CBCS Scheme

USN | | | | | | | | | | 17PCD13

First Semester B.E. Degree Examination, Dec.2017/Jan.2018
Programming in C and Data Structures

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. List all the logical operators and write a C program to demonstrate working of these logical operators. **(10 Marks)**

b. Explain structure of C program with an example. **(05 Marks)**

c. Classify the following as valid and invalid variable. If invalid give reasons.

i) r143
ii) help+me
iii) auto
iv) hello_how
v) *a **(05 Marks)**

OR

2 a. What is a token? What are different types of tokens available in c language? Explain. **(10 Marks)**

b. Write an algorithm and program to find biggest of three numbers. **(10 Marks)**

Module-2

3 a. Write a C program to find the roots of quadratic equation. **(10 Marks)**

b. Explain syntax of while statement. Write a C program to check the given number is palindrome or not. **(10 Marks)**

OR

4 a. Explain break and continue statements with respect to do-while, while and for loop with suitable examples. **(10 Marks)**

b. Print the following series:

1
1 2
1 2 3
1 2 3 4 **(05 Marks)**

c. Explain ternary operator with suitable example. **(05 Marks)**

Module-3

5 a. Define an array. Write a syntax for declaring two dimensional array and initialize the same with suitable example. **(10 Marks)**

b. Write a C program to find sum of array elements by passing array as function argument. **(05 Marks)**

c. Explain any two string manipulation functions. **(05 Marks)**

OR

6 a. Explain recursion with an example. **(06 Marks)**

b. Write a C program to sort the elements of a given array using bubble sort. **(08 Marks)**

c. Write a C program to concatenate two strings without using built-in function strcat( ). **(06 Marks)**

Module-4

7 a. What is structure? Explain its declaration and initialization with an example. **(06 Marks)**

b. Explain any four file operations with an example. **(06 Marks)**

c. Write a C program to pass structure variable as function argument. **(08 Marks)**

OR

8 a. Write a C program to store and print Name, USN, SubjectName and IA Marks of student using structure. **(10 Marks)**

b. Explain typedef with suitable example. **(05 Marks)**

c. Explain how the input is accepted from file and displayed. **(05 Marks)**

Module-5

9 a. What is pointer? Give advantages and disadvantages of pointers in C. **(07 Marks)**

b. Explain malloc( ) and calloc( ) functions with examples. **(06 Marks)**

c. What is queue? Explain its operations. **(07 Marks)**

OR

10 a. Write a C program to swap two numbers using call by address. **(08 Marks)**

b. What are primitive and non-primitive data types and explain. **(07 Marks)**

c. Define stack. List applications of stack. **(05 Marks)**

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