



## UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)

MScIT-12 2<sup>nd</sup> YEAR 3<sup>rd</sup> SEMESTER ASSIGNMENT*Last Date of Submission: 15 Jan.,2014***Course Title: Design & Analysis of Algorithm****Course Code: MScIT-12****Year: 2013-14****Maximum Marks: 40 Marks**

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

1. Write an algorithm for eight queen's problem.
2. What are the characteristics of dynamic programming?
3. What is the average case complexity of linear search algorithm?
4. Write the procedure for selection sort.
5. What is AVL tree? Explain.
6. Define 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 answers 02 questions only.**

1. Write an algorithm for searching an element using binary search method. Give an example.
2. Sort the following set of elements using Quick Sort.

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

3. Give a suitable example and explain the Depth-First search algorithm.
4. Explain merge sort algorithm and find the complexity of the algorithm.