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14PCD13/23

First/Second Semester B.E. Degree Examination, June/July 2019
Programming in C and Data structures

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting at least ONE question from each part.***

Module – 1

1 a. Mention the types of input and output statements. Explain any two with example. **(06 Marks)**

b. Mention types of operators based on the number of operands? Explain logical operators with example. **(09 Marks)**

c. Evaluate the following expressions where i = 3, j = 4, k = 2: i) i++-j-- ii) ++K%--j iii) j+1/i-1 iv) j++/i-- v) ++i/++j+1 **(05 Marks)**

2 a. Mention the types of expressions. Explain with example. **(06 Marks)**

b. Write a program in C to find the area of rectangle, triangle and circle. **(06 Marks)**

c. Explain the steps of a C program. Explain each step. **(08 Marks)**

Module – 2

3 a. Mention the types of conditional branch statements. Explain else-if ladder with syntax and example. **(08 Marks)**

b. Write a program in C to display color names depending on the code using switch statement. **(08 Marks)**

c. Differentiate between while and do-while. **(04 Marks)**

4 a. Explain break, continue and exit statements with syntax and example. **(08 Marks)**

b. Write a program in C to display multiplication table upto n number. **(06 Marks)**

c. What is a loop? Why it is required? Explain. **(06 Marks)**

Module – 3

5 a. What is an array? Mention the types of array. Explain how it is declared, read and printed. **(08 Marks)**

b. Explain any four string handling functions. **(08 Marks)**

c. Write a program in C to find the factorial of a number using recursion. **(04 Marks)**

6 a. What is a string? Explain how it is declared, read and printed. **(08 Marks)**

b. Write a program in C to find the transpose of a matrix. **(06 Marks)**

c. What is a function? Mention types of functions. Explain any one with example. **(06 Marks)**

Module – 4

7 a. Explain array of structures with an example. **(06 Marks)**

b. What is a file? Explain file mode operations. **(06 Marks)**

c. Write a program in C to create a structure of employee with name, Ecode, dept and org as data members and using this structure read and write five employee information. **(08 Marks)**

8 a. Compare array with structure. What are the advantages of structure over array with an example? **(08 Marks)**

b. Write the advantages of files. **(04 Marks)**

c. Write a program to create a file to read and print 100 students information. **(08 Marks)**

Module – 5

9 a. Mention the types of data structure. Explain any two. **(08 Marks)**

b. Explain the applications of stack and linked list. **(08 Marks)**

c. What is a pointer? Write the advantages of pointers. **(04 Marks)**

10 a. Mention the types of preprocessors. Explain any two preprocessors. **(06 Marks)**

b. What is dynamic memory allocation? Explain the functions of memory allocation. **(06 Marks)**

c. Write a program in C to add n numbers using a pointer. **(08 Marks)**

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