

THE MANDVI EDUCATION SOCIETY INSTITUTE OF COMPUTER STUDIES

The Mandvi Education Society Technical Campus., Mandvi., Dist - Surat

Assignment : 3

FYMCA (SEM 1)

Sub: - Fundamental of Computer Organization (2610004)

Date : 9/11/2012

Submission Date : 19/11/2012

Marks

Time : 10 Days

50

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1. Perform $13 * 5$ and show the contents of the registers in each step. [5]
 2. Design a RS counter which will count the sequence 3,4,6,7 and repeat. [5]
 3. What is a Multiplexer? Explain 4-to-1 line multiplexer. [5]
 4. Explain RAM and types of RAM? Which one do you select & why? [5]
 5. What is a Decoder? Explain 2-to-4 line Decoder using NAND gates. [5]
 6. Explain ROM and types of ROM? Explain their applications [5]
 7. What is a master – slave flip-flop? Discuss its working. [3]
 8. Explain 3-bit binary counter in detail. [3]
 9. Explain how to divide 14 by 4 in the registers and showing how the quotient and remainder are placed after the division. (all are 5 bit registers) [5]
 10. Explain different types of ROMs. [2]
 11. Explain 3-to-8 decoder. [3]
 12. Draw a set of waveforms for S & R and X & X' so that Flip-flop will have output signals 0011010 on output line. [2]
 13. Explain in brief different types of buses. [2]

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The Mandvi Education Society Technical Campus, Mandvi, Dist - Surat

Assignment : 2

FYMCA (SEM 1)

Sub: - Fundamental of Computer Organization (2610004)

Date : 27/09/2012

Marks: 25

Time : 5 days (Submission Date : 01/10/2012)

1. Reduce Expression for function $F = \sum m(0, 2, 8, 9, 10, 11) + d(1, 3)$, Using K-map and write SOP and POS form of reduced Expression and also draw Logic Diagram. 7
2. List the truth table for function:
 $F = XY'Z + X'Y' + XY$ 5
3. Reduce Expression using Boolean laws:
 $AB + AC' + AB'C(AB+C)$ 3
4. Derive expression from given logic gates and simplified it using Boolean laws and redraw it. 5
5. When a K-map has four rows or columns they are numbered 00, 01, 11 & 10 instead of 00, 01, 10 & 11. Why? 2
6. Find Gray code equivalent of $(1110110101)_2$ 1
7. Design OR, AND & NOT gate using Universal Logic. 2

**THE MANDVI EDUCATION SOCIETY
INSTITUTE OF BUSINESS MANAGEMENT AND COMPUTER STUDIES**

MCA 1ST SEMESTER – Assignment – 1

Subject Code : 2610004

Date : 23rd August 2012

Subject Name : Fundamental of Computer Organization (FCO)

Submission Date : 27th August 2012

Q:1 Explain Following:

- a) Explain Component of Digital Computer with its Diagram.

Q: 2 Short Questions:

- a) Define – Resolution
b) Memory management Unit with its Value

Q:3 Do as Directed:

a) Decimal to Binary Conversion:

- | | |
|----------|--------------|
| I. 456 | II. 7088.675 |
| III. 135 | IV. 512.1024 |
| V. 864 | |

b) Binary to Decimal Conversion:

- | | |
|----------------|------------------|
| I. 10110111 | II. 11110.1011 |
| III. 10101011 | IV. 10011110.110 |
| V. 101101.1100 | |

c) Binary Addition:

- | | |
|----------------|-------------------------|
| I. 1+1+1+1 | II. 1110.1011+1001.1110 |
| III. 1010+1011 | IV. 1011.0111+1101.101 |
| V. 111+102 | |

d) Binary Substraction:

- | | |
|---------------------|----------------|
| i. 324-137 | ii. 107.875-49 |
| iii. 7011-401 | iv. 126-12 |
| v. 756.402-560.5666 | |

e) Binary Multiplication:

- | | |
|------------------|---------------|
| I. 111*10 | II. 110*11 |
| III. 1001*10 | IV. 11110*111 |
| V. 101.101*100.1 | |

f) Binary Division:

- | | |
|--------------|------------|
| I. 11000/100 | II. 137/25 |
| III. 456/50 | |