

The University of Burdwan

M.Sc. Semester I Examination, 2020 (CBCS)

Subject: Computer Science and Application

**Paper: MCSA-101
(Advanced Programming and Data Structures)**

F.M:40

Time: 2 Hrs.

Answer any eight Questions:

5x8=40

1. Discuss the average-case time complexity of Insertion sort. 5
2. Discuss Binary search in brief. 5
3. Write a program to insert a node in a BST. 5
4. Write a program to count number of nodes of a singly linked list. 5
5. Discuss BFS algorithm in brief. 5
6. Write a function to count the number of leaf nodes in a BST. 5
7. Write a program to convert a Decimal number to binary using stack. 5
8. Discuss Kruskal's algorithm for MST in brief. 5
9. Write down a function to insert a node at the end of a singly linked list. 5
10. Discuss merge sort in brief. 5