

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

**B.Tech.(AI & ML/Block Chain/CE/CSE/CS/DS/CSD/EE/ECE/IT/ME/  
/Internet of Things and Cyber Security including Block Chain  
Technology) (Sem.-1,2)**

**PROGRAMMING FOR PROBLEM SOLVING**

**Subject Code : BTPS101/18**

**M.Code : 93803**

**Date of Examination : 20-12-2024**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION - B & C** have **FOUR** questions each.
3. **Attempt any FIVE** questions from **SECTION B & C** carrying **EIGHT** marks each.
4. **Select atleast TWO** questions from **SECTION - B & C**.

**SECTION-A**

**I. Answer Briefly :**

- a. What is conditional operator? Give an example on how to use it.
- b. Explain different types of computer memory.
- c. What is pseudocode? Give an example.
- d. Give an example of logical error in C.
- e. Write the syntax of (if- else if) control statement.
- f. What is an array? How to initialize each element of the array?
- g. What is a function? Differentiate between user-defined and library function.
- h. Differentiate between array and structure.
- i. What is pointer? How can we access a variable using pointer?
- j. Differentiate between while and do-while loop.

### SECTION-B

2. What is recursion? Write a program to find the factorial of a number using recursion.
3. Write a program to find the sum of all elements of an array.
4. Explain in detail various type of operators in C.
5. Explain various data types in C.

### SECTION-C

6. Write a program or algorithm to implement bubble sort.
7. Explain in detail various string library functions with the help of proper syntax.
8. What is an operating system? List various features or characteristics of operating system.
9. Write a program to check if the given number is prime or not?

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**