

D 2694

Name.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY 2005

Computer Science

CS-105 – DATA STRUCTURES

Time : Three Hours

Maximum : 60 Marks

Answer any five questions from Part A and any three from Part B.

Part A

1. What are the differences between a stack and a queue ?
2. Express $((A / (B ** C)) + (D * E)) - (A * C)$ in the postfix notation.
3. Define a tree and discuss an implementation.
4. Give examples of a directed and an undirected graph.
5. What is internal sorting ?
6. What are the different types of queries ?
7. Explain hashed indexing.

(5 x 3 = 15 marks)

Part B

8. Develop an algorithm to add two general polynomials using linked lists.
9. Give an algorithm to count the number of leaf nodes in a binary tree T. What is the computing time ?
10. Develop an algorithm to determine the shortest path.
11. Develop an algorithm for Binary search.

(3 x 15 = 45 marks)