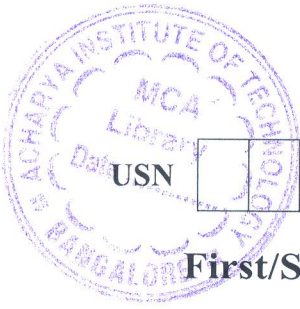


CBCS SCHEME



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21PSP13/23

First/Second Semester B.E. Degree Examination, Dec.2023/Jan.2024

Problem Solving Through Programming

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the basic structure of C program with example. (10 Marks)
- b. Define computer. Describe various types of computer. (10 Marks)

OR

- 2 a. List all the logical operators. Write a C program to demonstrate the working of logical operators. (10 Marks)
- b. Explain different components of computer with neat labelled diagram. (10 Marks)

Module-2

- 3 a. Explain the syntax of "if ..else if else" ladder (cascading if else). Also write a C program to perform the simple calculator operations like addition, subtraction, multiplication, division and modulus using "if else if else" statement. (10 Marks)
- b. Different between while and Do-while loop. (05 Marks)
- c. Write a C program to print sum of 'N' natural numbers. (05 Marks)

OR

- 4 a. Write the syntax of 'while loop' and write a C program to check whether the given number is palindrome or not. (10 Marks)
- b. Explain ternary operator with suitable example. (05 Marks)
- c. Write a C program to check whether the given number is prime or not. (05 Marks)

Module-3

- 5 a. Define array. Explain the declaration and initialization of single dimensional array with example. (10 Marks)
- b. Write a C program to search an integer using Binary search technique. (10 Marks)

OR

- 6 a. How are strings initialized and declared? Also explain any 5 string manipulation functions. (10 Marks)
- b. Write a program to sort given integer using bubble sort technique. (10 Marks)

Module-4

- 7 a. Discuss different types of functions with example. (10 Marks)
- b. What is recursion? Write a C program to compute factorial of a number using recursion. (10 Marks)

OR

- 8 a. Define Function, What are the advantages of user defined functions? (10 Marks)
- b. Explain different types of storage class specifiers. (10 Marks)

Module-5

- 9 a. Give the general syntax to initialize a structure with the example to store book information. (06 Marks)
- b. How union is different from structure? (06 Marks)
- c. Implement structure to read, write and compute average marks of n students. (08 Marks)

OR

- 10 a. What is a pointer? Discuss pointer arithmetic with suitable examples. (06 Marks)
- b. Narrate the purpose of various C language pre-processor directives with examples. (06 Marks)
- c. Write a C program to swap two integer values using pointers. (08 Marks)
