

**B.TECH SEM - III (2007 COURSE) (E & TC ENGG.) : WINTER -
2017**

SUBJECT: DATA STRUCTURES & FILES

Day: **Friday**
Date: **19/01/2018**

Time: **10.00 AM TO 01.00 PM**
Max Marks: **80**

W-2017-2393

N.B. :

- 1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining attempt **ANY TWO** questions from each section.
- 2) Answers to both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the right indicate **FULL** marks.
- 4) Assume suitable data if necessary.

SECTION – I

- Q.1** a) Write a c program to find out all the numbers divisible by 5 & 7 between 1 to 100. (07)
- b) Explain the procedure of deletion of node from a two-way list. (07)
- Q.2** a) Write a c program to swap the values of two numbers using pointer. (07)
- b) What are errors incurred and command associated during file handling (06)
- Q.3** a) Compare structure and union in C. (07)
- b) Define ADT. State and explain the ADT for array. (06)
- Q.4** a) Write an algorithm to delete a node from the middle of a double linked list (07)
- b) Write down a function to read a given polynomial. (06)

SECTION – II

- Q.5** a) Write a C-function to PUSH and POP and item from a attack using Linked list. (07)
- b) Explain forest, Non-terminals, height with respect to tree. (07)
- Q.6** a) Explain Adjacency matrix and adjacency list with a suitable graph. (07)
- b) Explain linked implementation of a queue. (06)
- Q.7** a) Explain Preorder, In-order and Post-order traversal with respect to tree. (07)
- b) Draw the tree structure with following elements : (06)
4,5,11,8,3,5,2,9,6,8,12
- Q.8** a) Write a short note on Prim's algorithm. (07)
- b) Write a short note on Kruskal's algorithm. (06)

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