Reg. No.

I. 1384

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Third Semester

Information Technology

IF 246 — DATA STRUCTURES AND ALGORITHMS

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Data structures. List the various types of data structures.

2. List the operations performed on strings.

3. State any two applications of stacks and queues.

4. Discuss how deletions are carried out in priority queue?

5. Define (a) Indegree (b) Outdegree of a spanning tree.

6. Write short notes on internal fragmentation.

7. What is the run time efficiency of quicksort?

8. What is linear probing?

9. What is virtual memory?

10. How are key sequenced VSAM files processed?

14. (a) Write down the algorithm for radix sort and sort the sequence of numbers using the algorithm 42, 23, 74, 11, 65, 57, 94, 36, 99, 87, 70. (16)

Or

(b) Write down the algorithm for merge sort and sort the sequence of numbers using the algorithm 42, 23, 74, 11, 65, 57, 94, 36, 99, 87, 70. (16)

15. (a) Discuss in detail the various distribution dependent hashing functions. (16)

Or

(b) Explain a method for retrieving a record from a direct file using chaining with separate lists and algorithm. (16)

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