B.TECH. SEM -IV ELECTRONICS / E & TC) 2014 COURSE
(CBCS) : SUMMER - 2018
SUBJECT: DATA STRUCTURES & FILES

Day: **Tuesday** **S-2018-2295** Time: **10.00 AM TO 01.00 PM**
Date: **12/06/2018** Max Marks: 60

N.B:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Assume suitable data if necessary.
4) Use of non- programmable **CALCULATOR** is allowed.

Q.1 Elaborate with suitable example call by value & call by reference. **(10)**

OR

Differentiate between the following:

a) Arrays & variable
b) Strings & arrays
c) Structure & union

Q.2 Write algorithm, flowchart and 'C' program for binary search. **(10)**

OR

What are the types of data structure? Describe complexity analysis in algorithm.

Q.3 Write an algorithm of inserting and deleting a node in singly linked list. **(10)**

OR

What are the various operations performed on the linked list?

Q.4 Write a program which gives the solution to the towers of Hanoi problem for n disks. **(10)**

OR

What is circular queue? Write an algorithm for circular queue using array with flowchart.

Q.5 What is complete & extended binary tree? Describe representation of binary trees in memory. **(10)**

OR

What AVL search trees? Discuss insertion & deletion in AVL search tree.

Q.6 Define graph & its terminologies. What is linked representation of graph? **(10)**

OR

Describe various operations performed on graph.

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