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CBCS SCHEME

USN | | | | | | | | | | 18CPS13

First Semester B.E. Degree Examination, Dec.2018/Jan.2019
C Programming for Problem Solving

Time: 3 hrs. Max. Marks: 100

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

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. Explain the basic structure of a C program with example. (10 Marks)
b. Define a variable. Explain the rules for constructing variables in C language. (04 Marks)
c. Write a C program to compute simple interest. Draw the flowchart for the same. (06 Marks)

OR

2 a. Define data type. Explain primitive data types supported by C language with example. (10 Marks)
b. List all the operators used in C language and evaluate following expression.
i) x = a – b/3 + c * 2 – 1 when a = 9, b = 12, c = 3
ii) 10! = 10 || 5 < 4 & & 8. (04 Marks)
c. Describe the various type computers. (06 Marks)

Module-2

3 a. Explain the formatted I/O functions of C language with syntax and example. (04 Marks)
b. Write a C program to implement commercial calculator using switch statement. (06 Marks)
c. Write the syntax of different branching statements and explain their working. (10 Marks)

OR

4 a. Differentiate between while loop and do-while loop. Explain with syntax and example. (08 Marks)
b. Write a program to find the sum of N natural numbers using for loop. (04 Marks)
c. Write a C program to plot Pascal's triangle. (08 Marks)

Module-3

5 a. Define array. Write the syntax for and with declaring and initializing 1D and 2D array with suitable example. (10 Marks)
b. Write a C program to find the transpose of a give matrix. (10 Marks)

OR

6 a. Define string. List out all string manipulation function. Explain any two with examples. (10 Marks)
b. Write a C program for [consider integer data] :
i) Bubble sort ii) Linear search. (10 Marks)

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Module-4

7 a. What is a function? Explain the different type of functions based on parameter. (10 Marks)
b. Write a program to find the factorial of a given number using functions. (14 Marks)
c. Write a program to find GCD and LCM of two numbers using concept of functions. (06 Marks)

OR

8 a. Explain recursion and write a program to find n^{th} term of Fibonacci series. (10 Marks)
b. Give the scope and lifetime of following :
i) External variable ii) Static variable iii) Automatic variable
iv) Static variable iv) Register variable. (10 Marks)

Module-5

9 a. What is a structure? Explain the syntax of structure declaration in C with example. (04 Marks)
b. Write note on : i) Arrays within structures ii) arrays of structures. (04 Marks)
c. Implement structures to read, write and compute average marks and the students scoring above and below average marks for class of N students. (12 Marks)

OR

10 a. What is a pointer? Show how pointer variable is declared and initialized. (05 Marks)
b. Explain any two preprocessor directives in C. (05 Marks)
c. Write a C program to find sum and mean of all elements is an array using pointer. (10 Marks)

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