

Indian Institute of Engineering Science and Technology, Shibpur

B.Tech CST 3rd Semester Class Test, 2021
Data Structures CS-2103

FULL MARKS: 20

TIME: 20mins + 10 mins for uploading.

Answer all the questions.

1. What are the disadvantages of a linear queue? How can it be removed? [3]
2. What are the prerequisite of performing binary search on a list of elements? [3]
3. Write a program to find print all the nodes in a binary search trees whose value lie in between k_1 and k_2 ($k_1 < k_2$). [4]
4. Prove that the number of leaves in a non-empty full binary tree is one more than the number of internal nodes. [4]
5. Given two linked lists L_1 with n and L_2 with m nodes where ($n \geq m$), insert nodes of L_2 into L_1 at alternate positions of L_1 . [6]