St.Joseph's College of Engineering, Chennai-119

St.Joseph's Institute of Technology, Chennai - 119

Department Of IT/CSE

CS6301- Programming and Data structures - II

ASSIGNMENT-IV

PART-A

1. What do you mean by balanced trees?
2. What is minimum number of nodes in an AVL tree of height h?
3. Define B-tree of order M.
4. What are the applications of B-tree?
5. List the abstract operations in the set.
6. What is the need for path compression?
7. Write the properties of Red-Black tree?
8. Compare 2-3 tree with 2-3-4 tree

PART-B

1. Explain Amortized analysis with an example.
2. Explain Fibonacci heap Deletion and Decrease Key operation using cascading cut procedure with example.
3. Explain Insertion Procedure in Red Black tree and insert the following sequence {20,10,5,30,40,57,3,2,4,35,25,18,22,21} .
4. a) Write the procedure to implement single rotation and double rotation while inserting nodes in an AVL tree(8)

   b) Show the result of inserting 10,17,2,4,9, 6,8 into an AVL tree