

**UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)****MScIT-12 2nd YEAR 3rd SEMESTER ASSIGNMENT**

Last Date of Submission: 15 Jan., 2015

Course Title: Design & Analysis of Algorithm**Course Code: MScIT-12****Year: 2014-15****Maximum Marks: 40 Marks**

Section 'A' contains 08 short answer type questions of 5 marks each. Learners are required to answer 4 questions only. Answers of short answer-type questions must be restricted to 250 words approximately.

1. (i) Define asymptotic notations.
(ii) What do you mean by recursive algorithm?
2. Define the divide and conquer method.
3. What is the average case complexity of linear search algorithm?
4. Write about traveling salesperson problem. Write some applications of traveling salesperson problem.
5. What is the binary search? Give computing time for Binary search.
6. Define Greedy algorithm. Write any two characteristics of Greedy Algorithm.
7. Define backtracking.
8. What do you mean by linear search? Explain.

Section 'B' contains 04 long answer-type questions of 10 marks each. Learners are required to answer 02 questions only.

1. Discuss Knapsack problem using branch and bound technique.
2. Explain sum of subset problem and its algorithmic implementation.
3. Give a suitable example & explain the Breadth first search & Depth first search
4. Sort 3, 1, 4, 1, 5, 9, 2, 6 using merge sort.