QUESTION BANK
ADVANCED DATA STRUCTURES

Class – II B.Tech (CSE-A&B) – II Sem

Unit – 1

1) a) Explain the Simple External sorting Algorithm and Efficiency.
   b) Explain the above with an example list.
2) a) Explain K-way merge and its efficiency.
   b) Explain K-way merge with example elements.
3) a) Explain Buffer handling with parallel operation.
   b) Explain about Run generation
4) a) How do we get optimal merging of runs explain.
   b) Explain the above with an example list.
5) a) Explain about Run generation
   b) Explain K-way merge with example elements.

Unit -2

1) a) What is a Hashing and Explain about Hash Table
   b) Explain about Hash functions
2) a) Explain about Secure Hash function.
   b) Explain about theoretical evaluation of overflow techniques.
3) a) Explain about Dynamic Hashing .
   b) Explain the Dynamic Hashing using Directives
4) a) Explain about Directory less Dynamic Hashing.
5) b) Explain about Hash functions.

Unit -3

1) a) What is a heap? Explain the min heap with example.
   b) Explain about Binary heap structure property
2) a) Explain about heap order property.
   b) Explain Basic heap operations
3) a) Explain the applications of priority queues.
   b) What is Binomial queue explain.
4) a) What is Binomial queue explain
   b) Explain about Binomial queue operations.
5) a) Explain the applications of priority queues
   b) Explain about Binary heap structure property

Unit – 4

1) a) What are AVL Trees. Explain the rotations of AVL trees.
   b) Construct an AVL tree with example nodes.
2) a) What are Red Black Trees. Explain
   b) Explain the insertion operation in to Red black trees.
3) a) Explain representation of Red Black trees.
   b) Explain the deletion operation in the Red Black Trees.
4) a) Explain the rotations of AVL Trees.
   b) Explain the Joining operation in Red Black trees.
5) a) Explain the operations of AVL trees implementation
   b) Explain the splitting of Red Black Trees.

Unit -5

1) a) Explain the M-way search trees.
   b) How do you perform search operation in M-Way Search Trees.
2) a) Explain about B-Trees.
   b) How do you find the number of elements in a B-Tree. Explian.
3) a) Explain the insertion operation of the B-Tree.
   b) Explain how do you perform the deletion from B-Tree.
4) a) What are B+ Trees. Explain the insertion into B+ Trees.
   b) Explain the deletion from the B+ Trees
5) a) Explain the M-way search trees.
   b) How do you find the number of elements in a B-Tree. Explian.

Unit – 6

1) a) What are Digital Search trees. Explain
   b) Explain the operations on Digital Search Trees.
2) a) What are Binary Tries. Explain.
   b) Explain the Patricia.
3) a) Explain about Mutliway tries.
   b) Explain the insertion and deletion operation in Mutliway search tries.
4) a) What is a compressed trie. Explain with an example.
   b) Explain the compressed trie with labeled edges.
5) a) Explain the tries and internet packet forwarding.
   b) Explain about fixed stride tries and variable stride tries.