

**B.TECH SEM - III (2007 COURSE) (INF. TECH.) : SUMMER -
2018**

SUBJECT : DATA STRUCTURES AND FILES

Day : **Thursday**
Date : **24/05/2018**

S-2018-2582

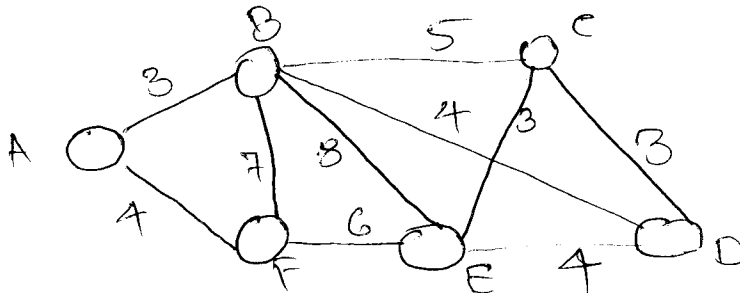
Time : **02.30 PM TO 05.30 PM**
Max Marks : 80

N.B. :

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

SECTION - I

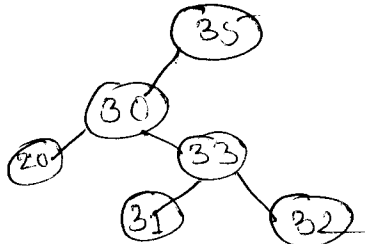
- Q.1** a) How to design MST? (05)
 b) What is drawback of a system, which is designed by using pointer? (05)
 c) What is macro? Explain use of EOF macro. (04)
- Q.2** a) How Fat binary tree is different than normal binary tree? (07)
 b) How to insert members of array? (06)
- Q.3** a) (07)



- Find shortest path from A to E
- b) Explain functioning of queue with pseudo code. (06)
- Q.4** a) How to resolve collision using linear probing for elements and hash function = $k \text{ mod } 6$. (07)
 Keys = 9, 15, 18, 0, 94, 34
 b) Differentiate between GLL and DLL. (06)

SECTION - II

- Q.5** a) What is user defined data structure? (05)
 b) Explain unique features of linked list. (05)
 c) What is push function in stack? (04)
- Q.6** a) Explain significance of time & space complexity. (07)
 b) (06)



Insert 10, 50, 70, 80 in a AVL tree mentioned above.

- Q.7** a) Explain a functioning of sort function with efficiency $\log(n)$. (07)
 b) Convert following expression to postfix expression (06)
 $x^2 + y^2 + 2xy + 3yx + 5$
- Q.8** a) What are unique features of DLL? (07)
 b) What is indexing of a file? (06)