Roll No. ..... Total Pages : 2

BT-3/D-18 **33113**

DIGITAL ELECTRONICS AND LOGIC DESIGN

Paper : IT-207N

Time : Three Hours] [Maximum Marks : 75

Note : Attempt *five* questions in all, selecting at least *one* question from each unit.

UNIT–I

1. Express the following BCD numbers :
   (i) Straigth binary form and
   (ii) Excess-3 code-10010011, 01100111. (15)

2. Simplify the Boolean function using K-Map

   $F(W, X, Y, Z) = \sum (1, 3, 7, 11, 15) + d(0, 2, 5)$

   Also simplify the same using QMC method. (15)

UNIT–II

3. What is Encoder? Explain with logic circuit. Also explain how encoders with decoders can be used as code coverters. (15)

4. Explain BCD adder and subtractor in detail. (15)

UNIT–III

5. What is different between JK flip-flop and JK master slave flip-flop? Which *one* is better and why? (15)

6. Explain synchronous and asynchronous counters. (15)

UNIT–IV

7. Discuss D/A and A/D converter. (15)

8. What are programmable logic devices? Differentiate PLA and PAL. (15)