SRM UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING B

15CS201J-DATA STRUCTURES

CYCLE TEST-1

MAX.MARKS:25 DATE: 3/08/2016

PART-A (3X4=12 MARKS)

ANSWER ALL QUESTIONS:

1. Write short note on ADT and List its advantages.
2. List the three cases to investigate the algorithm with an example.
3. Compare the array and linked list.

PART-B(1X13=13 MARKS)

4.(a) Develop an algorithm to implement binary search and Linear search with suitable example . Mention the time complexity of both.

[OR]

(b) Elaborate the various operations on linked list and write an algorithm to insert an element at the beginning, Middle and end o linked list with suitable example.

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A

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PART-A (3X4=12 MARKS)

ANSWER ALL QUESTIONS:

1. State the term Data structure and List its types.

2. How will you express the time complexity of the algorithm to find the biggest of given 'n' numbers?

3. Define sparse matrix and give an example of lower-triangular sparse matrix.

PART-B(1X13=13 MARKS)

4.(a) Write an algorithm for sorting given 'n' numbers using insertion sort and bubble sort with suitable example. Mention the time complexity of both.

[OR]

(b) Elaborate the various operations on array and write an algorithm for Insertion, Deletion and Merging with suitable example.