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Department of Computer Science and Engineering
B.Sc. (Engineering) in Computer Science and Engineering
Mid Semester Examination 2020 (Jan-June)
Level 2   Semester I
Course Code: CSE 203 Credits: 03
Course Title: Data Structures (Theoretical)

Time: 40 minutes   Full Marks: 30

Answer Any Three

1. a) Define Data Structure, Stack and Queue with proper example. What are   3+2
        the operations that play a major role in Data Structure?
    b) What is an algorithm? What are the characteristics of an algorithm?   1+2+2
        Briefly describe the space-time tradeoff of algorithms.

2. a) Differentiate between linear and non-linear data structures   3
    b) Write an algorithm for binary search and discuss its speed compared   5+2
        with linear search.

3. a) How the doubly linked list can be represented?   4
    b) Write and explain algorithm to insert element at the beginning of singly   6
        linked list.

4. a) Discuss the advantages and disadvantages of linked list over array.   5
    b) Explain how to represent singly linked list with help of diagram and   5
        example.