

First Semester PGDCA Examination

MODEL QUESTION PAPER

PGD1C03 Data structures

(With effect from 2012 Admission)

Time: 3 Hours

Total Marks: 100

Answer FIVE full questions; Each Question carries 20 marks.

1. (a) What is data structure? What are the operations on data structures? (10)
(b) What is an Abstract Data type (ADT)? Explain? (10)
2. (a) Differentiate between Linear and Non-linear data structures (10)
(b) Explain two dimensional arrays. How it can be addressed? (10)
3. (a) What is stack? Write an algorithm to implement simple stack. (10)
(b) Write an algorithm for recursive implementation of stack. (10)
4. (a) Write down the operations that can be done with queue data structure? (5)
(b) Write an algorithm for insertion and deletion operation in a circular queue. (15)
5. (a) What are the various linked list operations? Explain. (10)
(b) Write algorithms for insertion and deletion of Circular Linked List. (10)
6. (a) Define binary search tree. (5)
(b) State and explain the algorithm to implement quick sort. (15)
7. (a) Write an algorithm for bubble sort. Explain its complexity. (10)
(b) Distinguish between linear and binary search methods (10)
8. Write short note on the following:- (20)
(i) Circular Double List (ii) Binary Trees
(iii) Priority queue (iv) Polish and Reverse Polish Notations