

**Goa vidyaprasarak Mandal's**  
**GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE & ECONOMICS.**  
**PONDA-GOA**  
**B.C.A (SEMESTER-II) EXAMINTION, APRIL 2015**  
**DATA STRUCTURES**

**Duration: 2 Hrs**

**Marks: 50**

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- Q.1. Define the following. (5\*2=10)
- i. Binary tree.
  - ii. Circular Linked List.
  - iii. AVL tree.
  - iv. Priority Queue.
  - v. Graph
- Q.2.A. What is a Data Structure? (2)
- Q.2.B. State and explain Primitive operations on Stack. (3)
- Q.2.C. Write a C program to create and display Linear linked List. (5)
- Q.3.A. Convert the following (2\*1=2)
- i) Infix to postfix  
A-B/(C\*D\$E)
  - ii) infix to prefix  
(A+B)\*(C-D)
- Q.3.B. Write C implementation for insert(q,x) function of Queue Data structure. (3)
- Q.3.C. Write an algorithm to find duplicates in a Binary tree. (5)
- Q.4.A. What is O notation? (2)
- Q.4.B. Explain B-trees. (3)
- Q.4.C. Explain quicksort. (5)
- Q.5.A. What is indexed sequential search? (2)
- Q.5.B. Write an algorithm for left rotation on a tree. (3)
- Q.5.C. Explain shortest path algorithm. (5)

\*\*\*\*\*All the best\*\*\*\*\*