PVP 14

Code: IT4T1

II B.Tech - II Semester – Regular / Supplementary Examinations
October 2020

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 a Dictionary.
b) Define Hashing.
c) Define Binary Heap.
d) Define AVL Tree.
e) Write Operations on Graph.
f) Write Adjacency Matrix Representation.
g) Define Patricia.
h) Write about File Operations.
i) Define Binary- Trie.
j) Explain Field & Record Organization.
k) What are different shortest Path Algorithms?

PART – B

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

3 x 16 = 48 M

2. a) What is hashing? Discuss about the Rehashing methods with examples. 8 M

b) What is skip lists? Discuss with examples. 8 M

3. Build the AVL Tree for the following data. Show the step by step construction 25,12,17,30,15,14,37, 27,40,29,28. 16 M

4. a) What is spanning Tree? Explain the procedure for obtaining the minimum cost spanning tree using Prim's algorithm. 8 M

b) Write an algorithm for obtaining the BFS & DFS in Graph Traversals. 8 M

5. a) Explain about Knuth-Morris Pratt algorithm with example. 8 M

b) Discuss about Multi-way trie. Explain its applications. 8 M

6. a) Explain the following file operations.

i) Opening ii) Reading

iii) Writing iv) Closing 8 M

b) Explain the procedure for managing fixed length and fixed buffers. 8 M