

Code: IT4T1

**II B.Tech - II Semester – Regular/Supplementary Examinations –
April 2017**

**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 Open Hashing.
- b) Explain the Skip lists representation.
- c) Describe ADT of Dictionaries.
- d) Define AVL Tree and its properties.
- e) Explain the properties of Red-Black tree.
- f) What are the different graph representations?
- g) Define shortest path algorithm.
- h) List the different pattern matching algorithms.
- i) Define tries. List different types of it.
- j) Describe the file fixed field buffers.
- k) Explain the special characters in files.

PART – B

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

3 x 16 = 48 M

2. a) Describe the different Hashing functions. 8 M
- b) Explain the representation of set using Linked list. 8 M
3. a) Construct an AVL Tree for the following nodes
20,10,7,4,14,37,50,57,11,16. 8 M
- b) Explain the Binary Heaps Implementation of insert and delete of min element. 8 M
4. a) Describe the Depth first search with an example. 8 M
- b) Explain the Kruskal's algorithm with an example. 8 M
5. a) Write an algorithm for KnuthMorris pattern matching Algorithm. 8 M
- b) Discuss in detail about the Binary trie. 8 M
6. a) Explain the procedure for reading and writing a file contents. 8 M
- b) Describe the field and record organization. 8 M