

Code: IT4T1

**II B.Tech - II Semester – Regular/Supplementary Examinations
April 2018**

**ADVANCED DATA STRUCTURES
(INFORMATION TECHNOLOGY)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22

1.

- a) Define linked list.
- b) What is hashing?
- c) What is AVL tree?
- d) Define a priority queue.
- e) Define a digraph.
- f) What is minimum spanning tree?
- g) What are different pattern matching techniques?
- h) Define a binary trie.
- i) What are placement strategies in file for selecting a record?
- j) What are differences between text file and binary file?
- k) Define digital search tree.

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2.a) Explain about hashing techniques. 8 M

b) Explain about different operations on dictionary ADT. 8 M

3.a) Define Red-Black tree. Create a Red-Black tree by inserting the given sequence of numbers : 8,18,5,15,17,25,40 & 80.

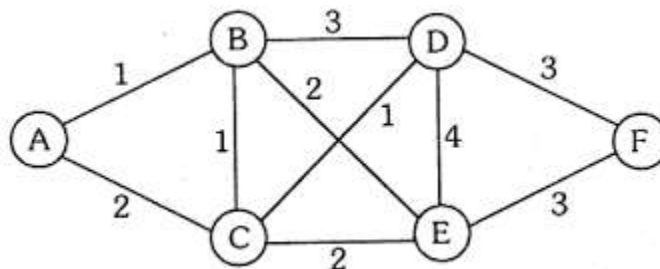
8 M

b) Define 2-3 tree. Write an algorithm for insertion operation in 2-3 tree. 8 M

4.a) Explain graph representation methods with an example.

8 M

b) Find shortest path using Dijkstra's algorithm for the following graph. 8 M



- 5.a) Discuss about Patricia. 8 M
- b) Write short notes on binary trie and multi-way trie. 8 M
6. a) Explain about file & record organization methods. 8 M
- b) Explain different file operations. 8 M