



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

PGDCA-16/PGDCA-17  
1<sup>ST</sup> YEAR 1<sup>ST</sup> SEMESTER ASSIGNMENT

*Session - 2017-18, Summer Last Date of Submission: 31st October 2017*  
*Session - 2017-18, Winter Last Date of Submission: 30th April 2018*

**Course Title: Digital Logic**

**Course Code: PGDCA-02**

**Maximum Marks: 30/20**

**Section 'A' contains 08 short answer type questions of 4/2.5 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 is difference between latch and flip-flop?
2. Write a short note on the following-
  - (i) ASCII Code
  - (ii) BCD
3. Write a short note on:
  - (i) Excess 3
  - (ii) Gray Code
4. What is a flip-flop? List out the application of flip-flop.
5. What is a demultiplexer? Discuss the differences between a demultiplexer and a decoder.
6. Differentiate SRAM and DRAM
7. What is logic gate? Explain the various types of logic gate with truth table.
8. Convert binary  $(100101)_2$  to its decimal equivalent.

**Section 'B' contains 04 long answer-type questions of 7/5 marks each. Learners are required to answers 02 questions only.**

1. Explain the De-Morgan's theorems using algebraically and truth table.
2. Distinguish between minterms and maxterms with suitable example.

3. What is a half-adder? Explain a half-adder with the help of truth-table and logic diagram.
4. What do you mean by multiplexer? Explain the working of a 8-to-1 multiplexer with diagram.

