H.T.No. | | | | | | | | | | |

Code No: IT1503 **GEC-R14**

II B. Tech II Semester Regular Examinations, May 2016

ADVANCED DATA STRUCTUES USING C

(Information Technology)

Time: 3 Hours **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B.** All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. Explain the concept of extendible hashing.
2. Explain double rotation operation of AVL tree.
3. Define complete binary tree and strictly binary tree with its properties.
4. Explain the array and linked list representation of graphs with an example.
5. Show that for any graph G, in-degree = out-degree = 2*|E|
6. Write the comparison of tries with hash table.

PART-B

4 × 12 = 48M

1. Define collision. List out various Collision resolution strategies with an example. (12M)
2. Explain the insertion and deletion operations of 2-3 trees with simple C code. (12M)
3. a) Define priority queue and write its applications. (6M)
   b) Explain the deletion operation of binary heap with pseudo code. (6M)
4. a) Write the algorithm of BFT in construction of spanning tree from a Graph G. (6M)
   b) Explain adjacency matrix and adjacency list storage structures of a graph. (6M)
5. Explain Kruskal's algorithm for the construction of minimum cost spanning trees on an example graph and write the Kruskal's algorithm. (12M)
6. Solve Floyd's algorithm on a graph G for finding the all pairs shortest paths. (12M)

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