CBCS SCHEME

USN | | | | | | | | | | |

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)**

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