Lesson Plan

Session- 2026-27 Class- B.C.A. 1sT Sem

Subject - Problem Solving Through C (Theory) (4-6) Days

01-Aug to 01-Aug	**UNIT 1 -**	Overview of C: History, Importance, Structure of C Program
06-Aug to 08-Aug		Character Set, Constants and Variables, Identifiers and Keywords
13-Aug to 15-Aug		Data Types, Assignment Statement, Symbolic Constant.
20-Aug to 22-Aug		Input/output: Formatted I/O Function-, Input Functions viz. scanf(), getch(), getche()
27-Aug to 29-Aug		getchar(), gets(), output functions viz. printf(), putch(), putchar(), puts()
03-Sep to 05-Sep	**UNIT 2 -**	Operators & Expression: Arithmetic, Relational, Logical, Bitwise,Unary, Assignment,
10-Sep to 12-Sep		Conditional Operators and Special Operators **Assignment 1**
17-Sep to 19-Sep		Operator Hierarchy; Arithmetic Expressions, Evaluation of Arithmetic Expression, Type Casting and Conversion
24-Sep to 26-Sep		Decision making with if statement, ifelse statement, nested if statement, else-if ladder
01-Oct to 03-Oct		switch and break statement, goto statement, Looping Statements: for, while, and dowhile loop, jumps in loops.
08-Oct to 10-Oct	**UNIT 3 -**	Arrays: One Dimensional arrays - Declaration, Initialization and Memory representation **Mid Term exam Of Unit 1-2**
15-Oct to 17-Oct		Two Dimensional arrays -Declaration, Initialization and Memory representation.
22-Oct to 24-Oct		Functions: definition, prototype, function call, passing arguments to a function: call by value; call by reference, recursive functions
29-Oct to 31-Oct		**Diwali Vacations** **Assignment 2**
05-Nov to 07-Nov		Strings: Declaration and Initialization, String I/O, Array of Strings, String Manipulation Functions: String Length, Copy, Compare, Concatenate etc., Search for a Substring
12-Nov to 14-Nov	**UNIT 4 -**	Pointers in C: Declaring and initializing pointers, accessing address and value of variables using pointers, Pointers and Arrays.,
19-Nov to 21-Nov		User defined data types: Structures - Definition, Advantages of Structure, declaring structure variables, accessing structure members
26-Nov to 28-Nov		Structure members initialization, Array of Structures; Unions - Union definition, difference between Structure and Union. **REVISION**

Practical Plan Session- 2026-27

Class- B.C.A. 1st Sem

Subject - Problem Soving Through C Language (3-6)

05-Aug to 08-Aug	To read radius of a circle and to find area and circumference
12-Aug to 15-Aug	To read three numbers and find the biggest of three, To check whether the number is prime or not
19-Aug to 22-Aug	To read a number, find the sum of the digits, reverse the number and check it for palindrome
26-Aug to 29-Aug	To read numbers from keyboard continuously till the user presses 999 and to find the sum of only positive numbers
02-Sep to 05-Sep	To read percentage of marks and to display appropriate message (Demonstration of else-if ladder)
09-Sep to 12-Sep	To find the roots of quadratic equation
16-Sep to 19-Sep	To read marks scored by n students and find the average of marks (Demonstration of single dimensional array)
23-Sep to 26-Sep	To remove Duplicate Element in a single dimensional Array
30-Sep to 03-Oct	To perform addition and subtraction of Matrices
07-Oct to 10-Oct	To find factorial of a number, To generate Fibonacci series
14-Oct to 17-Oct	To remove Duplicate Element in a single dimensional Array
21-Oct to 24-Oct	To find the length of a string without using built in function, To demonstrate string functions
28-Oct to 31-Oct	To read, display and add two m x n matrices using functions
04-Nov to 07-Nov	**Diwali Vacations**
11-Nov to 14-Nov	To read a string and to find the number of alphabets, digits, vowels, consonants, spaces and special characters
18-Nov to 21-Nov	To Swap Two Numbers using Pointers, To demonstrate student structure to read & display records of n students
25-Nov to 28-Nov	To demonstrate the difference between structure & union.

Lesson Plan Session- 2026-27
Class- B.C.A. 1st Sem
Subject - L.O.C-I (1-4)

03-Aug to 06-Aug	**UNIT 1 -** Number Systems: Binary, Octal, Hexadecimal etc. Conversions from one number system to another, BCD Number
10-Aug to 13-Aug	System. BCD Codes: Natural Binary Code, Weighted Code, SelfComplimenting Code, Cyclic Code.
17-Aug to 20-Aug	Error Detecting and Correcting Codes. Character representations: ASCII, EBCDIC and Unicode.
24-Aug to 27-Aug	Number Representations: Integer numbers - sign-magnitude, 1's & 2's complement representation.
31-Aug to 03-Sep	Real Numbers normalized floating point representations. **Assignment 1**
07-Sep to 10-Sep	**UNIT 2 -** Binary Arithmetic: Binary Addition, Binary Subtraction, Binary Multiplication, Binary Division using 1's and 2's Compliment representations, Addition and subtraction with BCD representations.
14-Sep to 17-Sep	Boolean Algebra: Boolean Algebra Postulates, basic Boolean, Theorems, Boolean Expressions, Boolean Functions, Truth Tables,
21-Sep to 24-Sep	Canonical Representation of Boolean Expressions: SOP and POS,Simplification of Boolean Expressions using Boolean Postulates & Theorems,
28-Sep to 01-Oct	Kaurnaugh-Maps (upto four variables), Handling Don't Care conditions. **Mid Term exam Of Unit 1-2**
05-Oct to 08-Oct	**UNIT 3 -** Logic Gates: Basic Logic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Their symbols, truth tables and Boolean expressions.
12-Oct to 15-Oct	Combinational Circuits: Design Procedures, Half Adder, Full Adder, Half Subtractor, Full Subtracor,
19-Oct to 22-Oct	Multiplexers, Demultiplexers, Decoder, Encoder, Comparators, Code Converters.
26-Oct to 29-Oct	**UNIT 4 -** Sequential Circuits: Basic Flip- Flops and their working., Synchronous and Asynchronous Flip –Flops,
02-Nov to 05-Nov	**Diwali Vacations** **Assignment 2**
09-Nov to 12-Nov	Triggering of Flip- Flops, Clocked RS, D Type, JK, T type and Master-Slave Flip-Flops.
16-Nov to 19-Nov	State Table, State Diagram and State Equations.,
23-Nov to 26-Nov	Flip-flops characteristics & Excitation Tables, Sequential Circuits. **Revision**

Lesson Plan
Session- 2026-27 Class- B.C.A. 1st Sem
Subject - Essentials of Python (SEC) (5-6) Days

07-Aug to 08-Aug	**UNIT 1 -** Keywords and Identifiers; Comments: Purpose/use of comments, Single line comment/Multiline comment;
14-Aug to 15-Aug	Python Variables: Declaration of Variables, Assign Values to Variables, Initializa-tion, Reading, Variable naming restrictions, and Types of Python Variables.
21-Aug to 22-Aug	Python Data Types: Implicit Declaration of Data Types, Python Numbers (Integers, floating-point numbers, and complex numbers),
28-Aug to 29-Aug	Python Strings, Python Boolean data type;
04-Sep to 05-Sep	**UNIT 2 -** Operators: Arithmetic, Comparison/Relational Operators,Increment Operators,
11-Sep to 12-Sep	Logical operators, Identity Operators, and Operators Precedence.
18-Sep to 19-Sep	Python Control Flow Statement, Decision Making: Simple If Structure, if-else structure,
25-Sep to 26-Sep	if elif structure, and nested If Structure;
02-Oct to 03-Oct	**UNIT 3 -** Looping: Python Loop Statements. Python while loop, Python for loop, Python range(),
09-Oct to 10-Oct	Python Nested Loop Structures, and Inserting conditions in Loops and vice versa; Python Branching Statements – break, continue, pass.
16-Oct to 17-Oct	Python Lists: Create Python Lists, Update Python Lists, Delete Elements from Python Lists, and Built-in Functions Methods for Python Lists.
23-Oct to 24-Oct	**UNIT 4 -** Tuples: create, update, join and methods; Sets: create, add/remove items, join sets, set methods;
30-Oct to 31-Oct	Dictionary: create, access, add/remove items, dictionary methods. Manipulating
06-Nov to 07-Nov	**Diwali Vacations** **Assignment 2**
13-Nov to 14-Nov	Strings - Working with Strings, Useful String Methods
20-Nov to 21-Nov	Python Functions: defining function, arbitrary arguments, keywords arguments, default parameter values, return value and return statements; Lambda;
27-Nov to 28-Nov	Arrays: looping through array elements, array methods;

Lesson Plan Session- 2026-27
Class- B.C.A. 3rd Sem
Subject - Database Technologies (1-2) Days

03-Aug to 04-Aug	**UNIT 1-** Basic Concepts – Data, Information, Records, Files, Schema and Instance etc. Limitations of File Based Approach, Characteristics of Database Approach, Database Management
10-Aug to 11-Aug	System (DBMS), Components of DBMS Environment, DBMS Functions and Components, Database Interfaces, Advantages and Disadvantages of DBMS.
17-Aug to 18-Aug	Database Users: Data and Database Administrator, Role and Responsibilities of Database Administrator, Database Designers, Application Developers etc.
24-Aug to 25-Aug	Database System Architecture – 1-Tier, 2-Tier & Three Levels of Architecture, External, Conceptual and Internal Levels, Schemas, Mappings and Instances,
31-Aug to 01-Sep	Data Independence – Logical and Physical Data Independence. **Assignment -1**
07-Sep to 08-Sep	**UNIT 2 -** Data Models: Hierarchical, Network and Relational Data Models.
14-Sep to 15-Sep	Entity-Relationship Model: Entity, Entity Sets, Entity Type,
21-Sep to 22-Sep	Attributes: Type of Attributes, Keys, Integrity Constraints,
28-Sep to 29-Sep	Designing of ER Diagram, Symbolic Notations for Designing ER Diagram, **Mid - Term Exam of Unit 1, 2**
05-Oct to 06-Oct	**UNIT 3 -** SQL: Meaning, Purpose and Need of SQL, Data Types, SQL Components: DDL, DML, DCL and DQL,
12-Oct to 13-Oct	Basic Queries, Join Operations and Sub-queries, Views, Specifying Indexes. Constraints and its Implementation in SQL.
19-Oct to 20-Oct	Relational Algebra: Basic Operations: Select, Project, Join, Union, Intersection, Difference, and Cartesian Product etc.
26-Oct to 27-Oct	Relational Calculus: Tuple Relational and Domain Relational Calculus. Relational Algebra Vs. Relational Calculus.
02-Nov to 03-Nov	**Diwali Vacations** **Assignment 2**
09-Nov to 10-Nov	**UNIT 4 -** Relational Model: Functional Dependency, Characteristics, Inference Rules for Functional Dependency, Types of Functional Dependency,
16-Nov to 17-Nov	Normalization: Benefits and Need of Normalization, Normal Forms Based on Primary Keys- (1NF, 2NF, 3NF, BCNF),
23-Nov to 24-Nov	Multivalued Dependencies, 4 NF, Join dependencies, 5 NF, Domain Key Normal Form. **Revision**

Practical Plan Session- 2026-27
Class- B.C.A. 3rd Sem
Subject - Practical Database Technologies (3-6)

05-Aug to 08-Aug	Performing various SQL statement. Creating various tables and performing all possible queries based on syllabus
12-Aug to 15-Aug	Performing various SQL statement. Creating various tables and performing all possible queries based on syllabus
19-Aug to 22-Aug	Performing various SQL statement. Creating various tables and performing all possible queries based on syllabus
26-Aug to 29-Aug	Performing various SQL statement. Creating various tables and performing all possible queries based on syllabus
02-Sep to 05-Sep	Performing various SQL statement. Creating various tables and performing all possible queries based on syllabus
09-Sep to 12-Sep	Understanding relational model concepts
16-Sep to 19-Sep	Understanding relational model concepts
23-Sep to 26-Sep	Understanding relational model concepts
30-Sep to 03-Oct	Understanding relational model concepts
07-Oct to 10-Oct	Understanding normalization
14-Oct to 17-Oct	Understanding normalization
21-Oct to 24-Oct	Understanding normalization
28-Oct to 31-Oct	Understanding normalization
04-Nov to 07-Nov	**Diwali Vacations**
11-Nov to 14-Nov	Understanding various concepts of databases.
18-Nov to 21-Nov	Understanding various concepts of databases.
25-Nov to 28-Nov	Understanding various concepts of databases.

Lesson Plan Session- 2026-27
Class- B.C.A. 5th Sem
Subject - Software Engineering (1-4) Days

03-Aug to 06-Aug	**UNIT 1 -**	Introduction: Program vs. Software, Software Engineering, Programming paradigms, Software Crisis – problem and causes,	
10-Aug to 13-Aug		Phases in Software development: Requirement Analysis, Software Design, Coding, Testing, Maintenance,	
17-Aug to 20-Aug		Software Development Process Models: Waterfall, Prototype, Evolutionary	
24-Aug to 27-Aug		Spiral models, Role of Metrics	**ASSIGNMENT 1**
31-Aug to 03-Sep	**UNIT 2 -**	Feasibility Study, Software Requirement Analysis and Specifications: SRS, Need for SRS, Characteristics of an SRS,	
07-Sep to 10-Sep		Components of an SRS, Problem Analysis, Information gathering tools, Requirement specification, validation and metrics	
14-Sep to 17-Sep		Structured Analysis and Tools: Data Flow Diagram, Data Dictionary, Decision table, Decision trees,	
21-Sep to 24-Sep		Structured English, Entity-Relationship diagrams	
28-Sep to 01-Oct	**UNIT 3 -**	Software Project Planning: Cost estimation: COCOMO model, Project scheduling, Staffing, and personnel planning, team structure,	
05-Oct to 08-Oct		Software configuration management, Quality assurance plans, Project monitoring plans, Risk Management.	
12-Oct to 15-Oct		Software Design: Design fundamentals, problem partitioning,	
19-Oct to 22-Oct		abstraction, design methodology, Cohesion & Coupling.	
26-Oct to 29-Oct	**UNIT 4 -**	Software testing strategies: unit testing, integration testing,	
02-Nov to 05-Nov		**DIWALI VACATIONS**	**ASSIGNMENT 2**
09-Nov to 12-Nov		Validation testing, System testing, Alpha and Beta testing.	
16-Nov to 19-Nov		Software Maintenance: Type of maintenance, Management of Maintenance,	
23-Nov to 26-Nov		Maintenance Process, maintenance characteristics.	