CBCS SCHEME

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

15PCD13/23

First/Second Semester B.E. Degree Examination, Dec.2018/Jan.2019
Programming in C and Data Structures

Time: 3 hrs. Max. Marks: 80

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

Module-1

1 a. What is an operator? Explain the arithmetic, logical, and bitwise operators in C language. **(08 Marks)**

b. Write a C program which takes as input p,t,r. Compute the simple interest and display the result. **(08 Marks)**

OR

2 a. What is the purpose of pirntf( ) statement? Explain the formatted printf( ) along with examples. **(08 Marks)**

b. What is type conversion? Illustrate different ways of type conversion with an example. **(08 Marks)**

Module-2

3 a. Write a C program to calculate area of circle, rectangle and triangle using SWITCH case. **(08 Marks)**

b. What is two way selection statements? Explain nested if statement and cascaded IF-ELSE with examples. **(08 Marks)**

OR

4 a. Write a C program to find GCD of two non–zero integer numbers. If the first number is less than the second number, then the program must exchange the two numbers before computing GCD. **(08 Marks)**

b. Illustrate with an example break and continue statements. **(03 Marks)**

c. Compare while loop and do-while loop with syntax, flowchart and examples. **(05 Marks)**

Module-3

5 a. Define an array. Explain declaration and initialization of one dimensional array with an example. **(08 Marks)**

b. Write a C program to accept an alphanumeric (Eg : "ABC123DEFR") string, to count the number of characters and digits. Also display the result. **(08 Marks)**

OR

6 a. Explain any four string manipulation functions with examples. **(08 Marks)**

b. Write a C program to check a number is a prime number or not. **(04 Marks)**

c. What is function? Write a C program to find square of a number using function. **(04 Marks)**

Module-4

7 a. Write a C program to create a structure using typedef and input the following details of "N" students (USN : String Name : String Average : float grade : char). Print the names of students with their average is > = 60%. **(10 Marks)**

b. Differentiate between structure and union with examples. **(06 Marks)**

OR

8 a. Explain how the structure variable passed as a parameter to a function with example. **(06 Marks)**

b. Explain the following file operations along with syntax and examples :
i) fopen( ) ii) fclose( ) iii) fscan( ) iv) fprintf( ) v) fgets( ). **(10 Marks)**

Module-5

9 a. List out various memory allocation and de-allocation mechanisms available in C? Write a C program to demonstrate them. **(08 Marks)**

b. Discuss any two preprocessor directives in 'C'. **(03 Marks)**

c. Define pointer. What are the operators used by pointer with an example. List the advantages and disadvantages of pointer. **(05 Marks)**

OR

10 a. Describe the two ways of passing parameters to function with examples. **(08 Marks)**

b. Define stack. Explain the primitive operations on the stack. Write a C program to demonstrate it. **(08 Marks)**

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