

D.B.G.GOV.T.COLLEGE, PANIPAT

Session2026-2027(ODD SEMESTER)

NAME OF PROFESSOR: YOGITA GULATI

DESIGNATION: Assistant Professor in computer science

SUBJECT/PAPER: Problem solving through C

CLASS-BCA.Ist Sem

SR. NO.	MONTH	TOPICS TO BE COVERED
1.	AUGUST	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().
2.	SEPTEMBER	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, if-else statement, nested if statement, else-if ladder, switch and break statement, goto statement, Looping Statements: for, while, and do-while loop, jumps in loops.
3.	OCTOBER	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.
4.	NOVEMBER	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.

ONE ASSIGNMENTS AND ONE UNIT TEST WILL BE TAKEN AS PER SCHEDULE.

Signature of Assistant Professor

D.B.G.GOV.T.COLLEGE, PANIPAT

Session2026-2027(ODD SEMESTER)

NAME OF PROFESSOR: YOGITA GULATI

DESIGNATION: Assistant Professor in computer science

SUBJECT/PAPER: B23-CAP-303

CLASS- BCA SEM 3rd (Data Base Technologies)

SR. NO.	MONTH	TOPICS TO BE COVERED
1.	August	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.
2.	September	Data Models: Hierarchical, Network, and Relational Data Models. Entity-Relationship Model: Entity, Entity Sets, Entity Type, Attributes: Type of Attributes, Keys, Integrity Constraints, Designing of ER Diagram, Symbolic Notations for Designing ER Diagram,
3.	October	SQL: Meaning, Purpose, and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL, Basic Queries, Join Operations and Sub-queries. 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.

4.	November	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.
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Session 2026-2027 (ODD SEMESTER)

NAME OF PROFESSOR: YOGITA GULATI

DESIGNATION: Assistant Professor in computer science

SUBJECT/PAPER :Linux and shell programming

CLASS- B.C.A. 3rd Sem

SR. NO.	MONTH	TOPICS TO BE COVERED	REMARKS IF ANY
1.	AUGUST	entroduction to Linux: Linux distributions, Overview of Linux operating system, 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	
2.	SEPTEMBER	Commands in Linux: General-purpose commands, File oriented commands, directory-oriented commands, Communication-oriented commands, process-oriented commands, etc. Regular expressions & Filters in Linux: Simple filters viz. more, wc, diff, sort, uniq, grep; Introducing regular expressions	A s s i g n m e n t 1 + T e s t

3.	OCTOBER	linux file system: Linux files, inodes and structure and file system, file system components, standard file system, file system types. Processes in Linux: Starting and Stopping Processes, Initialization Processes, Mechanism of process creation, and Job control in Linux using at, batch, cron & time	
4.	NOVEMBER	Shell Programming: vi editor, shell variables, I/O in shell, control structures, loops, subprograms, creating & executing shell scripts in Linux	

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Signature of Assistant Professor

NAME OF PROFESSOR: YOGITA GULATI

DESIGNATION: Assistant Professor in Computer science

SUBJECT/PAPER: Java oop foundations (B23-CAP-301)

CLASS-BCA 3rd csem

SR. NO.	MONTH	TOPICS TO BE COVERED
1.	AUGUST	Object Oriented Programming and Java Fundamentals: Structure of Java programs, Classes and Objects, Data types, Type Casting, Looping Constructs
2.	SEPTEMBER	Interfaces: Interface basics; Defining, implementing, and extending interfaces; Implementing multiple inheritance using interfaces Packages: Basics of packages, Creating and accessing packages, System packages, Creating user-defined packages
3.	OCTOBER	exception handling using the main keywords of exception handling: try, catch, throw, throws, and finally; Nested try, multiple catch statements, creating user-defined exceptions. File Handling Byte Stream, Character Stream, File I/O Basics, File Operations
4.	NOVEMBER	AWT and Event Handling: 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

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Signature of Assistant Professor