ANNA UNIVERSITY COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : SEPTEMBER 2009

REGULATIONS – 2007

THIRD SEMESTER

070230007 - DATA STRUCTURES

(COMMON TO ECE / CSE / IT)

TIME : 3 Hours **Max.Marks : 100**

PART – A

(20 x 2 = 40 MARKS)

ANSWER ALL QUESTIONS

1. Write down the definition of data structures?
2. What are the features of an efficient algorithm?
3. List down any four features of data structures
4. What is meant by an abstract data type (ADT)?
5. What are the postfix and prefix forms of the expression
   A+B*(C-D)/(P-R)?
6. What is Priority Queue?
7. How do you test for an empty queue?
8. What is doubly linked list?
9. What is binary tree?
10. What are the different types of traversing?
11. Define in-order traversal?
12. What is an almost complete binary tree?
13. What is meant by external sorting?
14. What is the main idea in Bubble sort?
15. What is the advantage of quick sort
16. What is the average efficiency of heap sort?
17. Define graph?
18. Define out degree of graph?

19. What are the two traversal strategies used in traversing graph?
20. What is minimum spanning tree?

PART – B

(5 x 12 = 60 MARKS)

ANSWER ANY FIVE QUESTIONS

21. Define Recursion? Explain Fibonacci sequence
22. Explain Abstract Data Type (ADT)? Explain?
23. What is a priority queue? What are its types? Explain
24. Write an algorithm for inserting and deleting an element from doubly linked list?
    Explain linear linked list implementation of Stack and Queue?
25. What is a Binary tree? Explain Binary tree traversal in C?
26. Explain exchange sorts with example?
27. Explain Heap sort?
28. Explain Shortest path algorithm with example?

******THE END******