ANNA UNIVERSITY OF TECHNOLOGY, COIMBATORE

B.E. / B.TECH. DEGREE EXAMINATIONS : NOV / DEC 2011

REGULATIONS : 2008

FOURTH SEMESTER : CSE

080230013 - DESIGN AND ANALYSIS OF ALGORITHMS

Time : 3 Hours   Max.Marks : 100

PART - A

(10 x 2 = 20 Marks)

ANSWER ALL QUESTIONS

1. Define algorithms
2. Write a recursive algorithm for factorial function
3. Define stack and Queue
4. Define optimal solution
5. Explain Principle of Optimality
6. Define Multistage graph
7. What are the condition under which backtracking can be used?
8. What is meant by Hamiltonian circuit problem?
9. Define BFS
10. List the various NP hard problems

PART - B

(5 x 16 = 80 Marks)

ANSWER ALL QUESTIONS

11. (a) Explain Asymptotic notations and its basic efficiency classes

    (OR)

    (b) Explain recurrence equation and its mathematical analysis

12. (a) Explain Greedy method in detail

    (OR)

    (b)i) Explain Binary Search in detail   8

    ii) Sort the following set of elements using merge sort   8

       12,24,8,71,4,23,6,89,56

13. (a) Explain with an example All –pairs shortest path algorithm in detail

    (OR)

    (b) Explain Travelling salesman problem

14. (a) Explain n-Queens problem with an algorithm

    (OR)

    (b) Explain knapsack problem with an algorithm

15 (a) Explain inorder, preorder and postorder traversal with an algorithm

    (OR)

    (b) With any two example explain branch and bound

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