USN | | | | | | | | | |

18CPS13/23

First/Second Semester B.E. Degree Examination, Jan./Feb. 2021

C Programming for Problem Solving

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Describe the various types of computers. **(10 Marks)**
b. What is a printer? Explain the different types of printers. **(08 Marks)**
c. Define software. Name the different types of software. **(02 Marks)**

OR

2 a. Define operators. Illustrate all the operators used in C language. **(10 Marks)**
b. Write a C program to find the eligibility for voting. Draw the flow chart for the same. **(10 Marks)**

Module-2

3 a. Differentiate between entry control loop and exit control loop. Explain with syntax and example. **(10 Marks)**
b. Develop a C program to find the reverse of a positive integer and check for palindrome or not. Display appropriate message. **(08 Marks)**
c. Explain with syntax, flowchart simple IF statement. **(02 Marks)**

OR

4 a. Why conditional branching statements are needed in C program? Illustrate 5 types of branching statements in C program. **(10 Marks)**
b. Write a C program to plot Pascal's triangle. **(08 Marks)**
c. Explain loop control statement in C program. **(02 Marks)**

Module-3

5 a. Define string. List all string manipulation functions. Explain any two with examples. **(10 Marks)**
b. Write a C program to count vowels and consonants in a string. **(08 Marks)**
c. Explain I/O functions for strings. **(02 Marks)**

OR

6 a. Define array. Write the syntax for declaring and initializing 1D and 2D array with suitable example. **(10 Marks)**
b. Write a C program to find sum of diagonal elements of matrix. **(05 Marks)**
c. Write a C program to sort the numbers in ascending order using selection sort technique. **(05 Marks)**

Module-4

7 a. What is a function? Explain the different types of functions based on parameter. **(10 Marks)**
b. Explain recursions. Write a program to find factorial of a given number using recursive function. **(10 Marks)**

OR

8 a. Write recursive functions for converting binary number to decimal number. **(10 Marks)**

b. Write a program to sort n numbers using bubble sort technique and using iterative function. **(10 Marks)**

Module-5

9 a. Differentiate between structure and array. Explain the syntax of structure declaration in C with example. **(08 Marks)**

b. Implement structure to read and write Book_title, Book_author and Book_id for N books. **(06 Marks)**

c. Illustrate on :

i) Arrays within structures

ii) Arrays of structure. **(06 Marks)**

OR

10 a. What is a preprocessor? Explain types of preprocessor directives. **(10 Marks)**

b. Develop a program using pointers to compute the sum and average of all elements in an array. **(10 Marks)**

* * * * *