

V.P. & R.P.T.P SCIENCE COLLEGE
First Internal Test
US03CELE-02

Date: 11/10/14
1:00 to 2:30 pm
Total Marks 25

Multiple choice questions:

3 marks

1. $93_{16} + DE_{16} =$

- (i) 271_{16}
- (ii) 161_{16}
- (iii) 171_{16}



2. XS3 code is

- (i) weighted Binary code
- (ii) Reflective code
- (iii) None of the above

3. By forming quadret we can reduce -----variables in Karnaugh mapping

- (i) 2 variables
- (ii) 3 variable
- (iii) 1 variable

Q2 : Answer in short: (Any two)

4 marks

1. Subtract $1AB5_{16}$ from $2BAA_{16}$
2. State De'Morgan's theorem and state its utilities.
3. Define Reflective code and Sequential code and give examples.

Q3 : Do as directed :

6 marks

- (i) Multiply 1110 by 1010 using Computer Method
- (ii) Multiply $1AB5_{16}$ by AA_{16}

OR

Q3 : Do as directed :

6 marks

- (i) Multiply 1100 by 1000 using Computer Method
- (ii) Add -25 to -115 using 2's complement.

Q4 : Do as directed :

6 marks

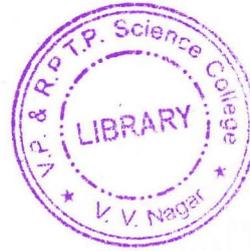
- (i) Add 37 to 28 in XS3 code
- (ii) Add 1356 to 6573 using BCD code

OR

Q4 : Do as directed :

6 marks

- (i) Add 247.6 to 359.4 in XS3 code
- (ii) Add 1935 to 7565 using BCD code.



Q5 : (i) Reduce the Boolean Expression using Boolean Laws **3 marks**

$$\overline{\overline{ABC + \overline{A}B + BC}}$$

(ii) Find the POS and SOP form of $Y = \sum m(0,1,3,6,7,8,9,13,15)$ **3 marks**

OR

Q5 : (i) Reduce the Boolean Expression using Boolean Laws **3 marks**

$$\overline{\overline{AB + ABC + A(B + \overline{AB})}}$$

(ii) Reduce and implement in NAND logic **3 marks**

$$Y = \sum m(2,3,5,7,9,11,12,13,14,15)$$

***** Best of Luck *****