

**COURSE CODE-3050109**

**PG DIPLOMA EXAMINATION – JAN 2009**

**PGDCA / PGDIT**

**DATA STRUCTURES AND ALGORITHMS USING C, C++**

**(For Candidate Admitted from Calendar 2007 Onwards)**

**Time: 3 Hours**

**Max.Marks:75**

**Section-A**

**Answer all the Questions:**

**15 X 1 = 15**

1. Define Datatype
2. Define Structure
3. Define abstract datatype
4. Write down the measures to check the efficiency of an Algorithm?
5. What is dynamic programming?
6. What is back tracking?
7. Define RAM
8. Write down the tuple representation for Turing machine
9. Define NP problems
10. What is non deterministic turing machine/?
11. What is SISD?
12. What is MISD?
13. What is MIMD?
14. What is crew model?
15. What is Erew model?

**Section-B**

**Answer any Five Questions:**

**5 X 6 = 30**

16. a. Describe the different factors for measuring the running time of a program

**(Or)**

- b. Write notes on solving the recurrence equations/

17. a. Describe a greedy algorithm for traveling salesman problem

**(Or)**

- b. With a suitable example illustrate how binary searching is carried out.

18. a. Describe the various components of Random access machine

**(Or)**

- b. Explain the 7 tuple representation of turing machine

19. a. Briefly explain about MISD

**(Or)**

- b. Briefly explain about MIMD?

20. a. Write about selection problems

**(Or)**

- b. Write about merging network

**Section- C**

**Answer any Two Questions:**

**2 X 15 =30**

21. Discuss briefly about the abstract data type
22. Explain the traveling salesman problem using the technique of backtracking
23. Explain in detail about random access machine
24. Explain about analyzing algorithms
25. Briefly explain about merging models.