

# DIGITAL SYSTEM DESIGN

MAY - JUNE 2010

Time : Three Hours

Max. Marks : 100

Pages - 5

## UNIT - I

1. A) Design a combinational circuit that converts 4-bit gray code to 4-bit binary no. 10
- B) A combinational circuit is to be designed that has one control line and three data lines. When control line is low circuit should detect whether two of data lines are simultaneously high. When control line is high output is low. 10
- C) Implement  $32 \times 1$  MUX with two  $16 \times 1$  and one  $2 \times 1$  MUX. 10

## UNIT - II

2. A) Implement  $f_1 = \sum m(0, 1, 3, 4, 7)$  and  $f_2 = \sum m(2, 5, 6, 7)$  using ROM. 10
- B) Design 3-bit binary excess 3 using PLA. 10
- C) Implement foil state diagram using PAL. specify size of PAL. 10

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