

**Goa Vidyaprasarak Mandal's
Gopal Govind Poy Raiturcar College of Commerce & Economics
Ponda-Goa**

**B.C.A. (SEMESTER – II) EXAMINATION, MARCH/APRIL 2013
DATA STRUCTURES**

Duration: 2 Hours

Marks: 50

- Q.1. Define the following terms. (5x2=10 mks)
- i. Pushdown List.
 - ii. Header node.
 - iii. Circular List.
 - iv. Strictly Binary Tree.
 - v. B-Tree.
- Q.2.A. What is a Data Structure? (2 mks)
- Q.2.B. Write a C Program to find Maximum element from an Array. (3 mks)
- Q.2.C. Explain Bubble Sort. (5 mks)
- Q.3.A. What is O Notation? (2 mks)
- Q.3.B. Discuss the efficiency of Quick Sort. (3 mks)
- Q.3.C. Explain Queue Data Structure. (5 mks)
- Q.4.A. Define Weighted graph. Give an example. (2 mks)
- Q.4.B. Convert the following to Prefix Expressions. (3 mks)
- i. $A - B / (C * D * E)$
 - ii. $(A + B) * (C - D)$
- Q.4.C. Write a C program to find duplicates in a list of numbers using Binary Tree. (5 mks)
- Q.5.A. Implement LeftRotation(p). (2 mks)
- Q.5.B. Explain Hashing. (3 mks)
- Q.5.C. Write C program for Dijkstra's Algorithm. (5 mks)

-----Good Luck-----