CBCS SCHEME

USN | | | | | | | | | | |

15PCD13/23

First/Second Semester B.E. Degree Examination, Jan./Feb. 2021
Programming in C and 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 with an example. **(06 Marks)**

b. What is type conversion? Explain the two types of type conversions with examples. **(06 Marks)**

c. What is pseudocode? Explain with examples. **(04 Marks)**

OR

2 a. Explain the different data types supported in C language with example. **(08 Marks)**

b. List and explain the different types of operators in C language. **(08 Marks)**

Module-2

3 a. Explain the syntax of switch statement with example. **(06 Marks)**

b. Write a program that takes three coefficients a, b, c if a quadratic equation $ax^2 + bx + c$ as inputs and computes all possible roots and prints them with appropriate messages. **(10 Marks)**

OR

4 a. What is a loop? Explain the different types of loops in C language with example. **(10 Marks)**

b. Explain the syntax of: (i) break (ii) continue (iii) exit **(06 Marks)**

Module-3

5 a. What is an array? Explain declaration and initialization of array with example. **(06 Marks)**

b. Write a program that reads N integer numbers and arranges them in ascending order using bubble sort. **(10 Marks)**

OR

6 a. What is a function? Write a function program to find product of two numbers. **(06 Marks)**

b. Explain the two different techniques of passing parameters to a function with example programs. **(10 Marks)**

Module-4

7 a. What is structure data type? Explain. **(04 Marks)**

b. Differentiate structures and unions. **(06 Marks)**

c. Explain the concept of array of structure with a program. **(06 Marks)**

OR

8 a. Explain: (i) fopen( ) (ii) fclose( ) (iii) fgets( ) (iv) fputs( ) **(08 Marks)**

b. Explain the advantages of structures. **(04 Marks)**

c. What is a file? What are the advantages of using files? **(04 Marks)**

Module-5

9 a. What is a pointer? Write a C program to add two numbers using pointers. **(08 Marks)**

b. What is a preprocessor directive? Explain #define and #include –preprocessor directives. **(08 Marks)**

OR

10 a. What is dynamics memory allocation? Explain malloc and calloc function of dynamic memory allocation. **(06 Marks)**

b. Write notes on: (i) stacks (ii) queues **(10 Marks)**

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