marquee. Mouse Overs. Filters and Transitions. Adding Links. Adding Tables. Adding Forms. Adding Image and Sound. Use of CSS in HTML Documents, Linking and Embedding of CSS in HTML.

Lesson Plan

Class and Section: Bsc Life Sc 5thsem

Faculty - Ms. Neha Narwal

Subject: Database Design and MySQL

Paper Code: 26CSC405MV01

Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.

12 September 2026-11 October 2026

Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N , M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.

12 October 2026-11 November 2026

Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK, isolation levels.

12 November 2026-06 December 2026

Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc).

Lesson Plan

Class and Section: BA 5thsem Sec B

Faculty - Ms. Neha Narwal

Subject: Database Design and MySQL

Paper Code: 26CSC405MV01

Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.

12 September 2026-11 October 2026

Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N , M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.

12 October 2026-11 November 2026

Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK, isolation levels.

12 November 2026-06 December 2026

Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc).

Lesson Plan

Class – BCom 1st Sem – (Minor)

Faculty – Ms. Tarika Verma

Subject Code – 24CSC401MI01

Subject Name – Fundamentals of Computing and Problem-Solving using C

Lesson Plan Duration - July 2026 to Dec 2026

Time Period	Topics
August 2026	Computing Fundamentals: Overview of computing principles and history, Generations of Computers, Block Diagram along with its components, Classification of computers, Applications of computers in various fields. Input/Output Devices, Memory: Concept of primary & secondary memory, Cache Memory, Secondary storage devices. Basics of Networking & Operating System: Introduction to computer

	networking, Network types, Network topologies, Internet and its applications; Operating system and its functions. Introduction to software development methodologies: Basics of algorithmic thinking and problem-solving strategies. Planning the Computer Program: Problem definition, Program design, Debugging, Types of errors in programming, Techniques of Problem Solving-Flowcharting, Algorithms Revision and Tests
September 2026	Introduction to the C programming language: History of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() Functions, Operators & Expression, type casting and conversion, operator hierarchy & associativity. Decision making & Branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, go to statement. Revision and Tests
October 2026	Decision making & Looping: while, do-while and for loop, jumps in loops, break, continue statement, Nested loops. Functions and modular programming concepts: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function in C, Input functions, output functions, string manipulation functions. User defined functions: Introduction/Definition, function prototype, Local and global variables, passing parameters, recursion. Arrays & Pointers: Definition, types, initialization, processing an array, passing arrays to functions declaration and initialization of string, Input/output of string data, Introduction to pointers. Revision and Tests
November 2026	Advance Concepts of C Programming: Pointers and memory management in C; File input/output operations in C Dynamic memory allocation and deallocation; Advanced control structures: switch, break, and continue statements. Practical applications of C programming in software development: Algorithmic problem-solving using C programming constructs; Design and implementation of C programs; Debugging and testing techniques for C programs; Best practices and coding standards in C programming. Revision and Tests
December 2026	Revision and Tests

Lesson Plan**Class – BCA1st Sem – (Major)****Faculty – Ms. Tarika Verma****Subject Code – 25BCA401DS02****Subject Name – Computer Architecture****Lesson Plan Duration - July 2026 to Dec 2026**

Time Period	Topics
August 2026	Digital Principles: Definition for Digital signals, Digital logic, Digital computers, Von Neumann Architecture, Boolean Laws and Theorems, K-Map: Truth Tables to K-Map, 2, 3 and 4 variable K Map, K-Map Simplifications, Don't Care Conditions, SOP and POS. Number Systems: Decimal, Binary, Octal, Hexadecimal, Number System Conversions, Binary Arithmetic, Addition and subtraction of BCD, Octal Arithmetic, Hexadecimal Arithmetic, Binary Codes, Decimal Codes, Error detecting and correcting codes, ASCII, EBCDIC, Excess3 Code, The Gray Code.
September 2026	Combinational Circuits: Half Adder and Full Adder, Subtractor, Decoders, Encoder, Multiplexer, Demultiplexer Sequential Circuits: Flip-Flops- SR Flip-Flop, D Flip-Flop, J-K Flip-Flop, T Flip-Flop. Register: 4 bit register with parallel load, Shift Registers- Bidirectional shift register with parallel load Binary Counters-4 bit synchronous and Asynchronous binary counter.
October 2026	Basic Computer Organization and Design: Instruction Codes, Computer Registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory-Reference Instructions, InputOutput Interrupt, Complete Computer Description, Design of Basic Computer, Design of Accumulator logic. Central Processing Unit: Introduction, General Register Organization, StackOrganization, Instruction Formats, Addressing Modes, Data Transfer and Manipulation, Program Control, Reduced Instruction Set Computer(RISC), RISC Vs CISC.
November 2026	Pipeline and Vector Processing: Parallel Processing, Pipelining, Arithmetic Pipeline, Instruction Pipeline, RISC Pipeline. Input-Output Organization: Peripheral Devices, Input-Output Interface, Asynchronous data transfer, Modes of Transfer, Priority Interrupt, Direct memory Access, Input-Output Processor(IOP). Memory Organization: Memory Hierarchy, Main Memory, Auxiliary memory, Associate Memory, Cache Memory, Virtual Memory, Memory Management Hardware.
December 2026	Revision and Tests

Name of Lecturer**Dr. Shalu rani**

Class and Section:

BCOM 5th Sem

Subject:

Database Design and MySQL

Paper Code:-

26CSC405MV01

Lesson Plan:-

August 2026 to December 2026

Time Period	Topics
11 th August 2026 to 11 th September 2026	Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.
12 th September 2026 to 11 th October 2026	Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N , M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.
12 th October 2026 to 11 th November 2026	Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored Procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK, isolation levels

12 th November to 6 th December 2026	Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc), Revision and Test
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Name of Lecturer

Dr. Shalu rani

Class and Section:

BSc Physical Sc 5th Sem

Subject:

Database Design and MySQL

Paper Code:-

26CSC405MV01

Lesson Plan:-

August 2026 to December 2026

Time Period	Topics
11 th August 2026 to 11 th September 2026	Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.

12 th September 2026 to 11 th October 2026	Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N , M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.
12 th October 2026 to 11 th November 2026	Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored Procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK, isolation levels
12 th November to 6 th December 2026	Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc), Revision and Test

Name of Lecturer

Dr. Shalu rani

Class and Section:

BCA 5th Sem

Subject:

Web Application Development

Paper Code:-

25BCA405DS04

Time Period	Topics
11 th August 2026 to 11 th September 2026	Introduction: Concept of WWW, Internet and WWW, HTTP Protocol: Request and Response, Web browser and Web servers, Features of the latest version of Web. Web Design: Concepts of effective web design, Web design issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Website, Page Layout and linking, User-centric design, Sitemap, Planning and publishing website, Designing effective navigation
12 th September 2026 to 11 th October 2026	HTML: Basics of HTML, formatting and fonts, commenting code, color, hyperlink, lists, tables, images, forms, XHTML, Meta tags, Character entities, frames and frame sets, Browser architecture and Web site structure. Overview and features of the latest version of HTML. Stylesheets: Need for CSS, introduction to CSS, basic syntax and structure, using CSS, background images, colours and properties, manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS, CSS2, Overview and features of the latest version of CSS.
12 th October 2026 to 11 th November 2026	JavaScript: Client-side scripting with JavaScript, variables, functions, conditions, loops and repetition, Pop up boxes, Advance JavaScript: JavaScript and objects, JavaScript own objects, the DOM and web browser environments, Manipulation using DOM, forms and validations, DHTML: Combining HTML, CSS and JavaScript, Events and buttons. XML: Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. Transforming XML using XSL and XSLT.

12 th November to 6 th December 2026	PHP: Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, string, Form processing, Files, Advance Features: Cookies and Sessions. PHP and MySQL: Basic commands with PHP examples, Connection to server, creating database, selecting a database, listing database, listing table names, creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables, PHP my admin and database bugs. Revision and Test
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Lesson Plan:-

August 2026 to December 2026

Name of Lecturer

Dr. Shalu rani

Class and Section:

BCA 5th Sem

Subject:

Practical Software Lab

Paper Code:-

25BCA405DS04

Name of Lecturer Dr. Shalu rani
Class and Section: BSC Life Sc 3rd Sem(Minor)
Subject: Practical Software Lab
Paper Code:- 24CSC402MI01

Name of Assistant Professor: Dr. Suman Ahlawat
Class and Section: M.Sc. 1st Sem (Computer Sc.)
Subject: Computer Networks
Paper Code: 24CSC201DS02
Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Introduction to Computer Network: Types of Networks, Network Topologies, OSI and TCP/IP Reference Model. Data Communications Concepts: Digital Vs. Analog communication; Parallel and Serial Communication Synchronous, Asynchronous and Isochronous Communication; Communication modes: simplex, half duplex, full duplex; Multiplexing, Transmission media: Wired-Twisted pair, Coaxial cable, Optical Fibre, Wireless transmission: Terrestrial, Microwave, Satellite, and Infrared

September 2026 to October 2026	Communication Switching Techniques: Circuit Switching, Message Switching, Packet Switching. Data Link Layer Fundamentals: Framing, Basics of Error Detection, Forward Error Correction Cyclic Redundancy Check codes for Error Detection, Flow Control. Media Access Protocols: ALOHA Carrier Sense Multiple Access (CSMA), CSMA with Collision Detection (CSMA/CD), Token Ring, Token Bus.
October 2026 to November 2026	High-Speed LAN: Standard Ethernet, Fast Ethernet, Gigabit Ethernet, 10G Wireless LANs: IEEE 802.11, Bluetooth. Network Layer: IP Addressing and Routing , Network Layer Protocols: IPv4 (Header Format and Services), ARP, ICMP (Error Reporting and Query message); IPv6 (Header Format and Addressing)
November 2026 to December 2026	Transport Layer: Process-to-Process Delivery: UDP, TCP; Application Layer: Domain Name System (DNS); SMTP; HTTP; WWW. Network Security: Security Requirements and attacks Cryptography: Symmetric Key (DES, AES), Public Key Cryptography (RSA); Firewall, Revision of all Syllabus

Name of Assistant Professor: Dr. Suman Ahlawat

Class and Section: M.Sc. 1st Sem (Computer Sc.)

Subject: Database Management Systems

Paper Code: 24CSC201DS05

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Introduction: Characteristics of database approach, data models, DBMS architecture and Data independence, Database Languages, Classification of DBMS, Database Users and Administrator. DBMS Environment: Database Access for applications Programs, Transaction Management, Database system Structure, Storage Manager, Query Processor, E-R Modeling: Entity types, Entity set, attribute and key, Relationships, Relation types, Roles and Structural constraints, Weak entities, Enhanced ER Model
September 2026 to October 2026	Relational Model: Introduction to the Relational Model, Integrity Constraint over Relations, Enforcing Integrity constraints, Querying relational data, Introduction to views, Destroying/altering Tables and Views, Relational Algebra and Calculus: Relational Algebra, Set operations, Selection and projection, renaming, Joins, Division, Examples of Algebra overviews, Relational calculus: Tuple relational Calculus, Domain relational calculus, Expressive Power of Algebra and Calculus

October 2026 to November 2026	Schema Refinement, Functional dependencies: Schema refinement in Data base Design, Problems Caused by redundancy, Decompositions & its properties, Problem related to decomposition, Functional Dependency, Normalization: FIRST, SECOND, THIRD Normal forms, BCNF, Lossless join Decomposition, Dependency preserving Decomposition, Multi valued Dependencies, Fourth Normal Form, Transaction Management: ACID Properties, Transactions and Schedules, Concurrent Execution of transaction, Serializability and recoverability
November 2026 to December 2026	Concurrency Control: Introduction to Lock Management, Lock Conversions, Dealing with Dead Locks, Concurrency without Locking, Recovery Techniques, Database Security, Introduction to MySQL/Oracle: Working with MySQL/Oracle. Getting started, Modules of MySQL/Oracle , Invoking SQL*Plus/MySQL Command-line client ('mysql'), Data types, Data Constraints, Operators, Data manipulation - Create, Modify, Insert, Delete and Update; Searching, Matching and Oracle Functions. Revision of all Syllabus

Name of Assistant Professor: Dr. Suman Ahlawat

Class and Section: M.SC 1st Sem(Computer Sc.)

Subject: Practical Software Lab

Paper Code: 24CSC201DS02, 24CSC201DS05

Name of Assistant Professor: Dr. Suman Ahlawat
Class and Section: BA Pass 3rd Sem (Minor)
Subject: Practical Software Lab
Paper Code: 24CSC402MI01

Name of Assistant Professor: Dr.Nisha Malik
Class and Section: M.Sc. 1st Sem (Computer Sc.)
Subject: Computer Organisation and Architecture
Paper Code: 24CSC201DS04
Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Number Systems: Binary, Octal and Hexadecimal , Integer and Floating-point representation, Character codes: ASCII and EBCDIC, Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates, De Morgan's theorem; Universal building blocks; Simplifying logic circuits: sum of product and product of sum form, Karnaugh Map simplification ion; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder), Sequential logic blocks (Latches, Flip-Flops, Registers, Counters),

September 2026 to October 2026	Register Transfer Language, Bus and Memory Transfer, Micro operations: Arithmetic, Logic & Shift Micro operations, Basic Computer Organization and Design: Instructions Codes, Register reference, Memory Reference & Input-Output instructions, Instruction Cycle, Timing and Control, Interrupts; Design of Control unit: Hardwired control unit, Micro-programmed control unit, Register Organization: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes; Data Transfer & Manipulation Instructions, Introduction to x86 Assembly Language programming.
October 2026 to November 2026	Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory, Virtual Memory, Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer, Priority interrupt, Direct Memory Access (DMA), Input-output processors (IOP), Serial communication
November 2026 to December 2026	Parallel Computing: CISC and RISC - Features and Comparison, Pipeline and Vector Processing: Parallel processing, Pipelining, Arithmetic Pipeline, Instruction pipeline and Arrays Processors. Advanced Architecture Multi-processors, characteristics of multi-processors, Interconnection structures, Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence, Revision of all Syllabus

Name of Assistant Professor: Dr.Nisha Malik

Class and Section: M.Sc. 1st Sem (Computer Sc.)

Subject: Computer Fundamentals and Programming in C

Paper Code: 24CSC201DS03

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Concept of data and information; Components of Computer: Hardware, Input Device, Output Device, CPU: Components of CPU; Memory and Storage Devices; Computer Software: System Software and Application Software; Functions of Operating System. Programming Languages: Machine, Assembly, High Level Language, 4GL; Language Translator; Linker, Loader, Classification of Computers: Micro, Mini, Mainframe, Super computer. Advantages of Computer, Limitations of Computer, Range of Applications of Computer, Social concerns of Computer Technology: Positive and Negative Impacts, Computer Crimes, Viruses and their remedial solutions

September 2026 to October 2026	Problem Solving: Problem Identification, Analysis, Flowcharts, Decision Tables, Pseudo codes and algorithms, Program Coding, Program Testing and Execution, C Programming Fundamentals: Keywords, Variables and Constants, Structure of a C program. Operators & Expressions: Arithmetic, Unary, Logical, Bit-wise, Assignment & Conditional Operators, Library Functions, Control Statements: Looping using while, do...while, for statements, Nested loops; decision making using if...else, Else If Ladder, Switch, break, Continue and Goto Statements
October 2026 to November 2026	Declaration, initialization of Multidimensional Arrays, String: Operations of Strings; Functions: Defining & Accessing User defined functions, Function Prototype, Passing Arguments, Passing array as argument, Recursion, Use of Library Functions; Macro vs. Functions, Pointers: Declarations, Operations on Pointers, Passing to a function, Pointers & Arrays, Array of Pointers, Array accessing through pointers, Pointer to functions, Function returning pointers, Dynamic Memory Allocations
November 2026 to December 2026	Structures and Union: Defining and Initializing, Structure , Array within Structure ,Array of Structure, Nesting of Structure , Pointer to Structure, Passing structure and its pointer to Functions, Unions: Introduction to Unions and its Utilities. Files Handling: Opening and closing file in C; Create, Read and Write data to a file, Modes of Files, Operations on file using C Library Functions; Working with Command Line Arguments, Program Debugging and types of errors, Revision of all Syllabus

Name of Assistant Professor: Dr. Nisha Malik

Class and Section: M.SC 1st Sem(Computer Sc.)

Subject: Practical Software Lab

Paper Code: 24CSC201DS03, 24CSC201DS04

Name of Assistant Professor: Dr. Nisha Malik

Class and Section: BSC Life Sc 3rd Sem(Computer Sc.)(Minor)

Subject: Practical Software Lab

Paper Code: 24CSC402MI01

Name of Assistant Professor: Chain Singh

Class and Section: B.Sc. (Computer Sc.)-5th

Subject: Operating Systems and Shell Programming

Paper Code: 26CSCM405DS01

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Operating System Basics: Evolution, Objectives & Functions, Characteristics. Classification of Operating Systems, OS Services, System Calls, OS Structures, Concept of Virtual Machine. Process Concepts: Definition, Process Relationship, Process states, Process State transitions, Process Control Block, Context switching.
September 2026 to October 2026	Process Scheduling: Definition, Scheduling objectives, Types of Schedulers, Scheduling criteria. Scheduling Algorithms: Preemptive and Non-preemptive: FCFS, SJF, RR, Priority Base Scheduling. Performance evaluation of Scheduling algorithms. Inter process Communication: Race Condition, Critical Section, Mutual Exclusion. Deadlocks - System Model, Deadlock Principles, Deadlock Characterization, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, and Recovery from Deadlock.
October 2026 to November 2026	Memory Management: Basic Memory Management, Logical and Physical address map, Memory allocation, Fragmentation and Compaction, Paging and its disadvantages. Input / Output Management: I/O devices, Device controllers, Direct Memory Access Principles of I/O Software. File Management: File concept, Access methods, File types, File operations, Directory structure, File System structure, Allocation methods.

November 2026 to December 2026	Introduction To Linux and Linux Utilities: A brief history of LINUX, Architecture of LINUX, Features of LINUX. Introduction to vi editor. Linux File Utilities: File and Directory Utilities: pwd, ls, cd, mkdir, rm, cp, mv, touch, cat, grep. Text processing and Manipulation: tail, sort, cut, echo, history. File Manipulation and Operations: find, tar, chmod, Gzip, chown, chgrp, ps. Network and Connectivity Utilities: top and kill. Other utilities: path, man, passwd, uname, who, date, stty, wc, lp, od, unlink, du, df, mount, umount, find, unmask, ulimit, ps, finger, arp, ftp, cut, paste, join, comm, cmp, diff.
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Name of Assistant Professor: Chain Singh

Class and Section: APGDCA

Subject: Computer Networking & Multimedia

Paper Code: APGDCA-102

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Introduction to Computer Network, Why Computer Network ? Key Issues for Computer Network, Types of Network : LAN, WAN and MAN; Criteria for Classification of Computer Network, LANs : Hardware requirements for LAN, Transmission Channel for LAN, Network Interface Unit, Servers & Workstations, LAN Software. Introduction to Ethernet, Token Ring : Basics and Working, Cables, ringspeed. WAN : Transmission Channel for LAN, hardware requirements : Bridges, Routers, Gateways. Private Networks, Public Networks : ISDN, PSTN, PSDN, Value Added Networks.
September 2026 to October 2026	Connecting PCs : Simple switches, Printer sharing buffers, Zero-slot LANs, Media sharing LANs, Printer Servers, Client and Servers, Interface Cards, Media Access Control, Operating System features, OSI Model, TCP/IP Model, Data encoding & Communication Techniques, Multiplexing and Communication Hardware Network topology, Network Protocols, Applications of Computer Network. Distributed data Processing, Teletext and Videotext Networks Communication Channels : Wire cables (Telegraph, telephone, twisted-pair, co-axial), Microwave, Fibre-optics, Communication satellites; Channel sharing, data-transmission
October 2026 to November 2026	Introduction to multimedia technology - Computers, Communication and Entertainment; Framework for multimedia systems; M/M devices, presentation devices and the user interface; M/M presentation and authoring; Digital representation of sound and transmission; brief survey of speech recognition and generation; digital video and image compression; JPEG image compression standards; MPEG motion video compression; DVI technology; time-based media representation and delivery.

November 2026 to December 2026	Audio Compression and Decompression, Audio Synthesis, MIDI, Speech Recognition & Synthesis, Video Capturing, Compression & Decompression, Real-time 3D, LANs and Multimedia. Applications of M/M; Intelligent M/M system, Desktop Virtual Reality (VR), VR operating System, Virtual environment displays and orientation tracking; visually coupled system requirements; intelligent VR software systems. Applications of environments in various fields viz. Entertainment, manufacturing, business, education, etc.
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Name of Teacher : Ashish Malik

Class and Section: B.Sc. (Life Science) 1st sem (Minor)

Subject: Fundamentals of Computing and Problem Solving using C

Paper Code: 24CSC401MI01

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Computing Fundamentals: Overview of computing principles and history, Generation Computers, Block Diagram along with its components, Classification of computers, Applications of computers in various fields. Input/Output Devices, Memory: Concept of primary & secondary memory, Cache Memory, Secondary storage devices. Basics of Networking & Operating System: Introduction to computer networking, Network types, Network topologies, Internet and its applications; Operating system and its functions.
September 2026 to October 2026	Introduction to software development methodologies: Basics of algorithmic thinking and problem-solving strategies. Planning the Computer Program: Problem definition, Program design, Debugging, Testing and errors in programming, Techniques of Problem Solving-Flowcharting, Algorithms. Introduction to the C programming language: History of C, Importance of C, Elements of C: character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf, scanf Functions, Operator Expression, type casting.
October 2026 to November 2026	Decision making & Branching: Decision making with IF statement, IF-ELSE statement, IF statement, ELSE-IF ladder, switch statement, go to statement. Looping: while, do-while for loop, jumps in loops, break, continue statement, Nested loops. Functions and modular programming concepts: Standard Mathematical functions, Input and Output: Unformatted & formatted I/O' function in C, Input functions, output functions, string manipulation functions. User defined functions: Introduction/Definition, function prototype, Local and global variables, passing parameters, recursion.

November 2026 to December 2026	Arrays & Pointers: Definition, types, initialization, processing an array, passing array, functions declaration and initialization of string, Input/output of string data, Introduction to pointers. Advance Concepts of C Programming: Pointers and memory management in C; File input/output operations in C; Dynamic memory allocation and deallocation. Practical applications of C programming in software development: Algorithmic problems using C programming constructs; Design and implementation of C programs; Debugging techniques for C programs; Best practices and coding standards in C programming.
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Class and Section: B.A (3rd sem.) Minor

Subject: Internet and Web Design

Paper Code: 24CSC402MI01

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Introduction to Internet and World Wide Web: A brief Introduction to the Internet, Evolution of World Wide Web features; Web Browsers; Web Servers; Hypertext Transfer Protocol, URLs; Searching and Web-Casting; Search Engines and Search Tools, Domain Name System, Home Page, Web page and Website.
September 2026 to October 2026	Web Publishing: Hosting your Site; Internet Service Provider; Phases of Planning and designing your Site; Steps for developing your Site; Choosing the contents; Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML code; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text.
October 2026 to November 2026	List: Definition and types of Lists - Ordered and Unordered, Table Creation and Layouts. Images; Inserting Images; Frame Creation and Layouts; Creating Links; Working with Forms and Menus; Working with Radio Buttons; Text Boxes; Page layouts.
November 2026 to December 2026	Cascading Style Sheets (CSS): Basic Concepts, Properties, Creation of Style Sheets. Common Tasks with CSS: Links, Tables, Colors. Marquee. Mouse Overs. Filters and Transitions. Adding Links. Adding Tables. Adding Forms and Sound. Use of CSS in HTML Documents, Linking and Embedding of CSS in HTML.

Lesson Plan

Class - B.Sc. Computer Science(Single Major)

Faculty – Ms. Meenakshi Dalal

Subject –Computing Fundamentalsand C Programming

Subject Code – 24CSCS401DS02

Lesson Plan Duration - August 2026 to Dec 2026

Time Period	Topics
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August	Computing Fundamentals: Overview of computing fundamentals principles and history, Generations of Computers, Major components of Computer, Classification of computers, Applications of computers in various fields. Input/ Output Devices, Memory: Concept of primary & secondary memory, Cache Memory, Secondary storage devices. Basics of Networking & Operating System: Introduction to computer networking, Types of Network, Network Topologies, Internet and its applications; Operating system and its functions. Assignment and Test
September	Problem Solving: Basics of algorithmic thinking and problem-solving strategies, Planning the Computer Program - Problem definition, Program design, Debugging, Types of errors in programming, Techniques of Problem Solving-Flowcharting, Algorithms Introduction to the C Language: History of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() functions, Operators & Expression, type casting and conversion, operator hierarchy & associativity. Assignment and Test
October	Decision Making and Branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, go to statement. Decision Making and Looping: while, do-while and for loop, jumps in loops, break, continue statement, Nested loops. Functions and Modular Programming Concepts: Standard Mathematical functions, Input/Output: Unformatted and formatted I/O function in C, Input functions, Output functions, string manipulation functions. User-defined functions: Introduction/Definition, function prototype, local and global variables, passing parameters, recursion. Assignment and Test

November	Arrays & Pointers: Definition,types, initialization, processing an array, passing arrays to functions declarationand initialization of string, Input/output of string data, Introduction to pointers. Advance Concepts of C Programming: Pointers and memory management in C; File input/output operationsin C; Dynamic memory allocation and deallocation; Advanced control structures: switch, break, and continuestatements. Practical applications of C programming in software development: Algorithmic problem-solving using Cprogramming constructs; Design and implementation of C programs; Debugging and testing techniques for Cprograms; Best practices and coding standards in C programming. Assignment and Test
December	Revision

Class - B.Sc. Computer Science

Faculty – Ms. Meenakshi Dalal

Subject –Web Development-I (SEC)

Subject Code – 24CSC401SE01

Lesson Plan Duration - August 2026 to Dec 2026

Time Period	Topics
August	Introduction to Internet: Overview of Internet, World Wide Web, Evolution and History of WWW; BasicFeatures; Evolution of Web development. Web Browsers: Web Servers; Hypertext Transfer Protocol; URLs; IP Addresses; Domain Names; Searchingand Web- Casting Techniques; Search Engines and Search Tools;Internet Security; The Web Programmers;Toolbox. Web Technologies:Introduction Web Technologies; Introduction to HTML, CSS, and JavaScript; Client-Side vs. Server- Side Scripting. Assignment and Test

September	Web Publishing: Hosting your Site; Internet Service Provider; Planning and designing your Web Site; Stepsfor developing your Site; Choosing the contents; Home Page; Domain Names;Creating a Website and theMarkup Languages (HTML, DHTML). Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts; Lists, Tables; meta element; New HTML5 Form input Types; input and data listelements; auto complete Attribute; Page-Structure Elements; Introduction to DHTML and its features. Assignment and Test
October	Brief Introduction to Interactivity tools: CGI; Features of Java; Java Script; Features of ASP; VBScript; Macromedia Flash; Macromedia Dreamweaver; JavaScript: The JavaScript execution environment; The Document Object Model ; Element access in JavaScript; Events and event handling ; Handling events from the Body elements, Button elements, Text box,and Password elements ; The DOM 2 event model ; The navigator object ; DOM tree traversal andmodification. Assignment and Test
November	Introduction to CSS: Introduction to CSS, Block and Inline Elements, Inline Styles, using internal CSS, using external CSS, How CSS rules cascade, inheritance, external style sheets.CSS3 Basics: CSS selectors,color: foreground color, background color, contrast, opacity; text: Typeface terminology, SpecifyingTypefaces, fonts; list tables and forms: list-style, table properties, styling forms, styling text input. Layout and positioning: layout: key concepts in positioning elements, controlling the position of elements:relative positioning, absolute positioning, fixed positioning, z-index, float, clear, creating multi column layoutwith float, fixed width layout, liquid layout, layout grids, Images: controlling size of images in CSS, aligningimages using CSS, centering images using CSS, background images, gradients, Media Queries. Assignment and Test
December	Revision

Name of Assistant Professor: Dr.
Subita Kumari

ClassandSection:M.Sc.3rdSem(Com
puterSc.)

Subject: Full Stack Development – I

PaperCode:25CSC203SE01

Lesson Plan: August 2026 to December 2026

Month	Topics to be covered
August 2026	Introduction to Web Development: Client-Server Architecture HTML5: Elements, Forms, Semantic Tags
September 2026	CSS3: Selectors, Box Model, Grid, Flexbox JavaScript Basics: DOM Manipulation, Events, ES6 Features Browser Developer Tools Responsive Design: Media Queries, Bootstrap, Tailwind CSS JavaScript Libraries: jQuery, AJAX Frontend Frameworks: Introduction to React.js/Angular/Vue.js Test of Unit 1
October 2026	Component-based Development and State Management Case Study: Developing a Responsive Website. Introduction to Backend Development: Role and Concepts Vacations (Diwali) Node.js: Setting up, Basic Syntax, File System, Modules, RESTful API Development with Express.js, Database Integration: MongoDB Basics and CRUD Operations, Authentication: JWT, OAuth Basics Test of unit 2

November 2026	VersionControl:GitBasicsand GitHub, Deployment: Using Platforms like Heroku, Vercel DebuggingandTesting:Unit Testing, Mocha, and Chai, Continuous Integration/Continuous Deployment (CI/CD) Basics CaseStudy:Developingand Deploying a Full Stack Application. Presentatiions of Mini Project
December 2026	RevisionoffullSyllabus and presentations of Mini Project

Name of Assistant Professor: Dr.

Subita Kumari

ClassandSection:BCA 1stSem

Subject: Mathematical Foundation to

Computer Science-1

PaperCode:25BCA401DS01

LessonPlan:August2026toDecember2026

Month	Topicstobecovered
August 2026	Set, Set Operations, Properties of Set operations, Subset, Venn Diagrams, Cartesian Products.
September 2026	Relations on a Set, Properties of Relations, Representing Relations using matrices and digraphs, Types of Relations, Equivalence relation and partition on set, Closures of Relations, Warshall's algorithm. Functions, properties of functions (domain, range), composition of functions, surjective (onto), injective (one-to-one) and bijective functions, inverse of functions. Some useful functions for Computer Science: Exponential and Logarithmic functions, Polynomial functions, Ceiling and Floor functions. Test of Unit 1

October 2026	Basics of counting, Pigeonhole principle, permutation, combination, Binomial coefficients, Binomial theorem. Recurrence relations, modelling recurrence relations with examples, like Fibonacci numbers, the tower of Hanoi problem. Solving linear recurrence relation with constant coefficients using characteristic equation roots method. Test of Unit 2
November 2026	Basic terminologies of graphs, connected and disconnected graphs, subgraph, paths and cycles, complete graphs, digraphs, weighted graphs, Euler and Hamiltonian graphs. Trees, properties of trees, concept of spanning tree. Planar graphs. Definitions and basic results on the topics mentioned. Assignment 1
December 2026	Types of matrices, algebra of matrices, addition, subtraction, and multiplication of matrices, determinant of a matrix, symmetric and skew-symmetric matrices, orthogonal matrix, rank of a matrix, inverse of a matrix, applications of matrices to solve system of linear equations, Eigen values and Eigen vectors, Caley-Hamilton theorem. Assignment 2

Name of Assistant Professor: Dr.

Sonia

Class and Section: APGDCA 1ST Sem

Subject: Fundamental Course in IT

and MS-Office

Paper Code: APGDCA-101

Lesson Plan: September 2026 to December 2026

Month	Topics to be covered
September 2026	Introduction: Historical evolution of computers, Classification of computers, Model of a digital computer, functioning of a digital computer, Why computers are useful? Human being Vs computer, Computer as a tool, Applications of computers (desktop publishing, sports, design and manufacturing, research and design, military, robotics, planning & management, marketing, medicine & health care, arts, communications). Number systems and Boolean Algebra : What is Number system, necessity of binary number system, binary, octal and hexadecimal number system, inter-conversion of numbers, binary arithmetic. Test of Unit 1
October 2026	Input/Output Devices : Punched cards, card-readers, key-punching machines, keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition, scanners, terminals, point-of-sale terminals, machine-vision systems. Hard-copy devices : Print quality, Impact printers - DMPs, Daisy-wheel printers, Line-printers, Drum printers, Chain printers; Non-impact printers - Inkjet, Laser, Thermal, LED; Plotters. Soft-copy devices : monitors, video-standards (VGA and SVGA). Memory & Mass Storage Devices: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks - floppy disk, hard-disk; optical disks - CD, CD-I, CD-ROM; Magnetic tapes; Concepts of Virtual and Cache memory. Test of Unit 2 MS-Word : Introduction to MS-Word, Standard Toolbar, WordWrap, Text formatting, Formatting Paragraphs, Applying Effects to Text, Applying Animation to Text.

November 2026	Software Concepts : Introduction, types of software - System & Application software; Language translators - Compiler, Interpreter, Assembler; Operating system - Characteristics, bootstrapping, types of operating, operating system as a resource manager; BIOS; System utilities - Editor, Loader, Linker, File Manager. Concept of GUI, GUI standards. Social Concerns : Positive and Negative Impacts of Computer Technology, Viruses and their types, Computer Crimes. • MS-Excel : Introduction to MS-Excel, Working with Toolbars, Formatting, Formulas, Data Management, Graphs & Chart, Macros, and other additional Functions. Assignment
December 2026	MS-PowerPoint : Introduction, PowerPoint Slide Creation, Slide-show, Adding Graphics, Formatting, Customizing and Printing. Revision

Name of Assistant Professor: Dr.

Sonia

Class and Section: BCA 1st Sem

Subject: Mathematical Foundation to

Computer Science-1

Paper Code: 25BCA401DS01

Lesson Plan: August 2026 to December 2026

Month	Topics to be covered
August 2026	Set, Set Operations, Properties of Set operations, Subset, Venn Diagrams, Cartesian Products.
September 2026	Relations on a Set, Properties of Relations, Representing Relations using matrices and digraphs, Types of Relations, Equivalence relation and partition on set, Closures of Relations, Warshall's algorithm. Functions, properties of functions (domain, range), composition of functions, surjective (onto), injective (one-to-one) and bijective functions, inverse of functions. Some useful functions for Computer Science: Exponential and Logarithmic functions, Polynomial functions, Ceiling and Floor functions. Test of Unit 1
October 2026	Basics of counting, Pigeonhole principle, permutation, combination, Binomial coefficients, Binomial theorem. Recurrence relations, modelling recurrence relations with examples, like Fibonacci numbers, the tower of Hanoi problem. Solving linear recurrence relation with constant coefficients using characteristic equation roots method. Test of Unit 2

November 2026	Basic terminologies of graphs, connected and disconnected graphs, subgraph, paths and cycles, complete graphs, digraphs, weighted graphs, Euler and Hamiltonian graphs. Trees, properties of trees, concept of spanning tree. Planar graphs. Definitions and basic results on the topics mentioned. Assignment 1
December 2026	Types of matrices, algebra of matrices, addition, subtraction, and multiplication of matrices, determinant of a matrix, symmetric and skew-symmetric matrices, orthogonal matrix, rank of a matrix, inverse of a matrix, applications of matrices to solve system of linear equations, Eigen values and Eigen vectors, Caley-Hamilton theorem. Assignment 2

Lesson Plan

Class – M.Sc(Comp. Sc.) 1st Sem.

Faculty – Ms. Navita

Subject –Paper Code- 24CSC201DS01

Lesson Plan Duration - From August 2026 to December 2026

August - September
Set Theory: Definition of sets, countable and uncountable sets, Venn Diagrams
Proofs of some general identities on sets. Problems Solved based on each topic and Test and Assignment
Relation Definition, Pictorial representation of relation, Operations
Types of relation, composition of relations, Equivalence relation, partial ordering relation. Problems Solved based on each topic
October
Function: Definition, type of functions, One to one, into and onto function, inverse function, Composition of functions, Recursive Functions
Propositional Logic: Proposition logic, basic logic, Logical Connectives, truth tables

Tautologies, Contradiction, Logical implication
Predicate Calculus: Predicates and quantifiers. Mathematical Induction Problems Solved based on each topic and Test and Assignment
November
Formal Languages: Introduction to defining language, Kleene Closure, Arithmetic expressions, Chomsky Hierarchy, Regular expressions
Diwali Break
Automata Theory: Conversion of regular expression to Finite Automata, NFA, DFA
Problems Solved based on each topic and Test and Assignment
December
Conversion of NFA to DFA, FA with output: Moore machine, Mealy machine

Lesson Plan

Class – M.Sc (Comp. Sc.) 1st Sem.

Faculty – Ms. Navita

Subject –Paper Code- 24CSC202MV01

Lesson Plan Duration - From August 2026 to December 2026

August- September
Introduction: Internet, Evolution of Internet, Types of Computer Network: LAN, WAN, MAN Internet Protocol
Internet Services, WWW, Working of Internet
Introduction to Intranet, DNS working, Configuring Internet Connection, Connecting LAN to Internet; Client-Server environment: Single User, Multi User, Server, Workstation, Computer Network; Network Topologies; Network Protocols
October
E-Mail Concepts – Configuring E-Mail Program, Sending and Receiving Files through E-Mail, Fighting Spam, Sorting Mail, E-Mail mailing lists and avoiding E-Mail viruses
Test and Assignment
Searching and Web Casting Technique: Popular web servers, Web Browsers; basic features of browsers: bookmarks, cookies, progress indicators

Customization of browsers, browsing tricks, next generation web browsing, search engines; Hypertext Transfer Protocol (HTTP), URL.
Internet Tools: Online Chatting, Messaging, and Conferencing Concepts,
Usenet newsgroup concepts: Reading UseNet newsgroups, Instant messaging, Web-Based chat rooms and discussion boards, Voice and Video conferencing.
November
Streamlining Browsing, Keeping track of Favorite Websites, Web Security, Privacy, and SiteBlocking Test and Assignment
Web Designing using HTML: Understanding HTML, XHTML Syntax and Semantics, HTML Elements: Paragraph, Lists, Tables, Images, Frames, Forms,
Linking to other Web Pages: External and Internal linking, Email Links; Working with Background colors and Images;. Test and Assignment
Marquee; Text Alignment and Text Formatting, Advanced Layout with Tables; Publishing HTML Pages, Cascading Style Sheets (CSS): Introduction, Inline, Internal, External CSS, Linking CSS to Web Page,
December
Client-Side Programming: Introduction to JavaScript, Basic Syntax, Variables and Data types, Statements, Operators, Literals, Functions, Objects, Arrays.
XML: Relation between XML and HTML, Goals of XML, Structure and Syntax of XML, Well Formed XML, DTD and its Structure, tree structures in data organization, Searching with XPath. Test and Assignment

Name of Assistant Professor: Dr.Nisha Malik

Class and Section: M.Sc. 1st Sem (Computer Sc.)

Subject: Computer Organisation and Architecture

Paper Code: 24CSC201DS04

Lesson Plan: August 2026 to December 2026

Time Period	Topics
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August 2026 to September 2026	Number Systems: Binary, Octal and Hexadecimal , Integer and Floating-point representation, Character codes: ASCII and EBCDIC, Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates, De Morgan's theorem; Universal building blocks; Simplifying logic circuits: sum of product and product of sum form, Karnaugh Map simplification; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder), Sequential logic blocks (Latches, Flip-Flops, Registers, Counters),
September 2026 to October 2026	Register Transfer Language, Bus and Memory Transfer, Micro operations: Arithmetic, Logic & Shift Micro operations, Basic Computer Organization and Design: Instructions Codes, Register reference, Memory Reference & Input-Output instructions, Instruction Cycle, Timing and Control, Interrupts; Design of Control unit: Hardwired control unit, Micro-programmed control unit, Register Organization: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes; Data Transfer & Manipulation Instructions, Introduction to x86 Assembly Language programming.
October 2026 to November 2026	Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory, Virtual Memory, Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer, Priority interrupt, Direct Memory Access (DMA), Input-output processors (IOP), Serial communication

November 2026 to December 2026	Parallel Computing: CISC and RISC - Features and Comparison, Pipeline and Vector Processing: Parallel processing, Pipelining, Arithmetic Pipeline, Instruction pipeline and Arrays Processors. Advanced Architecture Multi-processors, characteristics of multi-processors, Interconnection structures, Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence, Revision of all Syllabus
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Name of Assistant Professor: Dr.Nisha Malik

Class and Section: M.Sc. 1st Sem (Computer Sc.)

Subject: Computer Fundamentals and Programming in C

Paper Code: 24CSC201DS03

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Concept of data and information; Components of Computer: Hardware, Input Device, Output Device, CPU: Components of CPU; Memory and Storage Devices; Computer Software: System Software and Application Software; Functions of Operating System. Programming Languages: Machine, Assembly, High Level Language, 4GL; Language Translator; Linker, Loader, Classification of Computers: Micro, Mini, Mainframe, Super computer. Advantages of Computer, Limitations of Computer, Range of Applications of Computer, Social concerns of Computer Technology: Positive and Negative Impacts, Computer Crimes, Viruses and their remedial solutions

September 2026 to October 2026	Problem Solving: Problem Identification, Analysis, Flowcharts, Decision Tables, Pseudo codes and algorithms, Program Coding, Program Testing and Execution, C Programming Fundamentals: Keywords, Variables and Constants, Structure of a C program. Operators & Expressions: Arithmetic, Unary, Logical, Bit-wise, Assignment & Conditional Operators, Library Functions, Control Statements: Looping using while, do...while, for statements, Nested loops; decision making using if...else, Else If Ladder, Switch, break, Continue and Goto Statements
October 2026 to November 2026	Declaration, initialization of Multidimensional Arrays, String: Operations of Strings; Functions: Defining & Accessing User defined functions, Function Prototype, Passing Arguments, Passing array as argument, Recursion, Use of Library Functions; Macro vs. Functions, Pointers: Declarations, Operations on Pointers, Passing to a function, Pointers & Arrays, Array of Pointers, Array accessing through pointers, Pointer to functions, Function returning pointers, Dynamic Memory Allocations
November 2026 to December 2026	Structures and Union: Defining and Initializing, Structure , Array within Structure ,Array of Structure, Nesting of Structure , Pointer to Structure, Passing structure and its pointer to Functions, Unions: Introduction to Unions and its Utilities. Files Handling: Opening and closing file in C; Create, Read and Write data to a file, Modes of Files, Operations on file using C Library Functions; Working with Command Line Arguments, Program Debugging and types of errors, Revision of all Syllabus

Name of Assistant Professor: Dr. Nisha Malik

Class and Section: M.SC 1st Sem(Computer Sc.)

Subject: Practical Software Lab

Paper Code: 24CSC201DS03, 24CSC201DS04

Name of Assistant Professor: Dr. Nisha Malik
Class and Section: BSC Life Sc 3rd Sem(Computer Sc.)(Minor)
Subject: Practical Software Lab
Paper Code: 24CSC402MI01

Name of Assistant Professor: Dr.Nisha Malik
Class and Section: M.Sc. 1st Sem (Computer Sc.)
Subject: Computer Organisation and Architecture
Paper Code: 24CSC201DS04
Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Number Systems: Binary, Octal and Hexadecimal , Integer and Floating-point representation, Character codes: ASCII and EBCDIC, Boolean Algebra and Logic Gates: OR, AND, NOT,XOR Gates, De Morgan's theorem; Universal building blocks; Simplifying logic circuits: sum of product and product of sum form, Karnaugh Map simplification ion; Combinational logic blocks (Adders, Multiplexers, Encoders, Decoder), Sequential logic blocks (Latches, Flip-Flops, Registers, Counters),

September 2026 to October 2026	Register Transfer Language, Bus and Memory Transfer, Micro operations: Arithmetic, Logic & Shift Micro operations, Basic Computer Organization and Design: Instructions Codes, Register reference, Memory Reference & Input-Output instructions, Instruction Cycle, Timing and Control, Interrupts; Design of Control unit: Hardwired control unit, Micro-programmed control unit, Register Organization: General Register Organization, Stack Organization, Instruction Formats, Addressing Modes; Data Transfer & Manipulation Instructions, Introduction to x86 Assembly Language programming.
October 2026 to November 2026	Memory Organization: Memory Hierarchy, Main Memory, Auxiliary Memory, Cache Memory, Virtual Memory, Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer, Priority interrupt, Direct Memory Access (DMA), Input-output processors (IOP), Serial communication
November 2026 to December 2026	Parallel Computing: CISC and RISC - Features and Comparison, Pipeline and Vector Processing: Parallel processing, Pipelining, Arithmetic Pipeline, Instruction pipeline and Arrays Processors. Advanced Architecture Multi-processors, characteristics of multi-processors, Interconnection structures, Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence, Revision of all Syllabus

Name of Assistant Professor: Dr.Nisha Malik

Class and Section: M.Sc. 1st Sem (Computer Sc.)

Subject: Computer Fundamentals and Programming in C

Paper Code: 24CSC201DS03

Lesson Plan: August 2026 to December 2026

Time Period	Topics
August 2026 to September 2026	Introduction to Computer Network: Types of Networks, Network Topologies, OSI and TCP/IP Reference Model. Data Communications Concepts: Digital Vs. Analog communication; Parallel and Serial Communication Synchronous, Asynchronous and Isochronous Communication; Communication modes: simplex, half duplex, full duplex; Multiplexing, Transmission media: Wired-Twisted pair, Coaxial cable, Optical Fibre, Wireless transmission: Terrestrial, Microwave, Satellite, and Infrared
September 2026 to October 2026	Communication Switching Techniques: Circuit Switching, Message Switching, Packet Switching. Data Link Layer Fundamentals: Framing, Basics of Error Detection, Forward Error Correction Cyclic Redundancy Check codes for Error Detection, Flow Control. Media Access Protocols: ALOHA Carrier Sense Multiple Access (CSMA), CSMA with Collision Detection (CSMA/CD), Token Ring, Token Bus.

October 2026 to November 2026	High-Speed LAN: Standard Ethernet, Fast Ethernet, Gigabit Ethernet, 10G Wireless LANs: IEEE 802.11, Bluetooth. Network Layer: IP Addressing and Routing , Network Layer Protocols: IPv4 (Header Format and Services), ARP, ICMP (Error Reporting and Query message); IPv6 (Header Format and Addressing)
November 2026 to December 2026	Transport Layer: Process-to-Process Delivery: UDP, TCP; Application Layer: Domain Name System (DNS); SMTP; HTTP; WWW. Network Security: Security Requirements and attacks Cryptography: Symmetric Key (DES, AES), Public Key Cryptography (RSA); Firewall, Revision of all Syllabus

Name of Assistant Professor: Dr. Nisha Malik

Class and Section: M.SC 1st Sem(Computer Sc.)

Subject: Practical Software Lab

Paper Code: 24CSC201DS03, 24CSC201DS04

Name of Assistant Professor: Dr. Nisha Malik

Class and Section: BSC Life Sc 3rd Sem(Computer Sc.)(Minor)

Subject: Practical Software Lab

Paper Code: 24CSC402MI01

Name of Lecturer Dr. Shalu rani

Class and Section: BCOM 5th Sem

Subject: Database Design and MySQL

Paper Code:- 26CSC405MV01

Lesson Plan:- August 2026 to December 2026

Time Period	Topics
11 th August 2026 to 11 th September 2026	Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.
12 th September 2026 to 11 th October 2026	Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N , M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.

12 th October 2026 to 11 th November 2026	Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored Procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK, isolation levels
12 th November to 6 th December 2026	Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc), Revision and Test

Name of Lecturer

Dr. Shalu rani

Class and Section:

BSc Physical Sc 5th Sem

Subject:

Database Design and MySQL

Paper Code:-

26CSC405MV01

Lesson Plan:-

August 2026 to December 2026

Time Period	Topics
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11 th August 2026 to 11 th September 2026	Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.
12 th September 2026 to 11 th October 2026	Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N , M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.
12 th October 2026 to 11 th November 2026	Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored Procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK, isolation levels
12 th November to 6 th December 2026	Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc), Revision and Test

Name of Lecturer

Dr. Shalu rani

Class and Section:

BCA 5th Sem

Subject:

Web Application Development

Paper Code:-

25BCA405DS04

Time Period	Topics
11 th August 2026 to 11 th September 2026	Introduction: Concept of WWW, Internet and WWW, HTTP Protocol: Request and Response, Web browser and Web servers, Features of the latest version of Web. Web Design: Concepts of effective web design, Web design issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Website, Page Layout and linking, User-centric design, Sitemap, Planning and publishing website, Designing effective navigation
12 th September 2026 to 11 th October 2026	HTML: Basics of HTML, formatting and fonts, commenting code, color, hyperlink, lists, tables, images, forms, XHTML, Meta tags, Character entities, frames and frame sets, Browser architecture and Web site structure. Overview and features of the latest version of HTML. Stylesheets: Need for CSS, introduction to CSS, basic syntax and structure, using CSS, background images, colours and properties, manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS, CSS2, Overview and features of the latest version of CSS.
12 th October 2026 to 11 th November 2026	JavaScript: Client-side scripting with JavaScript, variables, functions, conditions, loops and repetition, Pop up boxes, Advance JavaScript: JavaScript and objects, JavaScript own objects, the DOM and web browser environments, Manipulation using DOM, forms and validations, DHTML: Combining HTML, CSS and JavaScript, Events and buttons. XML: Introduction to XML, uses of XML, simple XML, XML key components, DTD and Schemas, Using XML with application. Transforming XML using XSL and XSLT.

12 th November to 6 th December 2026	PHP: Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, string, Form processing, Files, Advance Features: Cookies and Sessions. PHP and MySQL: Basic commands with PHP examples, Connection to server, creating database, selecting a database, listing database, listing table names, creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables, PHP my admin and database bugs. Revision and Test
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Lesson Plan:-

August 2026 to December 2026

Name of Lecturer

Dr. Shalu rani

Class and Section:

BCA 5th Sem

Subject:

Practical Software Lab

Paper Code:-

25BCA405DS04

Lesson Plan

Class and Section: BCA 1stSem Sec B

Faculty - Ms. Monika Ahlawat

Subject: Problem Solving Techniques

Paper Code: 25BCA401SEC01

Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

UNIT I: Problems And Problem Instances, Generalization and Special Cases, Types of Computational Problems, Classification of Problems, Analysis of Problems, Solution Approaches, Algorithm Development, Analysis of Algorithm, Efficiency, Correctness, Role of Data Structures in Problem Solving, Problem-Solving Steps (Understand the Problem, Plan, Execute, And Review), Breaking the Problem into Subproblems, Input/Output Specification, Input Validation, Pre and Post Conditions.

UNIT II: Structured Programming Concepts: Sequence (Input/Output/Assignment), Selection (If, If-Else) And Repetition (For, While, Do-While) Statements, Control Structure Stacking and Nesting. Different Kinds of Repetitions: Entry Controlled, Exit Controlled, Counter Controlled, Definite, Indefinite and Sentinel-Controlled Repetitions. Pseudocode and Flowcharts. Definition And Characteristics of Algorithms, Standard Algorithm Format.

12 September 2026-11 October 2026

Problems Involving Iteration and Nesting: Displaying Different Patterns and Shapes Using Symbols and Numbers, Generating Arithmetic and Geometric Progression, Fibonacci and Other Sequences, Approximate Values For π , $\sin(x)$, $\cos(x)$, Etc. Using Taylor Series. Different Kinds of Data in The Real World and How They are Represented in The Computer Memory. Representation of Integers: Signed Magnitude Form, 1's Complement And 2's Complement. Representation of Real Numbers: IEEE 754 Floating Point Representation. Representation of Characters: ASCII, UNICODE. C Language: Introduction To Programming Languages, Different Generations of Programming Languages. Typed Vs Typeless Programming Languages, History of C Language, An Empty C Program. C Language Counterparts For Input (scanf()), Output (printf()) Statements, Assignment, Arithmetic, Relational and Logical Operators. If, If-Else Statements, For, While, Do-While Statements. Data Types. Translating Pseudocode/Algorithm to C Program. Incremental Compilation and Testing of The C Program. Simple Problems Involving Input, Output, Assignment Statement, Selection and Repetition. Good Coding Practices.

12 October 2026-11 November 2026

UNIT III: (Problems on Numbers: Extracting Digits of a Number (Left to Right and Right to Left), Palindrome, Prime Number, Prime Factors, Amicable Number, Perfect Number, Armstrong Number, Factorial, Converting Number from One Base to Another. Statistics (Maximum, Minimum, Sum and Average) on a Sequence of Numbers which are Read using Sentinel Controlled Repetition using only a few Variables. C Language: else-if Ladder, switch Case, Increment/Decrement Operators, break and continue Statements

12 November 2026-06 December 2026

UNIT IV: (CO-2, CO-3, CO-4, CO-5) Modular Programming, Top-Down and Bottom-Up Approaches to Problem Solving. Recursion. Problems on Arrays: Reading and Writing of Array Elements, Maximum, Minimum, Sum, Average, Median and Mode. Sequential And Binary Search. Any one Sorting Algorithm. Matrix Operations. C Language: Function Definition and Declaration (Prototype), Role of Return Statement, One Dimensional and Two-Dimensional Arrays. String Functions. Other Operators, Operator

Precedence and Associativity. Debugging.

Lesson Plan

Class and Section: BCA 3rdSemSec A and Sec B
Faculty - Ms. Monika Ahlawat
Subject: Software Engineering
Paper Code: 26BCA403DS03
Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

UNIT I: The evolving role of software, changing nature of software, layered technology, a process framework, Process models: The waterfall model, incremental process models, evolutionary process models, the unified process. Agile software development: Agility Principles, Agile methods, Plan-driven and agile development, Extreme programming, Scrum, A Tool Set for the Agile Process.

12 September 2026-11 October 2026

Software Requirements Engineering: Functional and non-functional requirements, the software requirements document, Requirements specification, Requirements engineering processes, Requirements elicitation and analysis, Requirements validation, Requirements management. Risk management: Reactive Vs proactive risk strategies, software risks, risk identification, risk projection, risk refinement, RMMM, RMMM plan. Project planning- Software pricing, Plan-driven development, Project scheduling, Agile planning, Estimation techniques.

12 October 2026-11 November 2026

Design: Design process and design quality, design concepts, the design model, software architecture, data design, architectural design, Basic structural modeling, class diagrams, sequence diagrams, collaboration diagrams, use case diagrams, component diagrams. Testing Strategies: A strategic approach to software testing, test strategies for conventional software, black-box and white-box testing, validation testing, system testing, the art of debugging. Product metrics: Software quality, metrics for analysis model, metrics for design model, metrics for source code, metrics for testing, metrics for maintenance.

12 November 2026-06 December 2026

Quality Management: Quality concepts, software quality assurance, software reviews, formal technical reviews, statistical software quality assurance, software reliability. Release Management: Release planning, development and build plans, release strategies, risk management, and post-deployment monitoring. Product sustenance: Maintenance, updates, End of life, migration strategies.

Lesson Plan

Class and Section: BA 5thsem Sec B

Faculty - Ms. Monika Ahlawat

Subject: Database Design and MySQL

Paper Code: 26CSC405MV01

Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Database Fundamentals: Definition, purpose, and types of databases (flat-file vs. relational). Components of a DBMS: Storage engine, query processor, transaction manager. Applications of databases in industries (e.g., healthcare, e-commerce etc). Relational Model Basics: Tables, rows, columns, keys (primary, foreign, candidate). Integrity constraints: Entity, referential, domain. Introduction to MySQL: Overview of MySQL as an RDBMS. MySQL architecture and installation.

12 September 2026-11 October 2026

Entity-Relationship (ER) Modelling: Entities, attributes, relationships (1:1, 1:N, M:N). ER diagram notation (Chen/UML) and case studies. Relational Schema Design: Converting ER diagrams to relational tables. Normalization: Functional dependencies, anomalies (insertion, deletion, update). 1NF, 2NF, 3NF, and BCNF with practical examples.

12 October 2026-11 November 2026

Structured Query Language (SQL): DDL: CREATE, ALTER, DROP tables. DML: INSERT, UPDATE, DELETE. DQL: SELECT with clauses (WHERE, GROUP BY, JOIN, subqueries). Advanced SQL in MySQL: Built-in functions (string, numeric, date/time). Views, indexes, and stored procedures. Transactions and Concurrency: ACID properties, COMMIT, ROLLBACK,

isolation levels.

12 November 2026-06 December 2026

Database Optimization: Query optimization using EXPLAIN, indexing strategies. Normalization vs. denormalization tradeoffs. Security and Backup: User management, roles, and privileges in MySQL. Data encryption, backups (mysqldump), and recovery. Integration and Scalability: Connecting MySQL with applications. Introduction to cloud databases (e.g., AWS RDS, MySQL on Azure etc).

Name of Assistant Professor: Dr. AnjuBala

Class and Section: M.Sc. 3RDSem (Computer Sc.)

Subject: Java Programming

Paper Code: 25CSC203DS02

Lesson Plan: August 2026 to December 2026

August

Introduction to Java: History and Evolution of Java, Its Features, Java Development Kit (JDK) and Java

Runtime Environment (JRE), Understanding JVM and Bytecode. Java Syntax and Structure, Identifiers, Keywords, Literals, Comments, Operators Assignments, Data Types, Variables and its types, Constants, Expressions Statements: if-else, switch, loops (for, while, do-while).

Class Fundamentals: Object & Object reference, Object Life time & Garbage Collection, Creating and Operating Objects, Constructor & initialization code block, Access Control, Modifiers, methods Nested, Inner Class & Anonymous Classes.

Assignment based on Topics covered

September

Abstract Class & Interfaces Defining Methods, Argument Passing Mechanism, Method Overloading, Recursion, Dealing with Static Members, Finalize() Method, Native Method. Use of Access Modifiers with Classes & Methods, Design of Accessors.

Array: Initializing & Accessing Array, Multi –Dimensional Array, Operation on String, Mutable & Immutable String, Using Collection, Basic Loop for String, Creating Strings using StringBuffer

Introduction to Inheritance: Use and Benefits of Inheritance in OOPs, Types of Inheritance in Java, Inheriting Data members and Methods, Role of Constructors in inheritance, Overriding Super Class Methods, Use of “super”, Polymorphism in Java.

Interface: Purpose of interface, defining an interface, implementing interfaces, Interface reference variables, Interface with variables, Extending interfaces.

Assignment based on Topics covered

October

Exception Handling: Types of Errors in Java, Try-Catch Blocks and Finally Clause, Throw and Throws Keywords, Creating Custom Exceptions.

Packages: Package as Access Protection, Defining Package, CLASSPATH Setting for Packages, Import and Naming Convention for Packages

Multithreading and Concurrency: Introduction to Threads and Processes, Creating and Managing Threads, Thread Synchronization and Inter-thread Communication.

Assignment based on Topics covered

November

File Handling in Java: Working with Files and Directories, I/O Basic, Byte and Character Structures, I/O

Classes, Reading Console Input Writing Console Output, BufferedReader and BufferedWriter, Serialization and Deserialization, Random Access Files, Storing and Retrieving Objects from File, Stream

Collection API: ArrayList, Vector, LinkedList, Stack.

Applet Programming: How Applets differ from Java Application, Applet Life Cycle, APPLET Tag, Running an Applet, Passing Parameters to Applet. Event Handling: Mechanism, The Delegation Event Model, Event Classes, Event Listener Interfaces, Adapter and inner classes

GUI Programming: Designing Graphical User Interfaces in Java, Components and Containers, Basics of

Components, Using Containers

Assignment based on Topics covered

December

Layout Managers, AWT Components, adding a Menu to Window,
Working with Buttons, TextFields, and Labels.

Revision of all Syllabus

Test and Presentation

Name of Assistant Professor: Dr.AnjuBala

Class and Section: M.Sc. 3RDSem (Computer Sc.)

Subject: Data Warehousing & Mining

Paper Code: 25CSC203DS04

Lesson Plan: August 2026 to December 2026

August

Introduction, Data Warehouse and Database Systems, Data Warehouse Architecture, Data Warehouse Models, Data Cube and OLAP, Multidimensional data Model, Concept Hierarchies, OLAP operations, Data Warehouse Implementation.,

September

Data Mining: Overview and its Importance, Knowledge Discovery Process, Classification of Data Mining

Systems, Data Mining Applications and Challenges.

Assignment based on Topics covered

Data Pre-processing: Need for pre-processing, Data

October

Data Mining Associations and Correlations: Mining Frequent Patterns, Relational Algebra and Advanced Pattern Mining. Pattern Mining in Multilevel.

Multidimensional Space, Constraint-Based Frequent Pattern Mining.

November

Classification: Introduction, Classification using Decision Tree Induction, Bayesian Classification Methods,

Rule Based Classification, Model Evaluation and Selection,

Techniques to Improve Classification Accuracy.

Cluster Analysis: Introduction, Basic Clustering characteristics, Partitioning Methods, Hierarchical Methods,

Evaluation of Clustering methods.

Revision of all Syllabus

Test and Presentation

Lesson Plan

Class and Section:

B.Sc Phy. Sci. (3rd Sem)

Faculty - Pooja Anand
Subject: Data Structure and Algorithm
Paper Code: 25CSCM403DS01
Lesson Plan: August 2026 to December 2026

August

Introduction to Data Structures: Classification of Data Structures, Application of Data Structure Algorithms: Role of algorithms in computing, Complexity of algorithms, analysing algorithms, designing algorithms, asymptotic notation. Arrays: One Dimensional Arrays, Two Dimensional Arrays and Multi-Dimensional Arrays, Sparse Matrices. Searching & Sorting: Linear and Binary Search, Sorting: Selection, Insertion, Bubble, Merge Sort and Quick Sort, Radix Algorithms

September

Stacks: Definition, Implementation of Stacks and its Operations, Evaluation of Infix, Prefix and Postfix Expression, Inter-conversion of Infix, Prefix and Postfix Expression, Queues: Definition, Sequential Implementation of Linear Queues and its Operations, Circular Queue, Dequeue and Priority Queues and its Implementation, Application of Queues.

October

Linked List: Need of Dynamic Data structures, Singly Linked list; Operations on list, Linked Stack and Queues. Polynomial representation and manipulation using linked lists. Traversing, Insertion, Deletion Operations on Single Link Lists. Comparison between Static and Dynamic, Implementation of Linked List. Circular Linked List: Circular linked list, doubly linked lists, Dynamic implementation of Primitive Operation on Circular and Doubly Link Lists.

November

Trees: Definition, Basic Terminology, Binary tree, External and Internal Nodes, Static and Dynamic .Implementation of a Binary tree, Primitive Operations on Binary trees. Binary Tree Traversal: Pre-Order, In-order and Post Order Traversal.

December

Representation of Infix, Post-fix and Prefix Expression using Trees.

Lesson Plan

Class and Section: B.Com Minor (3rd Sem)

Faculty - Pooja Anand

Subject: Object-Oriented Concepts and C++ Programming

Paper Code: 25CSC403M101

Lesson Plan: August 2026 to December 2026

August

Object Oriented Programming: Basic concept of OOP, Comparison of Procedural programming and OOP, Application of object-oriented programming. Characteristic of OOP: Objects, classes, Encapsulation, Data Abstraction, Inheritance, Polymorphism, Dynamic Binding, Message Passing. Structure of C++ programming language: Basic syntax and structure of C++ programs, Data types, variables, and constants in C++, Control structures: decision making and looping constructs. Functions and parameter passing in C++, Arrays and strings in C++, Pointers.

September

Object Oriented Concepts: Class, Object, Memory allocation for objects, Member functions and data members, Access specifiers: public, private, protected, Encapsulation and data hiding, Constructors and destructors, Accessor and mutator functions, Friend functions. Memory Management: Dynamic Memory allocation: new and delete, Static class members, Constructors, parameter Constructors and copy Constructors, Destructors.

October

Inheritance: Types of Inheritance, Overriding Base Class members in a derived class, Public, Protected and Private Inheritance, Constructors and destructors in derived classes, Virtual Inheritance. Polymorphism: function overloading, Operator overloading, Overloading Unary and Binary Operators, Abstract classes and pure virtual functions, Dynamic polymorphism.

November

Exception handling: Try, Throw, Catch, Multiple catch, Re-Throwing an Exception specifications, Processing unexpected exceptions Templates: Function Templates, Overloading Template function, Class Templates, namespaces

December

Overview of Standard Template Library.

Lesson Plan

Class and Section: BCA 3rdSem

Faculty - Ms. Monica Sindhu

Subject: Basics of Data Analytics using Spreadsheet
Paper Code: DSE201
Lesson Plan: August 2026 to December 2026

August

Introduction to Data Analytics:

Understanding data and its types (structured, unstructured, semi-structured)

September

What is Data Analytics: Types of data Analytics.

Importance and Applications:

Importance of Data Analytics- Applications of Data Analytics.

October

Data, Ethics:

Data Collection Methods - Different Data Sources & format - Data Cleaning

November

Transformation: Handling Missing Data and Outliers. - Ethical considerations in data analytics.

December

Applications in Industry-Case Studies:

Real-world Applications of Data Analytics- Industry-specific applications (finance, marketing, operations) - Case Study

Class –Bsc Life Sc 3rdsem 25CSCX03MD01

Faculty - Ms. Monica Sindhu

Subject –Web Designing

Lesson Plan Duration - From August 2026 – December 2026

Time Period	Topics
Week2(August)	Concept of web design, Web servers, HTTP, URL
Week3 August)	Searching and web casting tools, Search engines and search tools
Week4 August)	DNS, Home page, web page, website
Week1(sept)	Hosting your site, ISP, phases of planning and designing your website
Week2(sept)	Steps for developing your site, Choosing the contents
Week3(sept)	HTML intro, Hypertext, HTML document features, Htmal Command Tags
Week4(sept)	Headers, Text styles, Text structuring , text colors and background, Formatting text
Week1(Oct)	Types of lists- ordered and unordered , table creation and layout, images, inserting graphics, farmes creation and Layouts
Week2 (Oct)	Creating links, working with forms and menus, working eith radio buttons and check boxes,
Week3(Oct)	Page layouts and assignment1
Week4(Oct)	CsSS , basic concept, Properties, , creation of style sheets, Common Tasks with CSS, fonts, fonts, margins, links, color
Week1(nov)	Marquee, mouse overs, filter and transitions, adding links,
Week2(Nov)	Adding tables, Adding forms, Adding image and sound,
Week 3(nov)	Use of CSS in HTML documents, Linking and embedding of CSS in HTML
Week4(Nov)	Revision

Class –APGDCA

Faculty - Ms. Monica Sindhu

Subject –C& Data Structure A103

Lesson Plan Duration - From August 2026 – December 2026

Time Period	Topics
Week2(August)	Introduction to Problem Solving :Top Down Design, Algorithm, Characteristics of Algorithm, Implementation of Algorithms, ,
Week3 August)	Efficiency of Algorithms, Analysis of Algorithm.. Fundamental algorithms, Array Techniques
Week4 August)	Merging, Sorting & Searching Techniques, Text Processing and Pattern Search, Dynamic Data Structure Algorithms, Recursive Algorithms.
Week1(sept)	Elements of Program Style, Flowcharts : Flowchart Symbols, Its Types, Benefits and Limitations; Decision Tables,; Practice of Algorithm Development and Flowcharting
Week2(sept)	Pseudocodes : Using User Input, Files, Reports and Output on Paper/Console, Assignment 1.
Week3(sept)	Assignment2- Basic concepts of programming, problem solving, algorithm designing and flowcharting,
Week4(sept)	- concept of structured programming
Week1(Oct)	Device Management functions: I/O devices and controllers, interrupt handlers,
Week2 (Oct)	evolution of C language, advantages of C, variables and constants, operators, expressions, loops,
Week3(Oct)	arrays, functions, structures, pointers, file-handling.
Week4(Oct)	Data Structure: Fundamental Notations: Primitive and Composite data types. Time and Space complexity of algorithms.
Week1(nov)	Data structures: Arrays, Stacks, Queues, Linked Lists, Trees and Graphs.
Week2(Nov)	File Structures: Concepts of fields, records and files. Sequential file organisation, ISAM, Hashing techniques, Inverted Lists and Multilists.

Week 3(nov)	Sorting: Internal and External sorting. Searching techniques and Merging algorithms
Week4(Nov)	Revision

Name of Assistant Professor: Ms. Malik Neha Dayanand

Class and Section: BCA 3rdSem

Subject: Basics of Data Analytics using Spreadsheet

Paper Code: DSE201

Lesson Plan: August 2026 to December 2026

<u>August</u> Introduction to Data Analytics: Understanding data and its types (structured, unstructured, semi-structured)
<u>September</u> What is Data Analytics: Types of data Analytics. Importance and Applications: Importance of Data Analytics- Applications of Data Analytics.
<u>October</u> Data, Ethics: Data Collection Methods - Different Data Sources & format - Data Cleaning
<u>November</u> Transformation: Handling Missing Data and Outliers. - Ethical considerations in data analytics.
<u>December</u> Applications in Industry-Case Studies: Real-world Applications of Data Analytics- Industry-specific applications (finance, marketing, operations) - Case Study

Name of Assistant Professor: Ms. Malik Neha Dayanand

Class and Section: B.Sc 1stSem(Life Science)

Subject: Fundamental of Computing

Paper Code: 24CSCX01MD01

Lesson Plan: August 2026 to December 2026

August

Introduction: Historical evolution of computing. Computers and their classification; Working of a computer; Block Diagram and its components; Characteristics, Benefits and Limitations of Computers. Human being Vs. Computer. Computer Codes and their types.

Input and Output Devices: Introduction to /O concepts, Hardcopy and Softcopy Devices; Keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition, scanners, terminals, point-of-sale terminals, machine-vision systems, Printer & its types.

September

Memory & Mass Storage Devices: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks-floppy disk, hard-disk; optical disks; Magnetic tapes; Concepts of Virtual and Cache memory Software and Operating System Concepts: Introduction, Software and its types, Language translators, Operating System and its Functions, Measuring System Performance, Assemblers, Compilers and Interpreters. Batch Processing, Multiprogramming,

Multi-tasking, Multiprocessing, Time Sharing, DOS, Windows, Unix/Linux.

October

Problem Solving Programming Languages: Concept of problem solving. Problem definition. Programming Languages and their classification, Problem solving with computer, Concept of a programming and design techniques, computer program lifecycle and program development process.

Data Communication: Introduction, forms of data transmission, modem and its types, communication channels, data transmission modes. Computer Networks: Introduction to Computer Network, types of Computer Network, Network Topologies, Network Protocols, Applications of Computer Networks.

November

Internet: Introduction to Internet, WWW, Web Browsers, Evolution of Internet, Applications of Internet, Connecting to Internet, Internet tools. Electronic Mail: Introduction to E-mail, Setting Up an E-mail Account, Composing and Sending E-mails, E-mail Etiquette and Best Practices, Managing E-mails, Security and Privacy, Advanced E-mail Features, E-mail in Professional Settings, Troubleshooting Common E-mail Issues.

December

Computer Applications: Computer applications in Artificial Intelligence, Banking, Education, Marketing. Desktop publishing, CAD/CAM, Project Management, Military, Sports, Research & Development.

Name of Assistant Professor: Ms. Malik Neha Dayanand

Class and Section: M.Sc. 3RDSem (Computer Sc.)

Subject: Design and Analysis of Algorithms

Paper Code: 25CSC03DS01

Lesson Plan: August 2026 to December 2026

<u>August</u> Introduction of Algorithms, Analysis of algorithms: Space Complexity, Time Complexity, recurrence relation and Asymptotic Notation. Divide and Conquer: General Methods, Binary Search, Quick sort, Merge sort, Strassen's matrix multiplication.
<u>September</u> Greedy Strategy: Introduction, examples of greedy method like Huffman coding, Minimum spanning trees, knapsack problem, job sequencing with deadlines, single source shortest path algorithms. Graphs, its basic terminologies, representation, traversal algorithms.
<u>October</u> Dynamic Programming: Introduction, Longest common subsequence, Matrix chain multiplication, Floyd-Warshall algorithms. Backtracking Concept and its example like 8 Queen's problem, Hamiltonian cycle, Graph Colouring problem, Least Cost Search
<u>November</u> Branch and Bound: General method, applications - travelling sales person problem, 0/1 knapsack problem- LC branch and bound solution, FIFO branch and bound solution.
<u>December</u> NP-Hard and NP-Complete Problems: Basic concepts, Non-Deterministic Algorithms, NP-hard and NP-complete classes

LESSON PLAN (2026-27)

Class and Section: BCA 5th Sem

Faculty - Ms Teena Suneja

Subject: Software Engineering

Paper Code: 25BCA405DS01

Lesson Plan: 11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Introduction to Software Engineering: Software and its Characteristics, Evolving Role of Software, Software Product, Software Processes, Software crisis, Software engineering Approach and Challenges, Principles of software engineering, Software development process models with

comparison: Waterfall, Prototype, Iterative enhancement model, Time boxing, Spiral Model, RAD Model and Object-Oriented Models. Software Project Management: Management activities, Project planning, Project scheduling, and Risk management activities, RIVISION AND TESTS.

12 September 2026-11 October 2026

Software Requirements Engineering: Requirements Engineering Processes, Feasibility studies, Requirements elicitation and analysis, Requirements validation, Requirements management. Software Requirements Analysis & Specifications: Software requirements, Structured analysis: Data Flow diagram, data dictionary. Object-oriented analysis, Software Requirement Specification (SRS): Need of SRS, Characteristics of SRS, Components of SRS, Structure of SRS. Software Metrics and Measures: Need and benefits of Software Metrics, Size Metrics: Line of code, Token metrics, Function point metrics, Software Project Estimation Models- COCOMO models. RIVISION AND TESTS.

12 October 2026-11 November 2026

Software Design: Basic Concept of Software Design, Architectural Design, Low-Level Design: Modularization, Design Structure Charts, Flow Charts, Coupling and Cohesion Measures; Design Strategies: Function Oriented Design, Object Oriented Design, Top-Down and Bottom-Up Design, User Interface Design Coding: Goals of coding phase, Programming style, Structured programming: objectives of structured programming, Principles of structured programming, advantages and disadvantages of structured programming. Software Testing: Impracticality of Testing, Levels of Testing, Structural Testing (White Box Testing), Functional Testing (Black Box Testing). RIVISION AND TESTS.

12 November 2026-06 December 2026

Software Maintenance: Need for Maintenance, Categories of Maintenance: Preventive, Corrective and Perfective Maintenance, Cost of Maintenance; Software Re- Engineering, Reverse Engineering, Software Documentation. Software Quality: Software quality attributes, Software Quality Assurance – plans & activities Software Quality Standards: ISO 9001, SEI-CMM. RIVISION AND TESTS.

Class and Section:

BCA 3rd Sem

Faculty -

Ms Teena Suneja

Subject:

Database Management Systems

Paper Code:

26BCA403DS02

Lesson Plan:

11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Introduction to Databases: Definition of Data, Database, and DBMS, Overview of Database Applications, Advantages and Disadvantages of DBMS, Roles of Database Users and Administrators Data Models: Introduction to Data Models, Types of Data Models (Hierarchical, Network, Relational, Object-oriented), Importance of Data Models in DBMS Database Design: Keys: Primary Key, Candidate Key, Super Key, Foreign Key, Composite Key, Alternate Key, Unique Key, Surrogate Key, Constraints in a table: Primary Key, Foreign Key, Unique Key, NOT NULL, CHECK, Entity-Relationship (ER) Model, Entities and Entity Sets, Attributes and Relationships, ER Diagrams, Key Constraints and Weak Entity Sets, Extended ER Features, Introduction to the Relational Model and Relational Schema. RIVISION AND TESTS.

12 September 2026-11 October 2026

Relational Algebra and Calculus: Introduction to Relational Algebra, Operations: Selection, Projection, Set Operations, Join Operations, Division, Tuple and Domain Relational Calculus Structured Query Language (SQL): SQL Basics: DDL and DML, Aggregate Functions (Min(), Max(), Sum(), Avg(), Count()), Logical operators (AND, OR, NOT), Predicates (Like, Between, Alias, Distinct), Clauses (Group By, Having, Order by, top/limit), Inner Join, Natural Join, Full Outer Join, Left Outer Join, Right outer Join, Equi Join Advanced SQL: Analytical queries, Hierarchical queries, Recursive queries, Views, Cursors, Stored Procedures and Functions, Packages, Triggers, Dynamic SQL Normalization and Database Design: Functional Dependencies: Armstrong's Axioms, Definition, Properties (Reflexivity, Augmentation, Transitivity), Types (Trivial, Non-Trivial, Partial and Full Functional Dependency), Closure of Functional Dependencies, Normal Forms (1NF, 2NF, 3NF, BCNF), Denormalization. RIVISION AND TESTS.

12 October 2026-11 November 2026

Transaction Management: ACID Properties, Transactions and Schedules, Concurrent Execution of Transactions, Lock-Based Concurrency Control, Performance of Locking, Transaction Support in SQL, Introduction to Crash Recovery, 2PL, Serializability, and Recoverability, Introduction to Lock Management, Dealing with Deadlocks Database Storage and Indexing: Data on External Storage, File Organizations and Indexing, Index Data Structures, Comparison of File Organizations, Indexes and Performance Tuning, Guidelines for Index Selection, Basic Examples of Index Selection. RIVISION AND TESTS.

12 November 2026-06 December 2026

NoSQL Databases and Big Data: Introduction to NoSQL, Data Models: Document, Key value, Column family, Graph. Uses and Features of NO/SQL document databases. CAP theorem, BASE vs ACID, CRUD operations, MongoDB operators, Overview of Big Data Technologies: Hadoop, MongoDB, Cassandra. Database Security and Advanced Topics: Introduction to Database Security, Access Control, Discretionary Access Control, Introduction to Data Warehousing, OLAP, Data Mining. RIVISION AND TESTS.

Class and Section:

B.A 1ST (MINOR)

Faculty -

Ms Teena Suneja

Subject:

Fundamentals of Computing and Problem Solving using C

Paper Code:

24CSC401MI01

Lesson Plan:

11 August 2026 to 06 December 2026

11 August 2026-11 September 2026

Computing Fundamentals: Overview of computing principles and history, Generations of Computers, Block Diagram along with its components, Classification of computers, Applications of computers in various fields. Input/Output Devices, Memory: Concept of primary & secondary memory, Cache Memory, Secondary storage devices. Basics of Networking & Operating System: Introduction to computer networking, Network types, Network topologies, Internet and its applications; Operating system and its functions. RIVISION AND TESTS.

12 September 2026-11 October 2026

Introduction to software development methodologies: Basics of algorithmic thinking and problem-solving strategies. Planning the Computer Program: Problem definition, Program design, Debugging, Types of errors in programming, Techniques of Problem Solving-Flowcharting, Algorithms Introduction to the C programming language: History of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() Functions, Operators & Expression, type casting and conversion, operator hierarchy & associativity. RIVISION AND TESTS.

12 October 2026-11 November 2026

Decision making & Branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, go to statement. Decision making & Looping: while, do-while and for loop, jumps in loops, break, continue statement, Nested loops. Functions and modular programming concepts: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function in C, Input functions, output functions, string manipulation functions. User defined functions: Introduction/Definition, function prototype, Local and global variables, passing parameters, recursion. RIVISION AND TESTS.

12 November 2026-06 December 2026

Arrays & Pointers: Definition, types, initialization, processing an array, passing arrays to functions declaration and initialization of string, Input/output of string data, Introduction to pointers. Advance Concepts of C Programming: Pointers and memory management in C; File input/output operations in C; Dynamic memory allocation and deallocation; Advanced control structures: switch, break, and continue statements. Practical applications of C programming in software development: Algorithmic problem-solving using C programming constructs; Design and implementation of C programs; Debugging and testing techniques for C programs; Best practices and coding standards in C programming. RIVISION AND TESTS.

Lesson Plan

Dr.Jyoti

Class and Section: B.Sc Physical Sc. (3rd Sem)

Subject: Java Programming

Paper Code: 25CSC403SE01

Lesson Plan: August 2026 to December 2026

August

Overview of Java: Java Features, Setting Up the Java Development Environment, Writing, Compiling, and Running a Java Program, Java Virtual Machine (JVM) and Bytecode, Java Development Kit (JDK) and Java Runtime Environment (JRE)

Basic Language Elements: Java Syntax and Structure, Identifiers, Keywords, Literals, Comments, Operators, Assignments, Data Types, Variables and its types, Constants, Expressions,

September

Control Flow Statements: if-else, switch, loops (for, while, do-while).

Array: Initializing, Single Dimensional Array,

Class Fundamentals: Object, Object Life cycle, Creating and Operating Objects, Constructor & initialization code block, Access Control, Inner Class, Abstract Class, Argument Passing Mechanism, Method Overloading, Recursion, Use of Access Modifiers with Classes & Methods.

October

Introduction to Inheritance: Use and Benefits of Inheritance in OOPs, Types of Inheritance in Java, Inheriting Data members and Methods, Role of Constructors in inheritance, Overriding Super Class Methods, Use of "super", Polymorphism in Java.

Interface: Purpose of interface, defining an interface, implementing interfaces, Interface reference variables, Interface with variables, Extending interfaces

November

Exception Handling: Types of Errors in Java, Try-Catch Blocks and Finally Clause, Throw and Throws Keywords, Creating Custom Exceptions. String Handling, Mutable & Immutable String, Using Collection, Basic Loop for String, Creating Strings using StringBuffer.

December

Packages: Package as Access Protection, Defining Package, CLASSPATH Setting for Packages, Import and Naming Convention for Packages. GUI programming.

Lesson Plan

Class and Section: B.Com MDC (3rd Sem)
Subject: Web Designing
Paper Code: 25CSCX03MD01
Lesson Plan: August 2026 to December 2026

August

Introduction: Concept of Web Design; Web Servers; Hypertext Transfer Protocol, URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools, Domain Name System, Home Page, Web page and Website.

September

Web Publishing: Hosting your Site; Internet Service Provider; Phases of Planning and designing your Website;
Steps for developing your Site; Choosing the contents; Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text.

October

List: Definition and types of Lists - Ordered and Unordered, Table Creation and Layouts. Images; Inserting Graphics; Frame Creation and Layouts; Creating Links; Working with Forms and Menus; Working with Radio Buttons and Check Boxes; Text Boxes; Page layouts.

November

Cascading Style Sheets (CSS): Basic Concepts, Properties, Creation of Style Sheets. Common Tasks with CSS: Text, Fonts, Margins, Links, Tables, Colors. Marquee. Mouse Overs. Filters and Transitions. Adding Links. Adding Tables. Adding Forms. Adding Image and Sound. Use of CSS in HTML Documents, Linking and Embedding of CSS in HTML.

December

Revision and practice

Lesson Plan

Class and Section: BCA 3rd Sem

Subject: Python Programming

Paper Code: 26BCA403SEC01

Lesson Plan: August 2026 to December 2026

August

History and Application areas of Python; Structure of Python Program; Identifiers and Keywords; Operators and Precedence; Basic Data Types and type conversion;

September

Creating and Storing Strings, Built-in functions for strings; string operators, String slicing and joining; Formatting Strings.

Control Flow Statements: Conditional Flow statements; Loop Control Statements; Nested control Flow; continue and break statements, continue, Pass and exit.

October

Built-In Functions, Function Definition and call; Scope and Lifetime of Variables, Default Parameters, Command Line Arguments; Lambda Functions; Assert statement;

Importing User defined module Mutable and Immutable objects: Lists, Tuples and Dictionaries; Commonly used Functions on Lists, Tuples and Dictionaries. Passing Lists, tuples and Dictionaries as arguments to functions. Using Math and Numpy module for list of integers and arrays.

November

Files: Types of Files; Creating, Reading and writing on Text and Binary Files; The Pickle Module, Reading and Writing CSV Files. Reading and writing of csv and JSON files.

Exception Handling: Try-except-else-finally block, raise statement, hierarchy of exceptions, adding exceptions.

December

Data visualization: Plotting various 2D and 3D graphics; Histogram; Pi charts; Sine and cosine curves.

Lesson Plan (odd Semester)

Class – BCA – 3rd SEM

Faculty - Dr. Rohini Sharma

Subject – (26BCA403SEC01:Python Programming: SEC201)

Time Period	Topics
August	
Week 2	(Unit 1): Introduction: History and Application areas of Python; Structure of Python Program
Week 3	Identifiers and Keywords; Operators and Precedence; Basic Data Types and type conversion. Statements and expressions; Input/Output statements.
Week 4	Strings: Creating and Storing Strings, Built in functions for strings; string operators, String slicing and joining; Formatting Strings.
September	
Week 1	(Unit 2): ControlFlow Statements: Conditional Flow statements; Loop Control Statements;
Week 2	Nested control Flow; continue and break statements, continue, Pass and exit.
Week 3	Functions:Built in Functions, function Definition and Call, scope and lifetime of Variables, DefaultParameters, Command Line Arguments. Lambda Functions. Assert Statement. Importing User Defined
Week 4	Parameters, Command Line Arguments. Lambda Functions. Assert Statement. Importing User DefinedModule.
October	
Week 1	(Unit-3): Mutable and Immutable objects:Lists, Tuples and Dictionaries; Commonly used Functions on Lists, Tuples, and Dictionaries. Passing Lists and D
Week 2	and Dictionaries. Passing Lists and D ictionaries as arguments to Functions using Math and Numpy module forlist of integers and arrays.
Week 3	Files:Types of Files. Creating, Reading and Writing on Text and Binary Files. The Pickle Module. Reading

Week 4	Types of Files. Creating, Reading and Writing on Text and Binary Files. The Pickle Module. Reading and Writing CSV and JSON Files.
November	
Week 1	Diwali Holidays
Week 2	(Unit 4): Exception Handling: Try except else finally block, raise statement.
Week 3	hierarchy of exceptions, adding
Week 4	Data visualization: Plotting various 2D and 3D graphics; Histogram; Pi charts; Sine and cosine curves..
December Week 1	Data visualization: Plotting various 2D and 3D graphics; Histogram; Pi charts; Sine and cosine curves.. (Test and Revision)

Class – APGDCA -1st Sem

Faculty - Dr. Rohini Sharma

Subject – (104: Computer Organization and Architecture)

Time Period	Topics
September	
Week 2	(Unit 1): Representation of Information: Number Systems, Integer and Floating-point representation, Character codes – ASCII and EBCDIC, Basic Building Blocks and Circuit Design: OR, AND, NOT, XOR Gates; De Morgan's Theorem. Universal building blocks
Week 3	laws and theorems of boolean algebra. Simplifying logic circuits – sum of product and product of sum form, algebraic simplification, Karnaugh simplification; arithmetic circuits; flip-flops, counters; shift registers; encoder, decoder, multiplexor, demulti-plexor circuits.
Week 4	Register transfer and Micro-operations: Register Transfer Language, Bus and memory. Transfers, Arithmetic. Logic Micro-operations, Shift Micro-operations. Test and assignments

October	
Week 1	(Unit 2): Basic Computer Organization and Design: Instruction and instructions Codes, Computer instructions, Timing and Control
Week 2	Instruction Cycle, Memory Reference Instructions, Input-Output and Interrupts; Complete Computer Description.
Week 3	Programming the Basic Computer: Machine Language, Assembly Language, The assembler, program loops, programming Arithmetic and Logic
Week 4	Subroutines, Inputs-Outputs programming. Micro-programmed Control; Control Memory, Address Sequencing, Micro-program Example, Design of Control Unit. Test and Assignment
November	
Week 1	Diwali Holidays
Week 2	(Unit-3): Central Processing Unit: General Register Organization Stack Organization Instruction Formats, Addressing Modes.
Week 3	Data and Transfer Manipulation, Program Control, Reduced Instruction Set Computer. Pipeline and Vector Processing parallel processing Pipelining, Arithmetic Pipeline. RISC Vector Processing, Arrays Processors, Test and Revision.
Week 4	(unit 4): Computer Arithmetic: Addition and Subtraction, Multiplication Algorithms, Division algorithm, Floating-Point Arithmetic Operations, decimal arithmetic Unit, Decimal Arithmetic Operations. Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer
December	
Week 1	Priority interrupt, Direct Memory Access(DMA), input-output processors(IOP), serial communication multi-processors, characteristics of

	multi-processors. Interconnection structures, Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence. (Test and Revision)
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Class – BA – 1st SEM (Minor Course)

Faculty - Dr. Rohini Sharma

Subject – (24CSC401MI01: Fundamentals of Computing and Problem-Solving using C:)

Time Period	Topics
August	
Week 2	(Unit 1): Computing Fundamentals: Overview of computing principles and history, Generations of Computers, Block Diagram along with its components.
Week 3	Classification of computers, Applications of computers in various fields. Input/Output Devices. Memory: Concept of primary & secondary memory, Cache Memory, Secondary storage devices.
Week 4	Basics of Networking & Operating System: Introduction to computer networking, Network types, Network topologies, Internet and its applications; Operating system and its functions.
September	
Week 1	(Unit 2): Introduction to software development methodologies: Basics of algorithmic thinking and problem-solving strategies.
Week 2	Planning the Computer Program: Problem definition, Program design, Debugging, Types of errors in programming, Techniques of Problem Solving-Flowcharting, Algorithms.
Week 3	Introduction to the C programming language: History of C, Importance of C, Elements of C: C character set, identifiers and keywords.

Week 4	Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() Functions, Operators & Expression, type casting and conversion, operator hierarchy & associativity.
October	
Week 1	(Unit-3): Decision making & Branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, go to statement.
Week 2	Looping: while, do-while and for loop, jumps in loops, break, continue statement, Nested loops.
Week 3	Functions and modular programming concepts: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function in C
Week 4	Input functions, output functions, string manipulation functions. User defined functions: Introduction/Definition, function prototype, Local and global variables, passing parameters, recursion.
November	
Week 1	Diwali Holidays
Week 2	(Unit 4): Arrays & Pointers: Definition, types, initialization, processing an array, passing arrays to functions declaration and initialization of string, Input/output of string data..
Week 3	Introduction to pointers. Advance Concepts of C Programming: Pointers and memory management in C; File input/output operations in C; Dynamic memory allocation and deallocation.
Week 4	Practical applications of C programming in software development: Algorithmic problem-solving using C programming constructs.
December Week 1	Design and implementation of C programs; Debugging and testing techniques for C programs; Best practices and coding standards in C programming.

Lesson Plan

Class – BCA 5th Sem.

Faculty – Ms. Ritika

Subject – Paper Code- 25BCA405DS03

Lesson Plan Duration - From August 2026 to December 2026

August - September
Fundamentals of Cloud Computing Definitions, history, and evolution of cloud computing. Overview of cloud service models: IaaS, PaaS, SaaS.
Deployment models: public, private, hybrid, and multi-cloud.
Key architectural principles: virtualization, elasticity, resource pooling, and scalability.
Review of leading cloud providers and market trends.
October
Cloud Infrastructure and Virtualization Technologies: Virtualization fundamentals: hypervisors (Type-1 and Type-2), virtual machines, and containers (Docker, Kubernetes).
Cloud networking: Software-defined networking (SDN), network virtualization, and load balancing.
Cloud storage solutions: distributed storage, object storage (e.g., Amazon S3, OpenStack Swift). Cloud orchestration and resource provisioning tools.
Emerging concepts: Serverless computing and Function as a Service (FaaS).
November
Cloud Security, Privacy, and Governance: Threats and vulnerabilities in cloud environments.
Cloud security fundamentals: Encryption, identity and access management (IAM), and secure communication protocols. Privacy challenges and data protection techniques in the cloud. Legal and regulatory frameworks (e.g., GDPR, HIPAA, CCPA, IT Act 2000, IT Rules 2011, etc) and their implications for cloud deployments. Governance, compliance, and cost management in cloud environments.
Advanced Topics and Emerging Trends in Cloud Computing Performance optimization and cost-efficiency in cloud systems. Big Data and Analytics in the cloud. Edge computing and IoT integration with cloud platforms. Cloud-native architectures and serverless computing.
Case studies and practical labs on deploying cloud-based applications.
December
Future trends: multi-cloud management, hybrid cloud strategies, and emerging research directions (e.g., quantum cloud computing).

Lesson Plan

Class – BCA 5th sem

Faculty – Ms.Ritika

Subject –Paper Code- 24BCA405DS02

Lesson Plan Duration - From August 2026 to December 2026

August- September
Introduction: Definition, Concepts and applications of Artificial Intelligence, Problem solving: Defining problem as State space search, Production systems, Problem characteristics, Search techniques: Brute force and Heuristic search and their different searching techniques.
Intelligent Agents: Agent types (simple reflex, model-based, goal-based, utility-based, learning agents). Agent environments (static/dynamic, observable/partially observable, deterministic/stochastic).
Ethical Considerations: Bias, privacy, job displacement, and societal impact.
October
Knowledge representation: Types of knowledge, Inferencing, Inference rule, Knowledge Representation:
Knowledge representation: Non-Monotonic reasoning, Knowledge representation based on probability and uncertainty;
Knowledge representation schemes: Formal logic, Semantic net, Frame, Scripts.
Logic based Knowledge representation, Rule based knowledge representation
November
Expert System: Definition, Role of Knowledge in expert system, Architecture of Expert system.
Expert system development life cycle: Problem selection, Prototype construction, Formalization, Implementation, Evaluation,
Knowledge acquisition and different acquisition techniques, Knowledge engineering, Cognitive behaviour.
Perception: Sensing, Speech recognition, Vision, Action.
December
Learning, Planning and Understanding: Learning and its different types, Planning, understanding. Neural Networks: Introduction, Comparison of artificial neural networks with biological neural networks, Learning in neural networks, Perceptions, Back propagation networks, application of neural networks.
Fuzzy logic: Definition, Difference between Boolean and Fuzzy logic, fuzzy subset, fuzzy membership function, fuzzy expert system, Fuzzy Inference system, fuzzy controller.

MONTHLY LESSON PLAN

Session 2026-27 | Aug to 6 Dec | Digital Systems & Emerging Technologies

Month	Topics Covered
August 2026	Unit I: Role of Digital Technology & ICT Tools - Working of Computer System (Block Diagram) - Types of Software, OS Functions - Algorithm & Flowchart
September 2026	Unit II: Communication & Networks - Transmission Media, Network Models - WWW, Search Engines - Email, Messaging, Social Networking - CBIS Components, E-Commerce & Digital Marketing
October 2026	Unit III (Part 1): Emerging Tech - I - AI, Machine Learning, Deep Learning - Big Data 5Vs, Data Science, Analytics - IoT, IIoT, Robotics, 3D Printing
November 2026	Unit III (Part 2) & Unit IV (Part 1): - Blockchain, Quantum Computing, Cloud (SaaS/PaaS/IaaS) - Digital India, e-Governance - FinTech: UPI, AePS, USSD, Wallets, Cards, NEFT/RTGS/IMPS, POS - Cyber Security Threats & Precautions
December (1-6 Dec)	Revision & Assessment: - Full Syllabus Revision & Doubt Clearing - Final Test (50 Marks) & Practical Viva