



# AJEENKYA

## D Y PATIL UNIVERSITY

### End Term Examination (December 2019)

School: School of Engineering

Program: MCA -CT

Course: Data Structures using C++

Course Code: CSC503

Semester: I

Max Marks: 50

Duration (mins) : 90 Min

#### Section A

**Q1 Write short note on:-. (Any Five)**

**10 Marks**

- Define Stack and list the different operations of Stack.
- What is Binary Tree?
- Define queue and its operations.
- Explain Graph.
- Define Linked List.
- Explain array as an ADT.

#### **Section B**

**Q2. Answer the following (Any Four)**

**20 Marks**

- Describe Insertion and Heap sort with example.
- Write an algorithm of Quick sort and explain with example.
- Explain Linear and Binary search with example.
- Explain In place and stable sorting Techniques.
- Explain representation of stack as an Array and Describe various applications of Stack.
- Give representation of queue as an array and Describe different Types of Queue.

## Section C

**Q3. Answer the following (Any Two)**

**20 Marks**

- a) Explain Conversion of General trees to Binary trees with example.
- b) Explain Breadth First Search and Depth first Search Traversals of Graph.
- c) Describe AVL tree rotations and Spanning Tree.
- d) Explain different types of Linked List and Describe different operations on double linked list.

\*\*\*\*\*ALL THE BEST\*\*\*\*\*