



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

BCA 3RD YEAR 6TH SEMESTER ASSIGNMENT

Last Date of Submission: 31 May 2016

Course Title: System Programming

Course Code: BCA-20

Year: 2015-16

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. Explain relocation and linking requirement in segmented addressing with suitable example.
2. Differentiate between top-down and bottom-up parser.
3. Explain the following with suitable example:
 - a. Loaders
 - b. Turing Machine
4. Write difference between one pass and two pass assembler.
5. Explain Symbol table and Mnemonics table with suitable example.
6. What do you understand by booting of a machine?
7. What is Lexical analysis?
8. Describe the terms: system and application programming.

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

1. Explain Hierarchy of grammars with suitable example.
2.
 - a. Construct a DFA for the regular expression aa^*/bb^*
 - b. Construct a DFA over $\Sigma = (a, b)$ which produces not more than 3 a's.
3.
 - a. State the Pumping lemma for CFG.
 - b. What is meant by halting problem?
4. List various phases of a language processor. Explain roles of each phase of it.