CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐ **17PCD13/23**

First/Second Semester B.E. Degree Examination, Dec.2019/Jan.2020
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.*

Module-1

1　a. What is pseudo code? Explain how pseudo code can be used to solve the problem with suitable example. **(06 Marks)**
　　b. Explain the structure of 'C' program with an example. **(08 Marks)**
　　c. What is type conversion? Explain the different types of conversion with example. **(06 Marks)**

OR

2　a. Explain scanf( ) function and write the guidelines to be followed to use printf( ) function. **(07 Marks)**
　　b. What is an operator? Explain the logical and bitwise operators. **(07 Marks)**
　　c. Define keyword, constant, identifiers with examples. **(06 Marks)**

Module-2

3　a. Explain cascaded if else and switch statement with syntax and example. **(08 Marks)**
　　b. Write a 'C' program to find the roofs of quadratic equation. **(08 Marks)**
　　c. Explain how break and continue statements are used in 'C' program. **(04 Marks)**

OR

4　a. Explain the different types of loops used in 'C' with syntax and example for each. **(09 Marks)**
　　b. Write a 'C' program to find whether a given no is palindrome or not. **(05 Marks)**
　　c. What are the nested loops? Write a 'C' program to print to multiplication table upto 'n' using nested for loops. **(06 Marks)**

Module-3

5　a. What is an Array? Explain the declaration and initialization of one dimensional array with example. **(07 Marks)**
　　b. Write a 'C' program to add two matrices. **(08 Marks)**
　　c. Explain Recursion with an example. **(05 Marks)**

OR

6　a. Explain any four string manipulation library functions with example. **(08 Marks)**
　　b. Explain function call, function definition and function prototype with example. **(08 Marks)**
　　c. What are actual parameters and format parameters? **(04 Marks)**

Module-4

7　a. What is structure? Explain with syntax and example, the concept of structure defining, declaration and initialization. **(10 Marks)**
　　b. Explain array of structures and structure within structure with example. **(10 Marks)**

OR

8 a. What is a file? Explain fopen( ), fclose( ) function with example.   (10 Marks)

   b. Give two university information files "studentname.txt" and "usn.tax" that contain studentname and USN respectively. Write a 'C' program to create a new file called "output.txt" and copy the content of "studentname.txt" and usn.txt into "output.txt" file and then display on the screen.   (10 Marks)

Module-5

9 a. What is a pointer? Explain how the pointer variable is declared and initialized.   (06 Marks)

   b. What is preprocessor directive? Explain #define, #include preprocessor directive.   (06 Marks)

   c. What is stack? Explain the operations performed on stack.   (08 Marks)

OR

10 a. What is dynamic memory allocation? Write and explain the different dynamic memory allocation function in 'C'.   (08 Marks)

    b. What is queue? Explain the types of queues.   (06 Marks)

    c. What is a linked list? Distinguish between a singly linked list and doubly linked list.
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