

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: NEHA
Designation: ASSISTANT PROFESSOR
Class: BCA I SEM, 1ST YEAR
Subject/ Paper: FOUNDATIONS OF COMPUTER SCIENCE
(B23-CAP-102)

Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software.	Problem based and interactive	understand the basic concepts of COMPUTER.	Group Discussion
2.	SEP	Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory. I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.	Peer, problem based, interactive teaching learning	learn about I/O devices.	Assignment, Class Test

3.	OCT	Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel. The Internet: Introduction to networks and internet, history, Internet, Working of the Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	Problem solving , interactive, project based	Learn about operating system and understand the Internet and its services	Exam
4.	NOV	Threats: Physical & non-physical threats, Viruses, worms, Trojans, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking. Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.	Problem solving , interactive	learn about the threats and security concepts on computers	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: NEHA
Designation: ASSISTANT PROFESSOR
Class: BCA IST SEM, 1st YEAR
Subject/ Paper: Problem Solving through C
B23-CAP-101
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	Interactive teaching, Problem based	learn the basics of C program, data types, and input/output statements.	Group Discussion
2.	SEP	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, ifelse statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and dowhile loop, jumps in loops.	Peer, problem based, interactive teaching learning	understand different types of operators, their hierarchies, and also control statements of C. *implement the programs based on various concepts of C.	Assignment, Class Test

3.	OCT	Arrays: One-dimensional arrays - Declaration, Initialization, and Memory representation; Two-Dimensional arrays - Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate, etc., Search for a Substring.	Problem solving , interactive, project based	implement programs using arrays and strings. *implement the programs based on various concepts of C.	Exam
4.	NOV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers, and Arrays. User-defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; the difference between Structure and Union.	Problem solving , interactive	get familiar with advanced concepts like structures, unions, etc. in C language. *implement the programs based on various concepts of C.	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: NEHA
Designation: ASSISTANT PROFESSOR
Class: Bsc I SEM, 1ST YEAR
Subject/ Paper: Problem Solving through C
B23-CSE-101
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	Interactive teaching, Problem based	learn the basics of C program, data types, and input/output statements.	Group Discussion
2.	SEP	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression. Type Casting and Conversion. Decision making with if statement, ifelse statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and dowhile loop, jumps in loops.	Peer, problem based, interactive teaching learning	understand different types of operators, their hierarchies, and also control statements of C. *implement the programs based on various concepts of C.	Assignment, Class Test

3.	OCT	Arrays: One-dimensional arrays - Declaration, Initialization, and Memory representation; Two-Dimensional arrays - Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate, etc., Search for a Substring.	Problem solving , interactive, project based	implement programs using arrays and strings. *implement the programs based on various concepts of C.	Exam
4.	NOV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers, and Arrays. User-defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; the difference between Structure and Union.	Problem solving , interactive	get familiar with advanced concepts like structures, unions, etc. in C language. *implement the programs based on various concepts of C.	Assignment, Revision

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GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: NEHA
Designation: ASSISTANT PROFESSOR
Class: BCA I SEM, 1ST YEAR
Subject/ Paper: FOUNDATIONS OF COMPUTER SCIENCE
(B23-CAP-102)

Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software.	Problem based and interactive	understand the basic concepts of COMPUTER.	Group Discussion
2.	SEP	Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory. I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.	Peer, problem based, interactive teaching learning	learn about I/O devices.	Assignment, Class Test

3.	OCT	Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel. The Internet: Introduction to networks and internet, history, Internet, Working of the Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	Problem solving , interactive, project based	Learn about operating system and understand the Internet and its services	Exam
4.	NOV	Threats: Physical & non-physical threats, Viruses, worms, Trojans, Spyware, Keyloggers, Rootkits, Adware, Cookies, Phishing, Hacking, Cracking. Computer Security Fundamentals: Confidentiality, Integrity, Authentication, Non-Repudiation, Security Mechanisms, Security Awareness, Security Policy, anti-virus software & Firewalls, backup & recovery.	Problem solving , interactive	learn about the threats and security concepts on computers	Assignment, Revision

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GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: NEHA
Designation: ASSISTANT PROFESSOR
Class: BCA IST SEM, 1st YEAR
Subject/ Paper: Problem Solving through C
B23-CAP-101
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	Interactive teaching, Problem based	learn the basics of C program, data types, and input/output statements.	Group Discussion
2.	SEP	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion. Decision making with if statement, ifelse statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and dowhile loop, jumps in loops.	Peer, problem based, interactive teaching learning	understand different types of operators, their hierarchies, and also control statements of C. *implement the programs based on various concepts of C.	Assignment, Class Test

3.	OCT	Arrays: One-dimensional arrays - Declaration, Initialization, and Memory representation; Two-Dimensional arrays - Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate, etc., Search for a Substring.	Problem solving , interactive, project based	implement programs using arrays and strings. *implement the programs based on various concepts of C.	Exam
4.	NOV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers, and Arrays. User-defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; the difference between Structure and Union.	Problem solving , interactive	get familiar with advanced concepts like structures, unions, etc. in C language. *implement the programs based on various concepts of C.	Assignment, Revision

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GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: NEHA
Designation: ASSISTANT PROFESSOR
Class: Bsc I SEM, 1ST YEAR
Subject/ Paper: Problem Solving through C
B23-CSE-101
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Overview of C: History, Importance, Structure of C Program, Character Set, Constants and Variables, Identifiers and Keywords, Data Types, Assignment Statement, Symbolic Constant. Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche(), getchar(), gets(), output functions viz. printf(), putchar(), puts().	Interactive teaching, Problem based	learn the basics of C program, data types, and input/output statements.	Group Discussion
2.	SEP	Operators & Expression: Arithmetic, Relational, Logical, Bitwise, Unary, Assignment, Conditional Operators and Special Operators Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression. Type Casting and Conversion. Decision making with if statement, ifelse statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and dowhile loop, jumps in loops.	Peer, problem based, interactive teaching learning	understand different types of operators, their hierarchies, and also control statements of C. *implement the programs based on various concepts of C.	Assignment, Class Test

3.	OCT	Arrays: One-dimensional arrays - Declaration, Initialization, and Memory representation; Two-Dimensional arrays - Declaration, Initialization and Memory representation. Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions. Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate, etc., Search for a Substring.	Problem solving , interactive, project based	implement programs using arrays and strings. *implement the programs based on various concepts of C.	Exam
4.	NOV	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers; Pointers, and Arrays. User-defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members, Structure members initialization, Array of Structures; Unions - Union definition; the difference between Structure and Union.	Problem solving , interactive	get familiar with advanced concepts like structures, unions, etc. in C language. *implement the programs based on various concepts of C.	Assignment, Revision

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GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: **DR. SEEMA**
Designation: **ASSISTANT PROFESSOR**
Class: **BCA 3RD SEM, 2ND YEAR**
Subject/ Paper: **DATABASE TECHNOLOGIES (B23-CAP-303)**
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): **MAJOR**

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Basic Concepts – Data, Information, Records, Files, Schema and Instance etc. Limitations of File Based Approach Characteristics of Database Approach, Database Management System (DBMS), Components of DBMS Environment, DBMS Functions and Components, Database Interfaces, Advantages and Disadvantages of DBMS. Database Users: Data and Database Administrator, Role and Responsibilities of Database Administrator, Database Designers, Application Developers etc. Database System Architecture – 1-Tier, 2-Tier & Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances, Data Independence – Logical and Physical Data Independence.	Interactive teaching, Problem based and interactive	understand the concepts of problem solving on computer . Describe major components of DBMS and their functions	Group Discussion
2.	SEP	Data Models: Hierarchical, Network and Relational Data Models. Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER	Peer, problem based, interactive teaching learning	Model an application's data requirements using conceptual modelling tools like ER diagrams and de-sign database schemas based on the conceptual model.	Assignment, Class Test

3.	OCT	SQL: Meaning, Purpose and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL. Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product etc. Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.	Problem solving , interactive, project based	To implement the concepts of databases using SQL.	Exam
4.	NOV	Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency, Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF), Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form.	Problem solving , interactive	Normalize a given database schema to avoid data anomalies and data redundancy	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. SEEMA
Designation: ASSISTANT PROFESSOR
Class: BCA 3RD SEM, 2ND YEAR
Subject/ Paper: DATA MANAGEMENT (B23-SEC-302)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): SEC

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Database Management System Introduction and Purpose, Database Architectures: Centralised, Client-Server, Parallel, Distributed, Web based system: Web architecture (2 tier, 3 tier, N-tier Architecture) Database Storage Structures: Introduction, Indexing, Hashing, Data Dictionary. Data Models: Introduction to various data models, Cardinality Ratio & Relationships, Representation of entities, attributes, relationship attributes, relationship set, Generalization, aggregation, Structure of relational Database	Interactive teaching, Problem based	understand the concepts of problem solving on computer Describe major components of DBMS and their functions	Group Discussion
2.	SEP	Data Models: Hierarchical, Network and Relational Data Models. Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER	Peer, problem based, interactive teaching learning	Model an application's data requirements using conceptual modelling tools like ER diagrams and de-sign database schemas based on the conceptual model.	Assignment, Class Test

3.	OCT	SQL: Meaning, Purpose and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL. Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product etc. Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.	Problem solving , interactive, project based	To implement the concepts of databases using SQL.	Exam
4.	NOV	Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency, Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF), Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form.	Problem solving , interactive	Normalize a given database schema to avoid data anomalies and data redundancy	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. SEEMA
Designation: ASSISTANT PROFESSOR
Class: BCA 3RD SEM, 2ND YEAR
Subject/ Paper: FUNDAMENTALS OF COMPUTER SCIENCE
(B23-CAC-104)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MDC

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software.	Problem based and interactive	understand the basic concepts of COMPUTER, software	Group Discussion
2.	SEP	Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory. I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.	Peer, problem based, interactive teaching learning	Identify the various computer hardware	Assignment, Class Test

3.	OCT	Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.	Problem solving , interactive, project based	Starting with basics of Operating Systems and its functionalities and do the basic editing and formatting in a document	Exam
4.	NOV	The Internet: Introduction to networks and internet, history, Internet, Working of the Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	Problem solving , interactive	do the basic editing and formatting in a document	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. SEEMA
Designation: ASSISTANT PROFESSOR
Class: BSC(PHYSICAL SCIENCE WITH COMPUTER MAJOR)3RD SEM, 2ND YEAR
Subject/ Paper: OPERATING SYSTEM (B23-CSE-301)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Introductory Concepts: Operating System, Functions and Characteristics, Historical Evolution of Operating Systems, Operating System Structure. Types of Operating System: Real time, Multiprogramming, Multiprocessing, Batch processing. Operating System Services, Operating System Interface, Service System Calls, System Programs. Process Management: Process Concepts, Operations on Processes, Process States and Process Control Block. Inter-Process Communication.	Interactive teaching, Problem based and interactive	understand the basic concepts of operating systems and its services along with process management	Group Discussion
2.	SEP	CPU Scheduling: Scheduling Criteria, Levels of Scheduling, Scheduling Algorithms, Multiple Processor Scheduling, Algorithm Evaluation. Synchronization: Critical Section Problem, Semaphores, Classical Problem of Synchronization, Monitors. Deadlocks: Deadlock Characterization, Methods for Handling Deadlocks, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection and Recovery.	Peer, problem based, interactive teaching learning	understand concept of process scheduling and acquire knowledge of process synchronization.	Assignment, Class Test

3.	OCT	Memory Management Strategies: Memory Management of Single User and Multiuser Operating System, Partitioning, Swapping, Contiguous Memory Allocation, Paging and Segmentation; Virtual Memory Management: Demand Paging, Page Replacement Algorithms, Thrashing.	Problem solving , interactive, project based	learn about memory management and virtual memory concepts.	Exam
4.	NOV	Implementing File System: File System Structure, File System Implementation, file operations, Type of Files, Directory Implementation, Allocation Methods, and Free Space Management. Disk Scheduling algorithm- SSTF, Scan, C- Scan, Look, C-Look. SSD Management.	Problem solving , interactive	learn to work with directory structure and security aspects.	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA
LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: BCA I

Subject/ Paper: Logical organisation of Computer B23-CAP-104 Type of course: Major

S. No.	Month	Topics to be covered	Remarks
1.	August	Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another	
2.	September	BCD Number System. BCD Codes: Natural Binary Code, Weighted Code, Self-Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode. Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation. Real Numbers normalized floating point representations. Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Complement representations, Addition and subtraction with BCD representations.	
3.	October	Boolean Algebra: Boolean Algebra Postulates, basic Boolean Theorems, Boolean Expressions, Boolean Functions, Truth Tables, Canonical Representation of Boolean Expressions: SOP and POS, Simplification of Boolean Expressions using Boolean Postulates ; Theorems, Karnaugh-Maps (upto four variables), Handling Don't Care conditions. Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions	

4.	November	Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters. Sequential Circuits: Basic Flip-Flops and their working. Synchronous and Asynchronous Flip-Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. State Table, State Diagram and State Equations. Flip-flops characteristics & Excitation Tables. Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers	
5	December	Revision	

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GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: BCA III, Semester :V

Subject/ Paper: Office Automation B23-VOC-132

Type of course(major/ minor/ VAC/ AEC/SEC/ MDC/VOC):VOC

S. No.	Month	Topics to be covered	Remarks
1.	August	Office Automation: Concepts, benefits, various tools, Different Automation software, various applications.	
2.	September	MS-Office: Introduction, paragraph formatting, Headers and footers, tables, mail merge, spell check, file operations, cut, copy, paste, drag and drop, dynamic data, find and replace autocorrect. MS-Excel: Introduction, work sheet, data types, usage of formula and calculations, different charts, functions, tables, formatting, macros	
3.	October	Power point: Introduction, creating ,formatting, adding effects to presentation, different views of slides, adding graphics, slides, sounds and movies of slides, effects, animation, multimedia in ppt.,slide show: transition and timing, Diagram: Clipart and picture, File management	
4.	November	PowerPoint presentation on mobile and desktop, mobile apps for ppt, Email: Introduction, services, how it works, how to make email id, advantages, limitations ,receiving and sending of email, information technology in business LAN, WAN, Media and topologies, electronic data processing, Multimedia Technologies: video conferencing, cloud based storage of records	
5	December	Revision	

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GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA
LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: B.Com I, Semester :I

Subject/ Paper Basic IT Tools; Course Code B23-SEC-103 Type of course :SEC

S. No.	Month	Topics to be covered	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications	
2.	September	Basics of Hardware and Software, Application Software, Systems Software, Utility Software. Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile App, Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets	
3.	October	User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management.	
4.	November	Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet, Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet.	
5	December	E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message, searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.	

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA
LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: BSc III Semester 5th

Subject & Code: Data Structures & B23-CSE-501

S.no	Month	Topics to be covered	Remarks
1	August	Data Structure Definition, Data Type vs. Data Structure, Classification of Data Structures, Data Structure Operations, Applications of Data Structures. Algorithm Specifications: Performance Analysis and Measurement (Time and Space Analysis of Algorithms- Average, Best and Worst Case Analysis). Arrays: Introduction, Linear Arrays, Representation of Linear Array in Memory, Two Dimensional and Multidimensional Arrays, Sparse Matrix and its Representation, Operations on Array: Algorithm for Traversal, Selection, Insertion, Deletion and its implementation.	
	September	String Handling: Storage of Strings, Operations on Strings viz., Length, Concatenation, Substring, Insertion, Deletion, Replacement, Pattern Matching Linked List: Introduction, Array vs. linked list, Representation of linked lists in Memory, Traversing a Linked List, Insertion, Deletion, Searching into a Linked list, Type of Linked List.	Assignment 1
	October	Stack: Array Representation of Stack, Linked List Representation of Stack, Algorithms for Push and Pop, Application of Stack: Polish Notation, Postfix Evaluation Algorithms, Infix to Postfix Conversion, Infix to Prefix Conversion, Recursion. Introduction to Queues: Simple Queue, Double Ended Queue, Circular Queue, Priority Queue, Representation of Queues as Linked List and Array, Applications of Queue. Algorithm on Insertion and Deletion in Simple Queue and Circular Queue. Priority Queues.	Test
	November	Tree: Definitions and Concepts, Representation of Binary Tree, Binary Tree Traversal (Inorder, postorder, preorder), Binary Search Trees – Definition, Operations viz., searching, insertions and deletion; Searching and Sorting Techniques, Sorting Techniques: Bubble sort, Merge sort, Selection sort, Quick sort, Insertion Sort. Searching Techniques: Sequential Searching, Binary Searching.	Assignment 2
	December	Revision	

COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: ANITA YADAV

Designation: Extension Lecturer

Class: B.Sc-2nd (3rd Semester)

Subject/ Paper: Programming using Python

Type of course : Minor

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Python: Python Interpreter, Python as calculator, Python shell, Indentation, identifier and keywords, literals, strings, Operators: Arithmetic, Relational, Logical, comparison, Bitwise, Assignment, Identity operator and Membership operator; Input & output statements; Control statements: Branching, looping, Conditional statement, Exit function	Outlining	Student will be able to Understand the basic concepts of Python	Oral Discussion Assignment -1
2.	September	String Manipulations: Subscript operator, indexing, slicing a string, other functions on strings, string module. Strings and number system: Format functions, converting strings to numbers & Vice Versa. List, Tuples, Sets, Dictionaries: Basic list operators, replacing, inserting, removing an element, searching, Sorting lists, dictionary literals, adding & removing keys, accessing &	Group discussion	Students will be able to work with Various Data Type in Python	Class Test

		replacing values, traversing dictionaries.			
3.	October	Array in Python, Design with Functions: hiding redundancy, complexity, arguments & return values; Formal/Actual arguments, named arguments, program structure and design, Recursive functions, scope & Global statements, Importing modules, Math modules & Random modules.	Questioning	Students work with various inbuilt module	Assignment -2
4.	November	Exception Handling: Exceptions, except clause, try and finally clause, user-defined exceptions. File Handling: Manipulating files & directories, OS & SYS modules, Reading, writing text & numbers from/to file Graphics: "Turtle" module, drawing colors, shapes, digital images, image file formats	Make them to explain their understanding about the topic to other student	Students will able to work with file and Exceptions	Unit Test

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: ANITA YADAV

Designation: Extension Lecturer

Class: BCA-II (3RD Semester)

Subject/ Paper: JAVA OOP FOUNDATION

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
2.	August	Object Oriented Programming and Java Fundamentals: Structure of Java programs, Classes and Objects, Data types, Type Casting, Looping Constructs.Interfaces: Interface basics; Defining, implementing and extending interfaces; Implementing multiple inheritance using interfaces Packages	Group discussion	Students will be able to understand the inheritance	Oral Discussion Assignment -1
3.	September	Basics of packages, Creating and accessing packages, System packages, Creating user defined packages Exception handling using the main keywords of exception handling: try, catch, throw, throws and finally	Questioning	Students will be able to use exception	Class Test
4.	October	Nested try, multiple catch statements, creating user defined exceptions. File Handling Byte Stream, Character Stream, File I/O Basics, File Operations AWT and Event Handling:	Make them to explain their understanding about the topic to other student	Student will able to make AWT event.	Assignment -2

5.	Novemb er	The AWT class hierarchy, Events, Event sources, Event classes, Event Listeners, Relationship between Event sources and Listeners, Delegation event model, Creating GUI applications using AWT.	Providing Practical Environmen t for better understandi ng of Commands	Student will able to handle GUI	Unit Test
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: ANITA YADAV

Designation: Extension Lecturer

Class: BCA-III (5TH Semester)

Subject/ Paper: BACK END DEVELOPMENT

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
2.	August	Introduction to back-end Development: Overview of backend, Client-server architecture, Introduction to web servers and database Programming Languages and Tools: Introduction to serverside languages (e.g., Node.js), Syntax and semantics of chosen server-side language Programming Languages and Tools: Introduction to serverside languages (e.g., Node.js), Syntax and semantics of chosen server-side language	Group discussion	Students will be able to understand the server side tools	Assignment -1
3.	September	Performance Optimization and Security: Caching strategies, Query optimization Database Management: Introduction to databases and DBMS (SQL and NoSQL), Designing a	Questioning	Students will be able to handle sql query	Class Test

		database schema, CRUD operations (Create, Read, Update, Delete), Connecting applications to a database			
4.	October	Server-Side Frameworks: Overview of popular server-side frameworks (e.g., Express.js), Building a simple application using a framework	Make them to explain their understanding about the topic to other student	Student will learn about express.js	Assignment -2
5.	November	API Development: RESTful API concepts, Designing and documenting APIs, Authentication and authorization basics Web security best practices (SQL injection, XSS, CSRF)	Providing Practical Environment for better understanding of Commands	Student will able to Understand APIs	Unit Test

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: ANITA YADAV

Designation: Extension Lecturer

Class: B.A. & B.Sc 1st

Subject/ Paper: Cloud Computing Skills

Type of course :SEC

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
2.	August	Basic Concepts of Cloud Computing Computer Network Basics. Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity.	Group discussion	Students will be able to understand the operating system and desktop	Oral Discussion Assignment -1
3.	September	Cloud Service Providers in use and their Significance Cloud Infrastructure Cloud Pros and Cons. Cloud Delivery Models. Cloud Deployment Models.	Questioning	Students will be able to understand basic of networking	Class Test
4.	October	Cloud Storage Management Concept of Virtualization and Load Balancing. Overview on Virtualization used for Enterprise Solutions. Key Challenges in managing Information. Identifying the problems of scale and management in big data	Make them to explain their understanding about the topic to other student	Student will learn about basic of internet	Assignment -2

5.	Novemb er	Building Cloud Networks Designing and Implementing a Data Center-Based Cloud Installing Open Source Cloud service. Amazon Web Services (AWS). Google Cloud Platform.	Providing Practical Environmen t for better understandi ng of Commands	Student will able to Understand social media	Unit Test
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: **DR. SEEMA**
Designation: **ASSISTANT PROFESSOR**
Class: **BCA 3RD SEM, 2ND YEAR**
Subject/ Paper: **DATABASE TECHNOLOGIES (B23-CAP-303)**
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): **MAJOR**

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Basic Concepts – Data, Information, Records, Files, Schema and Instance etc. Limitations of File Based Approach Characteristics of Database Approach, Database Management System (DBMS), Components of DBMS Environment, DBMS Functions and Components, Database Interfaces, Advantages and Disadvantages of DBMS. Database Users: Data and Database Administrator, Role and Responsibilities of Database Administrator, Database Designers, Application Developers etc. Database System Architecture – 1-Tier, 2-Tier & Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances, Data Independence – Logical and Physical Data Independence.	Interactive teaching, Problem based and interactive	understand the concepts of problem solving on computer . Describe major components of DBMS and their functions	Group Discussion
2.	SEP	Data Models: Hierarchical, Network and Relational Data Models. Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER	Peer, problem based, interactive teaching learning	Model an application's data requirements using conceptual modelling tools like ER diagrams and de-sign database schemas based on the conceptual model.	Assignment, Class Test

3.	OCT	SQL: Meaning, Purpose and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL. Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product etc. Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.	Problem solving , interactive, project based	To implement the concepts of databases using SQL.	Exam
4.	NOV	Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency, Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF), Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form.	Problem solving , interactive	Normalize a given database schema to avoid data anomalies and data redundancy	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: **DR. SEEMA**
Designation: **ASSISTANT PROFESSOR**
Class: **BCA 3RD SEM, 2ND YEAR**
Subject/ Paper: **DATA MANAGEMENT (B23-SEC-302)**
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): **SEC**

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Database Management System Introduction and Purpose, Database Architectures: Centralised, Client-Server, Parallel, Distributed, Web based system: Web architecture (2 tier, 3 tier, N-tier Architecture) Database Storage Structures: Introduction, Indexing, Hashing, Data Dictionary. Data Models: Introduction to various data models, Cardinality Ratio & Relationships, Representation of entities, attributes, relationship attributes, relationship set, Generalization, aggregation, Structure of relational Database	Interactive teaching, Problem based	understand the concepts of problem solving on computer Describe major components of DBMS and their functions	Group Discussion
2.	SEP	Data Models: Hierarchical, Network and Relational Data Models. Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER	Peer, problem based, interactive teaching learning	Model an application's data requirements using conceptual modelling tools like ER diagrams and de-sign database schemas based on the conceptual model.	Assignment, Class Test

3.	OCT	SQL: Meaning, Purpose and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL. Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product etc. Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.	Problem solving , interactive, project based	To implement the concepts of databases using SQL.	Exam
4.	NOV	Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency, Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF), Multi-valued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form.	Problem solving , interactive	Normalize a given database schema to avoid data anomalies and data redundancy	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. SEEMA
Designation: ASSISTANT PROFESSOR
Class: BCA 3RD SEM, 2ND YEAR
Subject/ Paper: FUNDAMENTALS OF COMPUTER SCIENCE
(B23-CAC-104)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MDC

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Computer Fundamentals: Evolution of Computers through generations, Characteristics of Computers, Strengths and Limitations of Computers, Classification of Computers, Functional Components of a Computer System, Applications of computers in Various Fields. Types of Software: System software, Application software, Utility Software.	Problem based and interactive	understand the basic concepts of COMPUTER, software	Group Discussion
2.	SEP	Memory Systems: Concept of bit, byte, word, nibble, storage locations and addresses, measuring units of storage capacity, access time, concept of memory hierarchy. Primary Memory - RAM, ROM, PROM, EPROM. Secondary Memory - Types of storage devices, Magnetic Tape, Hard Disk, Optical Disk, Flash Memory. I/O Devices: I/O Ports of a Desk Top Computer, Device Controller, Device Driver. Input Devices: classification and use, keyboard, pointing devices - mouse, touch pad and track ball, joystick, magnetic stripes, scanner, digital camera, and microphone Output Devices: speaker, monitor, printers: classification, laser, ink jet, dot-matrix. Plotter.	Peer, problem based, interactive teaching learning	Identify the various computer hardware	Assignment, Class Test

3.	OCT	Introduction to Operating System: Definition, Functions, Features of Operating System, Icon, Folder, File, Start Button, Task Bar, Status Buttons, Folders, Shortcuts, Recycle Bin, Desktop, My Computer, My Documents, Windows Explorer, Control Panel.	Problem solving , interactive, project based	Starting with basics of Operating Systems and its functionalities and do the basic editing and formatting in a document	Exam
4.	NOV	The Internet: Introduction to networks and internet, history, Internet, Working of the Internet, Modes of Connecting to Internet. Electronic Mail: Introduction, advantages and disadvantages, User Ids, Passwords, e-mail addresses, message components, message composition, mailer features. Browsers and search engines.	Problem solving , interactive	do the basic editing and formatting in a document	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA
LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: BCA I

Subject/ Paper: Logical organisation of Computer B23-CAP-104 Type of course: Major

S. No.	Month	Topics to be covered	Remarks
1.	August	Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another	
2.	September	BCD Number System. BCD Codes: Natural Binary Code, Weighted Code, Self-Complimenting Code, Cyclic Code. Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode. Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation. Real Numbers normalized floating point representations. Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Complement representations, Addition and subtraction with BCD representations.	
3.	October	Boolean Algebra: Boolean Algebra Postulates, basic Boolean Theorems, Boolean Expressions, Boolean Functions, Truth Tables, Canonical Representation of Boolean Expressions: SOP and POS, Simplification of Boolean Expressions using Boolean Postulates ; Theorems, Karnaugh-Maps (upto four variables), Handling Don't Care conditions. Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions	

4.	November	Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtractor, Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters. Sequential Circuits: Basic Flip-Flops and their working. Synchronous and Asynchronous Flip-Flops, Triggering of Flip-Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops. State Table, State Diagram and State Equations. Flip-flops characteristics & Excitation Tables. Sequential Circuits: Designing registers –Serial-In Serial-Out (SISO), Serial-In Parallel-Out (SIPO), Parallel-In Serial-Out (PISO) Parallel-In Parallel-Out (PIPO) and shift registers	
5	December	Revision	

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: BCA III, Semester :V

Subject/ Paper: Office Automation B23-VOC-132

Type of course(major/ minor/ VAC/ AEC/SEC/ MDC/VOC):VOC

S. No.	Month	Topics to be covered	Remarks
1.	August	Office Automation: Concepts, benefits, various tools, Different Automation software, various applications.	
2.	September	MS-Office: Introduction, paragraph formatting, Headers and footers, tables, mail merge, spell check, file operations, cut, copy, paste, drag and drop, dynamic data, find and replace autocorrect. MS-Excel: Introduction, work sheet, data types, usage of formula and calculations, different charts, functions, tables, formatting, macros	
3.	October	Power point: Introduction, creating ,formatting, adding effects to presentation, different views of slides, adding graphics, slides, sounds and movies of slides, effects, animation, multimedia in ppt.,slide show: transition and timing, Diagram: Clipart and picture, File management	
4.	November	PowerPoint presentation on mobile and desktop, mobile apps for ppt, Email: Introduction, services, how it works, how to make email id, advantages, limitations ,receiving and sending of email, information technology in business LAN, WAN, Media and topologies, electronic data processing, Multimedia Technologies: video conferencing, cloud based storage of records	
5	December	Revision	

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA
LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: B.Com I, Semester :I

Subject/ Paper Basic IT Tools; Course Code B23-SEC-103 Type of course :SEC

S. No.	Month	Topics to be covered	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications	
2.	September	Basics of Hardware and Software, Application Software, Systems Software, Utility Software. Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile App, Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets	
3.	October	User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management.	
4.	November	Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet, Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet.	
5	December	E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message, searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.	

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA
LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Dr. Anita Soni

Designation: Assistant Professor

Class: BSc III Semester 5th

Subject & Code: Data Structures & B23-CSE-501

S.no	Month	Topics to be covered	Remarks
1	August	Data Structure Definition, Data Type vs. Data Structure, Classification of Data Structures, Data Structure Operations, Applications of Data Structures. Algorithm Specifications: Performance Analysis and Measurement (Time and Space Analysis of Algorithms- Average, Best and Worst Case Analysis). Arrays: Introduction, Linear Arrays, Representation of Linear Array in Memory, Two Dimensional and Multidimensional Arrays, Sparse Matrix and its Representation, Operations on Array: Algorithm for Traversal, Selection, Insertion, Deletion and its implementation.	
	September	String Handling: Storage of Strings, Operations on Strings viz., Length, Concatenation, Substring, Insertion, Deletion, Replacement, Pattern Matching Linked List: Introduction, Array vs. linked list, Representation of linked lists in Memory, Traversing a Linked List, Insertion, Deletion, Searching into a Linked list, Type of Linked List.	Assignment 1
	October	Stack: Array Representation of Stack, Linked List Representation of Stack, Algorithms for Push and Pop, Application of Stack: Polish Notation, Postfix Evaluation Algorithms, Infix to Postfix Conversion, Infix to Prefix Conversion, Recursion. Introduction to Queues: Simple Queue, Double Ended Queue, Circular Queue, Priority Queue, Representation of Queues as Linked List and Array, Applications of Queue. Algorithm on Insertion and Deletion in Simple Queue and Circular Queue. Priority Queues.	Test
	November	Tree: Definitions and Concepts, Representation of Binary Tree, Binary Tree Traversal (Inorder, postorder, preorder), Binary Search Trees – Definition, Operations viz., searching, insertions and deletion; Searching and Sorting Techniques, Sorting Techniques: Bubble sort, Merge sort, Selection sort, Quick sort, Insertion Sort. Searching Techniques: Sequential Searching, Binary Searching.	Assignment 2
	December	Revision	

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. REEMA GUPTA
Designation: ASSISTANT PROFESSOR
Class: BCA 5TH SEM, 3RD YEAR
Subject/ Paper: SOFTWARE ENGINEERING (B23-CAP-501)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MAJOR

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Introduction: Program vs. Software, Software Engineering, Programming paradigms, Software Crisis – problem and causes, Phases in Software development: Requirement Analysis, Software Design, Coding, Testing, Maintenance, Software Development Process Models: Waterfall, Prototype, Evolutionary and Spiral models, Role of Metrics	Interactive teaching, Problem based and interactive	learn the various models for software development.	Group Discussion
2.	SEP	Feasibility Study, Software Requirement Analysis and Specifications: SRS, Need for SRS, Characteristics of an SRS, Components of an SRS, Problem Analysis, Information gathering tools, Requirement specification, validation and metrics. Structured Analysis and Tools: Data Flow Diagram, Data Dictionary, Decision table, Decision trees, Structured English, Entity-Relationship diagrams	Peer, problem based, interactive teaching learning	understand how to analyze software.	Assignment, Class Test

3.	OCT	Software Project Planning: Cost estimation: COCOMO model, Project scheduling, Staffing, and personnel planning, team structure, Software configuration management, Quality assurance plans, Project monitoring plans, Risk Management. Software Design: Design fundamentals, problem partitioning, and abstraction, design methodology, Cohesion & Coupling.	Problem solving , interactive, project based	plan a software design and the risks associated with software.	Exam
4.	NOV	Software testing strategies: unit testing, integration testing, Validation testing, System testing, Alpha and Beta testing. Software Maintenance: Type of maintenance, Management of Maintenance, Maintenance Process, maintenance characteristics	Problem solving , interactive	test and validate software	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. REEMA GUPTA
Designation: ASSISTANT PROFESSOR
Class: BCA 1st SEM, 1st YEAR
Subject/ Paper: BASIC IT TOOLS (B23-SEC-103)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): SEC

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software. Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps.	Interactive teaching, Problem based	Identify the basic components of computers and terminology	Group Discussion
2.	SEP	Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management.	Peer, problem based, interactive teaching learning	acquaint with Operating System and its applications for both desktop and mobile devices	Assignment, Class Test

3.	OCT	Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet, Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet.	Problem solving , interactive, project based	Understand computer networks, and browse the internet, content search, email and collaborate with peers	Exam
4.	NOV	E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message, searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.	Problem solving , interactive	Use e-Governance applications; and use computer to improve existing skills and learn new skills	Assignment, Revision

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: DR. REEMA GUPTA
Designation: ASSISTANT PROFESSOR
Class: BCA 3RD SEM, 2ND YEAR
Subject/ Paper: Basics of Data Science using Excel (B23-CAP-304)
Type of course(major/ minor/ VAC/ AEC/SEC/ MDC): MDC

S. No.	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	AUG	Introduction to Data Science: Definition, importance, and applications. Overview of Excel: Interface, basic functions, and features. Data Types and Formats in Excel: Text, numbers, dates, and custom formats. Basic Data Manipulation: Sorting, filtering, and basic formulas (SUM, AVERAGE, COUNT).	Problem based and interactive	understand the fundamental concepts of data science and the role of Excel in data analysis.	Group Discussion
2.	SEP	Data Import and Export: CSV, TXT, and Excel files. Data Cleaning Techniques: Handling missing values, duplicates, and errors. Data Transformation: Text-to-columns, concatenation, and data validation. Data Visualization: Creating and customizing charts (bar, line, pie).	Peer, problem based, interactive teaching learning	learn data cleaning, preparation, and visualization techniques using Excel.	Assignment, Class Test
3.	OCT	Descriptive Statistics: Mean, median, mode, standard deviation, and variance. Inferential Statistics: Hypothesis testing, t-tests, and chi-square tests. Regression Analysis: Simple linear regression and multiple regression. Predictive Modeling: Introduction to basic predictive models and their implementation in Excel.	Problem solving , interactive, project based	apply statistical analysis and predictive modeling using Excel.	Exam

4.	NOV	Advanced Excel Functions: VLOOKUP, HLOOKUP, INDEXMATCH, and PivotTables. Data Analysis ToolPak: Using Excel's built-in data analysis tools such as Descriptive Statistics, Histograms, Correlation, and Regression. What-If Analysis Tools: Scenario Manager, Goal Seek, and Data Tables.	Problem solving , interactive	To explore advanced Excel functions and data analysis tools.	Assignment, Revision
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIIrd Year(5rd Semester)

Subject/ Paper: Network Infrastructure and Data Communication

Technologies (B23-CAP-503)

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;	Outlining	Student will be able to Understand the basic concepts and principles of computer networks	Oral Discussion
2.	September	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model;	Group discussion	Students will be able to understand the analog and digital communication concepts.	Assignment -1

		TCP/IP Model Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites;			
3.	October	Switching and Multiplexing; Modems and modulation techniques Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N, and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols;	Questioning	Students will be able to analyze different data link layer designs and LAN technologies.	Class Test
4.	November	Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth; Routing Algorithms: Flooding, Shortest	Make them to explain their understandi ng about the topic to other student	Student will learn about different routing algorithm	Assignment -2

		Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-Mail, and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIInd Year(3rd Semester)

Subject/ Paper: Linux and Shell programming (B23 -CAP -302)

Type of course : Major

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Linux: Linux distributions, Overview of Linux operating system	Outlining	Student will be able to understand basic of Linux OS	Oral Discussion
2.	September	Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems. Commands in Linux: General-Purpose commands	Group discussion	Students will be able to understand different types of commands in Linux	Assignment -1
3.	October	File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux:	Questioning	Students will be able to analyze different types of processes commands and filters in Linux	Class Test

		Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions. Linux file system: Linux files, inodes and structure and file system, file system components, standard file system			
4.	November	file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time. Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in linux	Make them to explain their understanding about the topic to other student	Student will learn about file system and how to do job control in Linux	Assignment -2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BSc.(Physical Sc.)-Ist Year(1st Semester)

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

Type of course : Minor

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computers: Definition of Computers, History and Generations of Computers,	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit. Software: Definition of Software, Types of Software-System software,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1
3.	October	Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler. Introduction to	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test

		Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar,			
4.	November	Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2025-26) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCOM-I(1st Semester),BBA-I(1st Semester),

Subject/ Paper: Basics of Computer IT Tools (B23-SEC-103)

Type of course : SEC

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software.	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps. Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1

		Task Bar, Icons & shortcuts, Running an Application,			
3.	October	Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test
4.	November	Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet. E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message,	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

		searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIIrd Year(5rd Semester)

Subject/ Paper: Network Infrastructure and Data Communication

Technologies (B23-CAP-503)

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;	Outlining	Student will be able to Understand the basic concepts and principles of computer networks	Oral Discussion
2.	September	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model;	Group discussion	Students will be able to understand the analog and digital communication concepts.	Assignment -1

		TCP/IP Model Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites;			
3.	October	Switching and Multiplexing; Modems and modulation techniques Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N, and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols;	Questioning	Students will be able to analyze different data link layer designs and LAN technologies.	Class Test
4.	November	Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth; Routing Algorithms: Flooding, Shortest	Make them to explain their understandi ng about the topic to other student	Student will learn about different routing algorithm	Assignment -2

		Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-Mail, and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIInd Year(3rd Semester)

Subject/ Paper: Linux and Shell programming (B23 -CAP -302)

Type of course : Major

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Linux: Linux distributions, Overview of Linux operating system	Outlining	Student will be able to understand basic of Linux OS	Oral Discussion
2.	September	Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems. Commands in Linux: General-Purpose commands	Group discussion	Students will be able to understand different types of commands in Linux	Assignment -1
3.	October	File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux:	Questioning	Students will be able to analyze different types of processes commands and filters in Linux	Class Test

		Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions. Linux file system: Linux files, inodes and structure and file system, file system components, standard file system			
4.	November	file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time. Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in linux	Make them to explain their understanding about the topic to other student	Student will learn about file system and how to do job control in Linux	Assignment -2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BSc.(Physical Sc.)-Ist Year(1st Semester)

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

Type of course : Minor

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computers: Definition of Computers, History and Generations of Computers,	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit. Software: Definition of Software, Types of Software-System software,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1
3.	October	Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler. Introduction to	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test

		Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar,			
4.	November	Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2025-26) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCOM-I(1st Semester),BBA-I(1st Semester),

Subject/ Paper: Basics of Computer IT Tools (B23-SEC-103)

Type of course : SEC

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software.	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps. Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1

		Task Bar, Icons & shortcuts, Running an Application,			
3.	October	Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test
4.	November	Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet. E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message,	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

		searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIIrd Year(5rd Semester)

Subject/ Paper: Network Infrastructure and Data Communication

Technologies (B23-CAP-503)

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;	Outlining	Student will be able to Understand the basic concepts and principles of computer networks	Oral Discussion
2.	September	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model;	Group discussion	Students will be able to understand the analog and digital communication concepts.	Assignment -1

		TCP/IP Model Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites;			
3.	October	Switching and Multiplexing; Modems and modulation techniques Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N, and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols;	Questioning	Students will be able to analyze different data link layer designs and LAN technologies.	Class Test
4.	November	Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth; Routing Algorithms: Flooding, Shortest	Make them to explain their understandi ng about the topic to other student	Student will learn about different routing algorithm	Assignment -2

		Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-Mail, and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIInd Year(3rd Semester)

Subject/ Paper: Linux and Shell programming (B23 -CAP -302)

Type of course : Major

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Linux: Linux distributions, Overview of Linux operating system	Outlining	Student will be able to understand basic of Linux OS	Oral Discussion
2.	September	Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems. Commands in Linux: General-Purpose commands	Group discussion	Students will be able to understand different types of commands in Linux	Assignment -1
3.	October	File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux:	Questioning	Students will be able to analyze different types of processes commands and filters in Linux	Class Test

		Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions. Linux file system: Linux files, inodes and structure and file system, file system components, standard file system			
4.	November	file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time. Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in linux	Make them to explain their understanding about the topic to other student	Student will learn about file system and how to do job control in Linux	Assignment -2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BSc.(Physical Sc.)-Ist Year(1st Semester)

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

Type of course : Minor

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computers: Definition of Computers, History and Generations of Computers,	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit. Software: Definition of Software, Types of Software-System software,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1
3.	October	Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler. Introduction to	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test

		Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar,			
4.	November	Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2025-26) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCOM-I(1st Semester),BBA-I(1st Semester),

Subject/ Paper: Basics of Computer IT Tools (B23-SEC-103)

Type of course : SEC

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software.	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps. Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1

		Task Bar, Icons & shortcuts, Running an Application,			
3.	October	Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test
4.	November	Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet. E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message,	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

		searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIIrd Year(5rd Semester)

Subject/ Paper: Network Infrastructure and Data Communication

Technologies (B23-CAP-503)

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;	Outlining	Student will be able to Understand the basic concepts and principles of computer networks	Oral Discussion
2.	September	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model;	Group discussion	Students will be able to understand the analog and digital communication concepts.	Assignment -1

		TCP/IP Model Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites;			
3.	October	Switching and Multiplexing; Modems and modulation techniques Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N, and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols;	Questioning	Students will be able to analyze different data link layer designs and LAN technologies.	Class Test
4.	November	Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth; Routing Algorithms: Flooding, Shortest	Make them to explain their understandi ng about the topic to other student	Student will learn about different routing algorithm	Assignment -2

		Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-Mail, and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIInd Year(3rd Semester)

Subject/ Paper: Linux and Shell programming (B23 -CAP -302)

Type of course : Major

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Linux: Linux distributions, Overview of Linux operating system	Outlining	Student will be able to understand basic of Linux OS	Oral Discussion
2.	September	Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems. Commands in Linux: General-Purpose commands	Group discussion	Students will be able to understand different types of commands in Linux	Assignment -1
3.	October	File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux:	Questioning	Students will be able to analyze different types of processes commands and filters in Linux	Class Test

		Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions. Linux file system: Linux files, inodes and structure and file system, file system components, standard file system			
4.	November	file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time. Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in linux	Make them to explain their understanding about the topic to other student	Student will learn about file system and how to do job control in Linux	Assignment -2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BSc.(Physical Sc.)-Ist Year(1st Semester)

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

Type of course : Minor

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computers: Definition of Computers, History and Generations of Computers,	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit. Software: Definition of Software, Types of Software-System software,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1
3.	October	Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler. Introduction to	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test

		Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar,			
4.	November	Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2025-26) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCOM-I(1st Semester),BBA-I(1st Semester),

Subject/ Paper: Basics of Computer IT Tools (B23-SEC-103)

Type of course : SEC

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software.	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps. Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1

		Task Bar, Icons & shortcuts, Running an Application,			
3.	October	Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test
4.	November	Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet. E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message,	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

		searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIIrd Year(5rd Semester)

Subject/ Paper: Network Infrastructure and Data Communication

Technologies (B23-CAP-503)

Type of course : Major

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, Transceivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways;	Outlining	Student will be able to Understand the basic concepts and principles of computer networks	Oral Discussion
2.	September	Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model;	Group discussion	Students will be able to understand the analog and digital communication concepts.	Assignment -1

		TCP/IP Model Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites;			
3.	October	Switching and Multiplexing; Modems and modulation techniques Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N, and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols;	Questioning	Students will be able to analyze different data link layer designs and LAN technologies.	Class Test
4.	November	Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth; Routing Algorithms: Flooding, Shortest	Make them to explain their understandi ng about the topic to other student	Student will learn about different routing algorithm	Assignment -2

		Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-Mail, and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCA-IIInd Year(3rd Semester)

Subject/ Paper: Linux and Shell programming (B23 -CAP -302)

Type of course : Major

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Linux: Linux distributions, Overview of Linux operating system	Outlining	Student will be able to understand basic of Linux OS	Oral Discussion
2.	September	Linux architecture, Features of Linux, Accessing Linux system, Starting and shutting down system, Logging in and Logging out, Comparison of Linux with other operating systems. Commands in Linux: General-Purpose commands	Group discussion	Students will be able to understand different types of commands in Linux	Assignment -1
3.	October	File oriented commands, directory oriented commands, Communication-oriented commands, process oriented commands, etc. Regular expressions & Filters in Linux:	Questioning	Students will be able to analyze different types of processes commands and filters in Linux	Class Test

		Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions. Linux file system: Linux files, inodes and structure and file system, file system components, standard file system			
4.	November	file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, Job control in linux using at, batch, cron & time. Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in linux	Make them to explain their understanding about the topic to other student	Student will learn about file system and how to do job control in Linux	Assignment -2

❖ Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2026-27) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BSc.(Physical Sc.)-Ist Year(1st Semester)

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

Type of course : Minor

S. No	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computers: Definition of Computers, History and Generations of Computers,	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Characteristics of computer, Classification of Computers. Fundamental Block diagram of Computer: CPU, Input & Output Unit. Software: Definition of Software, Types of Software-System software,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1
3.	October	Application software and Utility software. Types of Computer Languages, Assemblers, Interpreters, Compiler. Introduction to	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test

		Operating Systems: Types of Operating System, Functions of Operating System. Windows: Introduction to Windows, Starting Windows, Desk Top, Task Bar,			
4.	November	Opening and closing applications, icons-creating, renaming and removing. Date and Time setting, Working with files and folders-creating, deleting, opening, finding, copying, moving, and renaming Networking: Concept, Basic Elements of a Communication System, Data Transmission Media, LAN, MAN, WAN. Introduction of Internet and WWW, Basic working of a Web Browser, Introduction to popular web browsers.	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

Signature of Teacher

Principal

GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA

LESSON-PLAN (Session 2025-26) ODD SEMESTER

Name of Teacher: Sapna Malik

Designation: Extension Lecturer

Class: BCOM-I(1st Semester),BBA-I(1st Semester),

Subject/ Paper: Basics of Computer IT Tools (B23-SEC-103)

Type of course : SEC

S. No .	Month	Topics to be covered	Teaching Learning Strategy	Learning Outcomes of Students	Remarks
1.	August	Introduction to Computer: Computer and Latest IT gadgets, Evolution of Computers & its applications, Basics of Hardware and Software, Application Software, Systems Software, Utility Software.	Outlining	Student will be able to understand basic of Computer	Oral Discussion
2.	September	Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Mobile Apps. Introduction to Operating System, Functions of the Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop,	Group discussion	Students will be able to understand different types of Units of Computer	Assignment-1

		Task Bar, Icons & shortcuts, Running an Application,			
3.	October	Operating System Simple Setting, Changing System Date and Time, Changing Display Properties, To Add or Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management Introduction to Internet and World Wide Web, Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology, Internet, Applications of Internet	Providing Practical Environment for better understanding	Students will be able to learn Different Functions of OS	Class Test
4.	November	Website Address and URL, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Popular Search Engines, Searching on the Internet. E-mail: Using E-mails, Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, replying to an E-mail message, forwarding an E-mail message,	Make them to explain their understanding about the topic to other student	Student will learn about Networking	Assignment-2

		searching emails, Attaching files with email, Email Signature. Social Networking: Facebook, Twitter, LinkedIn, Instagram, Instant Messaging (WhatsApp, Facebook Messenger, Telegram), Introduction to Blogs, Digital Locker.			
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❖ **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

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