

# CBCS Scheme

USN

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15PCD13/23

First/Second Semester B.E. Degree Examination, Aug./Sept. 2016

## Programming in C & 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. Explain the structure of C-program. (05 Marks)
- b. List logical operators and write C-Program to demonstrate working of these logical operators. (06 Marks)
- c. Which of the following are valid and invalid variable? If invalid give reasons. (05 Marks)  
(i) V143 (ii) help + me (iii) Auto (iv) 1947\_India (v) Hello\_How\_Are\_You

OR

- 2 a. What is a token? What are different types of tokens available in C language? Explain. (08 Marks)
- b. Write an algorithm and program to find the biggest of given three numbers. (08 Marks)

### Module-2

- 3 a. Write C-program to find the roots of a quadratic equation. (08 Marks)
- b. Explain a syntax of while statement. Write a C-program to check the given no. is a Palindrome or not. (08 Marks)

OR

- 4 a. What is an array? How to declare and initialize the two dimensional array. (08 Marks)
- b. Explain the break and continue statements with an example. (08 Marks)

### Module-3

- 5 a. What is a function? Write a C program to find the sum of array elements using a function. (08 Marks)
- b. What is recursion? Explain call by value in C using suitable example. (08 Marks)

OR

- 6 a. Write a C program to sort the elements of an array using bubble sort. (08 Marks)
- b. Write a C-program to concatenate two strings without using built in function. (08 Marks)

### Module-4

- 7 a. What is a structure? Explain how to declare and initialize a structure with an example. (08 Marks)
- b. Explain with an example how to pass structure variable as function argument in C. (08 Marks)

OR

- 8 a. Write a C program to store and print Name, USN, Subject Name and IA marks of students using structure. (08 Marks)
- b. Explain the following functions with examples: i) malloc () ii) calloc () (08 Marks)

### Module-5

- 9 a. What is a pointer? Give advantages and disadvantages in C. (08 Marks)
- b. What is queue? Explain its operations with examples. (08 Marks)

OR

- 10 a. Write C program to swap two numbers using pointers. (05 Marks)
- b. Explain any five preprocessor directives in C. (05 Marks)
- c. What are primitive and non-primitive data structures? Explain with examples. (06 Marks)

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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.