Department Name: COMPUTER APPLICATIONS

Subject : Data structure

Sub code: CA204S

Staff name: J.Robert Adaikalaraj, A.Isabella Amali

Unit-I

5 Mark

1. What do you mean by Data Structures?
2. Explain briefly about primitive data type?
3. Write a note on composite data type?
4. How will you insert a value into an array? Explain with an algorithm?
5. Write the algorithm for array traversal and explain it?
6. Write the algorithm for deleting an element from an array?
7. Write short notes about an ordered list?

10-Mark

1. Explain briefly about the data type and its usage?
2. What are all the operation that can be performed on a array?

Unit-II

5-Mark

1. What is a stack? Explain its operations with an algorithm?
2. What are the applications of a stack?
3. How recursion is performed through a stack?
4. Explain the advantages of Queue? With its operations?

10-Mark2

1. Write an algorithm to convert the expression from infix to postfix?
2. What is a circular Queue? Explain the operation with of circular Queue?
3. Explain briefly about construction and solving a maze?

Unit-III

5-Mark

1. What is singly linked list? How will you inset a node into an singly linked list?
2. How will to represent node and travel through the linked list using traversal algorithm?
3. How will you insert a node into a doubly linked list?
4. How will you delete a node into a doubly linked list?

10-Mark

1. How will you represent a polynomial in a singly linked list? Explain polynomial addition with an example?
2. Perform an algorithm for ordering books in a library?

Unit-IV

5-Mark

1. Drawa binary tree and explain termnotary?
2. How will you represent a binary tree using an array?
3. How will you represent a binary tree using a linked list?
4. Explain the conversion of forest into a binary tree with a neat diagram?

10-Mark

1. Explain briefly about tree representation?
2. Explain briefly about tree traversal?

Unit-V

5-Mark

1. What is a graph? Explain it types?
2. How will you represent a graph using a matrix?
3. How will you represent a graph using a list?

10-Mark

1. Write shortnotes on graph representation?
2. How will you traverse through a graph using Dijkstra – shortest path algorithm?