(i) **Printed Pages : 2**   Roll No. ....

(ii) **Questions : 9**   Sub. Code : | 0 | 3 | 9 | 2 |

Exam. Code : | 0 | 0 | 0 | 4 |

B.A./B.Sc. (General) 4th Semester

(2054)

COMPUTER SCIENCE

Paper—CS08 (Data Structures)

Time Allowed : Three Hours]   **[Maximum Marks : 30**

Note :— Attempt **five** questions in all, including Question 9 (Unit-V) which is compulsory and selecting **one** question each from Unit-I to IV.

UNIT—I

1. What is stack ? How can you use it to evaluate an expression ? Describe it using suitable example.   6

2. What is Data structure ? Describe various operations that can be performed on a data structure.   6

UNIT—II

3. What is linked list ? Write an algorithm to insert an element in a linked list.   6

4. What is queue ? How it is different from a stack ? Describe delete operation on a queue with suitable example.   6

UNIT—III

5. Describe various types of graphs in Data structure. 6

6. What is binary tree ? Describe in order method to traverse a binary tree with suitable example. 6

UNIT—IV

7. Write various steps to sort below given elements using a sorting algorithm of your choice :

25	19	9	11	35	5	30	8

6

8. Describe binary search method with a suitable example. 6

UNIT—V
(Compulsory)

9. Answer the following questions with suitable example :

(a) What is complexity ? How it is expressed ?

(b) What is doubly linked list ?

(c) What is complete graph ?

(d) What is best and worst case complexity of linear search ?

$4 \times 1.5 = 6$