

B.Sc. (I.T.) - III (CBCS Pattern) Sem-V
007 - Paper-III (Elective-I) : Data Structures

P. Pages : 1

Time : Three Hours



GUG/W/22/13134

Max. Marks : 40

- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labelled diagrams wherever necessary.
 3. Avoid vague answers and write answers relevant and specific to questions only.

Either:

1. a) Explain the Operation on Data Structure in detail. 4
b) Define Array? Explain representation of Array in detail. 4

OR

- c) Explain the comparison of sorting method in Data structures. 4
d) Explain in detail about types of Searching? 4

Either:

2. a) Explain the Operation on Stack in detail. 4
b) Write an algorithm for Postfix of expression. 4

OR

- c) Define Queues. Explain the representation of queues in detail. 4
d) Write a short note Circular Queue. 4

Either:

3. a) Define recursion. Explain the application recursion using suitable example. 4
b) Write and explain the algorithm of Tower of Hanoi. 4

OR

- c) Define Linked List and representation of Linked List. 4
d) Write an algorithm for inserting element in linked list. 4

Either:

4. a) Explain the Binary Tree using suitable example. 4
b) Write an algorithm for traversal of binary tree. 4

OR

- c) Explain the following. 4
i) Nodes
ii) Vertices.
d) Define Graph. Explain the representation of Graph in detail. 4

5. Attempt all the questions.
- a) Explain the fundamental of Data Structure. 2
b) Write an application of Stack. 2
c) Write a short note on Double Linked List. 2
d) Explain the Spanning Tree in brief. 2
