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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.

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. 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)**

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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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