MODEL PAPER – 1
B.A / B.Sc (Computer Applications) – Semester I
Paper: Programming in C
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Write the structure of a C program.
2. Define data types in C.
3. Explain storage classes in C.
4. Write about formatted input and output functions.
5. Explain the if-else statement with syntax.
6. Define an array. Explain one-dimensional array.
7. Write about string handling functions.
8. Define a function. Explain types of functions.
9. What is recursion?
10. Define a pointer. Explain its uses.
11. Write about dynamic memory allocation.
12. Define a structure.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain the basic structure of a C program, data types, variables, and constants.
OR
(b) Explain operators in C and expression evaluation with suitable examples.

14.(a) Explain decision-making and looping statements with suitable examples.
OR
(b) Define arrays and explain one-dimensional and two-dimensional arrays with examples.

15.(a) Explain user-defined functions and recursive functions with suitable examples.
OR
(b) Explain pointers and their applications with suitable examples.

16.(a) Explain structures and arrays of structures with suitable examples.
OR
(b) Explain dynamic memory allocation and unions with suitable examples.

MODEL PAPER – 2

B.A / B.Sc (Computer Applications) – Semester I

Paper: Programming in C

Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Explain the steps involved in compiling and executing a C program.
2. Write about preprocessors in C with examples.
3. Define formatted and unformatted input/output operations.
4. What are conditional operators? Explain with syntax.
5. Differentiate between while loop and do-while loop.
6. Define two-dimensional array. Give example.
7. Explain string input and output functions.
8. Write about built-in mathematical functions in C.
9. Explain function return values and their types.
10. What is address-of operator (&)? Explain.
11. Write about pointers and strings.
12. Explain enumerated data types (enum).

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain the history of C language and the steps involved in creating, compiling, linking, and executing a C program.

OR

(b) Explain keywords, constants, variables, and scope of variables with suitable examples.

14.(a) Explain looping statements (while, do-while, for) with suitable examples.

OR

(b) Explain strings and string handling functions with suitable examples.

15.(a) Explain built-in functions and their types with examples.

OR

(b) Explain recursive functions with suitable examples.

16.(a) Explain pointers, pointer arithmetic, and their uses with examples.

OR

(b) Explain structures, enumerated data types, and unions with suitable examples.

MODEL PAPER – 3
B.A / B.Sc (Computer Applications) – Semester I
Paper: Programming in C
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Define identifiers. Write rules for naming identifiers.
2. Explain different types of constants in C.
3. What is type casting? Explain with example.
4. Define conditional (ternary) operator with syntax.
5. What is dynamic array?
6. Explain string declaration and initialization.
7. Write about character handling functions.
8. Define function prototype and its importance.
9. What is recursion? Write advantages of recursion.
10. Define pointer to pointer.
11. What are the uses of structures?
12. Define union. State its advantages.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13. (a) Explain tokens in C and discuss keywords, identifiers, constants, and variables with examples.
OR
(b) Explain data types, storage classes, and scope and lifetime of variables with suitable examples.

14.(a) Explain conditional statements and write a program to check whether a number is prime or not.
OR
(b) Explain arrays and write a program to perform matrix multiplication.

15.(a) Explain user-defined functions and write a program using recursion to find factorial.
OR
(b) Explain pointers and their relationship with arrays and strings with examples.

16.(a) Explain structures and write a program to store and display student details using structures.
OR
(b) Explain dynamic memory allocation functions (malloc, calloc, free) with examples.

MODEL PAPER – 4
B.A / B.Sc (Computer Applications) – Semester I
Paper: Programming in C
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Write about different types of programming languages.
2. Explain linking process in C program execution.
3. Define symbolic constants with examples.
4. Explain assignment operators with examples.
5. What is goto statement? Write its syntax.
6. Define dynamic memory allocation functions.
7. Explain string comparison functions.
8. Write about date functions in C.
9. What is function recursion? Explain with example.
10. Define pointer variables and their declaration.
11. What is array of structures?
12. Explain union with example.

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.(a) Explain history of C language and preprocessing directives with suitable examples.
OR
(b) Explain variables, constants, and storage classes with suitable examples.

14.(a) Explain decision-making statements and write a program to check whether a number is palindrome or not.
OR
(b) Explain arrays and write a program to find largest element in an array.

15.(a) Explain built-in functions (mathematical, string, character) with examples.
OR
(b) Explain function declaration, function definition, and function calling with suitable examples.

16.(a) Explain pointers and dynamic memory allocation with examples.
OR
(b) Explain structures, array of structures, and unions with suitable examples.

MODEL PAPER – 5
B.A / B.Sc (Computer Applications) – Semester I
Paper: Programming in C
Time: 3 Hours | Max Marks: 80

◇ SECTION – A: SHORT ANSWER QUESTIONS

Answer any EIGHT questions (8 × 4 = 32 Marks)

1. Define preprocessing directives and give examples.
2. Explain difference between local and global variables.
3. What are relational operators? Explain.
4. Define conditional statements in C.
5. Explain initialization of arrays with example.
6. Write about string input functions (gets, fgets).
7. Define library functions in C.
8. Explain recursive function with example.
9. What is pointer arithmetic?
10. Define dynamic memory allocation using calloc().
11. Explain structure member access operators.
12. What is difference between structure and union?

◇ SECTION – B: ESSAY TYPE QUESTIONS

Answer ALL questions (4 × 12 = 48 Marks)

13.
(a) Explain compilation, linking, and execution process of a C program with diagram.
OR
(b) Explain data types, variables, constants, and type conversion with suitable examples.

14.(a) Explain looping statements and write a program to find sum of digits of a number.
OR
(b) Explain strings and write a program to check whether a string is palindrome or not.

15.(a) Explain functions and write a program using recursion to find Fibonacci series.
OR
(b) Explain pointers and write a program to swap two numbers using pointers.

16.(a) Explain structures and write a program to handle employee records using structures.
OR
(b) Explain dynamic memory allocation and write a program using malloc() and free()

UNIT WISE IMPORTANT QUESTIONS

UNIT – I (Basics, I/O, Operators)

- History and features of C language
- Structure of C program
- Steps: Creating, compiling, linking, executing
- Preprocessors in C
- Keywords and identifiers
- Constants and variables
- Scope and lifetime of variables
- Data types
- Storage classes
- Formatted and unformatted I/O
- Operators in C (all types)
- Expressions and type conversion

UNIT – II (Control Statements, Arrays, Strings)

- If, if-else, nested if
- Switch statement
- Looping (for, while, do-while)
- Difference between loops
- One-dimensional arrays
- Two-dimensional arrays
- Dynamic arrays
- Strings (declaration & initialization)
- String handling functions

UNIT – III (Functions)

- Built-in functions
- Mathematical functions
- String functions
- Character functions
- User-defined functions
- Function declaration and calling
- Return values

- Recursive functions ⭐⭐⭐⭐⭐

UNIT – IV (Pointers, Structures)

- Pointer basics ⭐⭐⭐⭐⭐
- Address operator (&) ⭐⭐⭐⭐⭐
- Uses of pointers ⭐⭐⭐⭐
- Pointers with arrays ⭐⭐⭐⭐⭐
- Pointers with strings ⭐⭐⭐⭐⭐
- Dynamic memory allocation ⭐⭐⭐⭐⭐
- Structures ⭐⭐⭐⭐⭐
- Array of structures ⭐⭐⭐⭐
- Functions with structures ⭐⭐⭐⭐
- Enumerated data types ⭐⭐⭐⭐
- Structures vs unions ⭐⭐⭐⭐⭐