

**B.TECH. SEM -IV ELECTRONICS / E & TC) 2014 COURSE
(CBCS) : WINTER - 2017
SUBJECT: DATA STRUCTURES & FILES**

Day: **Friday**
Date: **24/11/2017**

W-2017-2087

Time: **02.30 PM TO 05.30 PM**
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 Write algorithm & 'C' program to create library database using structure. **(10)**
Draw flowchart for the same.

OR

What are the different decision control and loop control structures in 'C'.

Q.2 What is bubble sort? Write algorithm and flow chart for bubble sort. **(10)**

OR

What is searching? Write a 'C' program for sequential search.

Q.3 What is linked list? Describe representation of linked list in memory & traversing linked list. **(10)**

OR

What is doubly linked list & various operations on doubly linked list.

Q.4 What is stack? Describe array representation & linked representation of stacks. **(10)**

OR

What is queue? Write an algorithm & 'C' program for handling queue using array.

Q.5 What is traversal algorithm? What are the types of traversal techniques? **(10)**

OR

What is binary tree & it's terminologies?
Suppose the following eight numbers are inserted in order into an empty binary search tree T: 50, 33, 44, 22, 77, 35, 60, 40. Draw tree T.

Q.6 What is Kruskal's algorithm & shortest path algorithm? **(10)**

OR

What is graph? Find a minimum spanning tree of the graph G in figure.

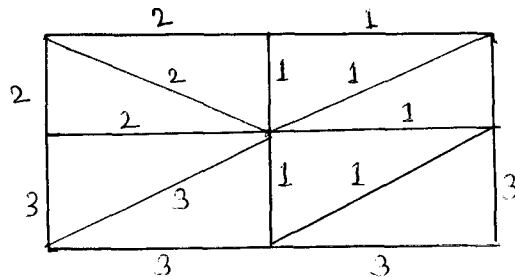


figure G

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