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14PCD13/23

First/Second Semester B.E. Degree Examination, Dec.2016/Jan.2017
Programming in 'C' and Data Structures

Time: 3 hrs.

Max. Marks:100

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

Module-1

- 1 a. List all the restrictions on the variable names. (06 Marks)
b. Explain the block structure of a 'C' program. (08 Marks)
c. What are the basic data types available in 'C'? Write the significance of each data type. (06 Marks)
- 2 a. What is an assignment statement? Give the general form of an assignment statement. (05 Marks)
b. Explain with example, the various constants available in 'C' program. (05 Marks)
c. List and explain any five operators used in 'C' programming language. (10 Marks)

Module-2

- 3 a. Explain with example, the meaning of statement and block in a 'C' program. (05 Marks)
b. Explain with a syntax, the different loops used in 'C' program. (09 Marks)
c. Write a program in 'C' to find the sum of 'n' natural number without using any loops. (06 Marks)
- 4 a. Explain with example, the need of 'break' statement in a 'C' program. (05 Marks)
b. Write a 'C' program to demonstrate the use of unconditional goto statement. (06 Marks)
c. Explain with syntax, if, if-else and nested if-else statements in 'C' program. (09 Marks)

Module-3

- 5 a. What is the purpose of an array? Explain how two dimensional arrays is declared and initialized. (06 Marks)
b. Explain with example :
i) Character string
ii) String literal. (06 Marks)
c. Write a program in 'C' using functions to swap two numbers. (08 Marks)
- 6 a. Explain with syntax and example, the different types of string manipulation functions. (10 Marks)
b. Explain with example, the general form of puts and gets function. (04 Marks)
c. What are the three possibilities of defining a user defined functions in 'C'? (06 Marks)

Module-4

- 7 a. What is a structure data type? Give the general form of a structure declaration. (05 Marks)
b. Explain the syntax of fprintf and fscanf functions in 'C'. (05 Marks)
c. Using the structure data type, write a program in 'C' to read a student record from the keyboard and store it in a file called student.dot. (10 Marks)

- 8 a. Explain the differences between arrays and structures. (05 Marks)
b. What is a file? Explain fopen() and fclose() functions in 'C' language. (06 Marks)
c. Write a program in 'C' using structure to read USN, name and marks in 3 subjects for each student and store it in a file called studmarks.dat. (09 Marks)

Module-5

- 9 a. Write a 'C' program to define macros for logical operators. (08 Marks)
b. Explain the following :
i) preprocessor directive
ii) malloc() function
iii) # include directive. (06 Marks)
c. Explain the need of dynamic memory allocation. (06 Marks)
- 10 a. Explain with example # define directive. (04 Marks)
b. What is a stack? What are the operations we can carry out on a stack? (08 Marks)
c. Write a program in 'C' to create a simple linked list. (08 Marks)

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