

Total No. of Questions—12]

[Total No. of Printed Pages—4+1

Seat No.	
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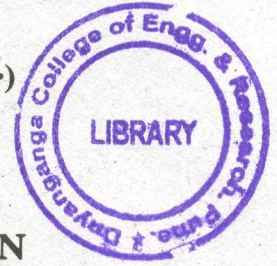
S.E. (Computer Engineering) (First Semester)

EXAMINATION, 2012

(Common to I.T.)

DIGITAL ELECTRONICS AND LOGIC DESIGN

(2008 PATTERN)



Time : Three Hours

Maximum Marks : 100

N.B. :— (i) Answers to the two Sections should be written in separate answer-books.

(ii) In **Section I** attempt : Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6.

In **Section II** attempt : Q. No. 7 or Q. No. 8, Q. No. 9 or Q. No. 10, Q. No. 11 or Q. No. 12.

(iii) Neat diagrams must be drawn wherever necessary.

(iv) Figures to the right indicate full marks.

(v) Assume suitable data, if necessary.

### SECTION I

1. (a) Do the required conversions for the following numbers : [6]

(i)  $(1FFF)_{16} = (\quad)_{10}$

(ii)  $(1024)_{10} = (\quad)_{16}$

(iii)  $(36)_8 = (\quad)_{16}$

(b) Which gates are known as Universal Gates ? Justify using examples. [6]

(c) Solve the following equation using K map minimization technique. [6]

Draw the MSI design for the minimized output :

$$Z = f(A, B, C, D) = \sum m(1, 3, 6, 7, 12, 13) + d(0, 2, 8, 9).$$

P.T.O.

