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Total No. of Questions: 09

Total No. of Pages: 02

B. Tech. 3D Animation & Graphics/CSE/IT (Sem. 3)

DATA STRUCTURES

Subject Code: BTCS-304

Paper ID: A1126

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

1. Section A is **COMPULSORY** consisting of **TEN** Questions carrying **TWO** marks each.
2. Section B contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. Section C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION A

1.
 - a. What is usage of pointers?
 - b. Relate data structures with data types?
 - c. Discuss double Linked List?
 - d. What are postfix expressions?
 - e. Define debugging?
 - f. Discuss B-trees?
 - g. What is adjacency Matrix?
 - h. Write a short note on Hash Tables?
 - i. What are advantages of insertion sort?
 - j. What are non recursive procedures?

SECTION B

2. Discuss some of the common operations that can be performed on data structures by taking suitable example?
3. Define recursion? Which data structure can be used to implement it?
4. Discuss various operations on queues?
5. Give the brief introduction to threaded Binary trees?
6. Illustrate the concept of breadth-first search traversing of graph?

SECTION C

7. Write an algorithm to implement the stacks using Link List?
8. How a linear array is represented in memory? Explain the program which reads two matrixes?
9. Write an algorithm to sort an array of integers in the descending