



UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)  
उत्तराखण्ड मुक्त विश्वविद्यालय, हल्द्वानी (नैनीताल)

BCA 1<sup>ST</sup> YEAR 2<sup>ND</sup> SEMESTER ASSIGNMENT

*Last Date of Submission: 15- May-2014*

**Course Title:** Data Structure through C Language

**Course Code:** BCA-06

**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. What are primitive and non primitive data structures? Give example.
2. Write an algorithm to insert an element into any array.
3. Differentiate between stack and queue and give its applications.
4. Convert  $A*(B+D)/E-F*(G+H/K)$  into postfix expression.
5. Write a procedure for binary search.
6. What is an array? Differentiate between one dimensional and two dimensional arrays.
7. Define the following terms
  - (a) Degree
  - (b) Forest
8. Compare linear queue with circular queue.

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

1. What are the disadvantages of linear queue? How these are removed using circular Queue?
2. Formulate an algorithm to insert an element in a double linked list.
3. What is the difference between DFS and BFS? Explain with example.
4. Define the following terms using suitable examples.
  - (i) Regular Graph
  - (ii) Weighted Graph