



UTTARAKHAND OPEN UNIVERSITY, HALDWANI (NAINITAL)

BCA-11 1st YEAR 1st SEMESTER ASSIGNMENT

Last Date of Submission: 15 Jan. 2014

Course Title: Computer Fundamental and Introduction to Digital Logic **Course Code: BCA-01**
Year: 2013-14 **Maximum Marks: 40 Marks**

Section 'A'

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. How computers are categorized into different categories?
2. What is the similarity and difference between break and continue statements?
3. What is an algorithm ? Why is it necessary to write an algorithm before program coding ?
4. Add the two BCD numbers 10001111 and 01010011.
5. Define and describe DeMorgan's Theorem.
6. What is logic gates? Draw the block diagram of a 3-input AND gate. Give its truth table.
7. What is a bus ? List out the main function performed by buses in a computer system.
8. What is a macro ? Summarize the similarities and differences between macros and function.

Section 'B'

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

1. What is computer? What are the characteristics of a computer? Do you think computers are superior to human being?
2. What is binary number system? How do you perform binary subtraction using 1's and 2's complement method?
3. Write a program to convert a binary number to its equivalent decimal number.
4. Simplify the following Boolean expression using Karnaugh map.

$$A.B.C.D + A.B'.C.D + A'.B.C.D + A'.B'.C.D$$