Code: 13A12101 **R13**

B.Tech I Year (R13) Supplementary Examinations December/January 2015/2016

PROGRAMMING IN C & DATA STRUCTURES

(Common to CE, ME, EEE, ECE, EIE and IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

*****

1 Answer the following: (10 X 02 = 20 Marks)

(a) What is an input device? Mention input devices.
(b) What is flowchart? Write different symbols for different activities.
(c) Write any four backslash constants.
(d) What are the Bitwise operators in C language?
(e) What is a pointer? How is pointer initiated?
(f) What is recursion? Give an example.
(g) Explain the command line arguments.
(h) What are the stack operations?
(i) What is merge sort?
(j) Write the string handling functions.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 (a) Mention the steps involved in Software Development.
(b) What is an algorithm? Explain Fibonacci series 1, 1, 2, 3, 5, --- n?

OR

3 What is an operator? Explain different operators in C.

UNIT – II

4 (a) Write about while and for loops and write suitable examples.
(b) Write a program to determine the Greatest Common Divisor (GCD) of two numbers.

OR

5 (a) Distinguish between call by value and call by reference with examples.
(b) Write a program to display the Pascal's triangle.

UNIT – III

6 (a) What is an array? What are advantages of arrays over ordinary variables? How arrays are declared and initialized?
(b) Write a program for finding the largest number in an array.

OR

7 What do you mean by sorting? Mention different types of sorting. Give some examples and explain Quick sort in detail.

UNIT – IV

8 (a) Define structure and give the general syntax for structure. Write suitable example program.
(b) Give difference between the structures and arrays.

OR

9 Describe various types of files and operations on files with an example.

UNIT – V

10 What are the advantages and disadvantages of stack? Write a program to illustrate stack operations.

OR

11 (a) What is data structure? Explain the linear and non linear data structure in detail.
(b) Write binary search for finding given element is in the list or not.