 LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

 **M.Sc.** DEGREE EXAMINATION - **COMPUTER SC.**

FIRST SEMESTER – NOVEMBER 2012

# CS 1810 - DESIGN & ANALYSIS OF ALGORITHM

 Date : 01/11/2012 Dept. No. Max. : 100 Marks

 Time : 1:00 - 4:00

**Section – A**

 **Answer all Questions: (10 X 2 == 20 Marks)**

1. What do you mean by exact and approximation algorithm?
2. Write about pseudo code.
3. Define Adjacency Matrix Give example.
4. What is Binary Search Tree Give example?
5. Define Binomial coefficient.
6. Differentiate between Greedy and Dynamic programming method.
7. Define subset sum problem.
8. Define Hamiltonian circuit give example.
9. What do you mean by tractable and intractable?
10. What do you mean by graph coloring?

**Section – B**

 **Answer all Questions: (5 X 8 == 40 Marks)**

 11 a) Explain Mathematical analysis for recursive algorithms.

 Or

 b) Write about Asymptotic notations and analysis.

 12 a) Write an algorithm to perform binary search trace out with suitable

 Example.

 Or

 b) Explain with example how matrix multiplication is performed using

 Strassen’s .

1. a) Explain about Optimal Binary Search Tree Algorithm.

Or

 b) Explain with example the Knapsack problem.

1. a) Write an algorithm to solve N-Queen problem.

Or

 b) Write an algorithm to solve Subset sum problem.

1. a) Write an algorithm for NP Hard problem.

Or

 b) Write about the approximation algorithm for Travelling Salesman Problem.

**Section – C**

 **Answer any TWO Questions: (2 X 20 == 40 Marks)**

1. a) Explain the two different algorithms for finding out GCD.

b) Compare Merge sort with Quick sort.

1. a) Write about the Kruskal’s algorithm and give example.

b) Explain in detail about memory functions.

1. a) Explain in detail the subset sum problem algorithm.

b) Explain the Approximation algorithm for NP – Hard problem.

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