

USN

CHIKO G: ,c1 PCD13/23

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 roots 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 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)

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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. (06 Marks)

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