

Name : Amad Afridi

ID : 13119

Class : BS - SE B

Subject : DLD

Date : 19.8.2020

MID Term Assignment 01

Q1. Convert each of the following:-

a-  $45.25_{10} = (?)_2$

$$101101.01$$

b-  $100000000.1010_2 = (?)_{10}$

$$128.625$$

c-  $4D7F_{16} = (?)_{10}$

$$4d7f_{16} = 19839_{10}$$

$$d - 128_{10} = (?)_{16}$$

$$128_{10} = 80_{16}$$

$$e - 3A6F_{16} = (?)_2$$

$$3A6F_{16} = 111010011011112$$

$$f - 110000111100101_2 = (?)_{16}$$

$$110000111100101_2 = C3E5_{16}$$

$$g - 6173_8 = (?)_{10}$$

$$6173_8 = 3195_{10}$$

$$h - 169_{10} = (?)_8$$

$$169_{10} = \del{325} 251_8$$

$$i - 2A7D_{16} = (?)_8$$

$$2A7D_{16} = 10877_{10}$$

$$m. \quad 1000011000 \text{ BCD} = (?)_{10}$$

$$= 1000 \ 0111 \ 000 = 1000 (=8) \ 0111 (=7) \ 000 (=0) = 870$$

$$n. \quad 1001010_2 = (?)_{\text{Gray}}$$

$$= 87_{10}$$

$$o. \quad 10101111_{\text{Gray}} = (?)_2$$

$$= 175_{10}$$

$$p. \quad 0100 \ 0001 = (?)_{\text{ASCII}}$$

$$= 065$$

$$q. \quad 11000 = (?)_{11000} \text{ Even parity.}$$

Q2. Calculate each of following:-

$$a. 0111111_2 - 0000111_2$$

$$= 01111000$$

$$\begin{array}{l} \text{Decimal value} \\ 127 - 7 = 120 \end{array}$$

$$b. 01101010_2 \times 11110001_2$$

$$= 0110001111001010$$

$$\begin{array}{l} \text{Decimal value} \\ 106 \times 241 = 25546 \end{array}$$

$$c. 10001000_2 \div 00100010_2$$

$$= 100$$

$$\begin{array}{l} \text{Decimal value} \\ 136 \div 34 \\ = 4 \end{array}$$

$$d. 6D_{16} - 3F_{16}$$

$$= 2E$$

$$\begin{array}{l} \text{Decimal value} \\ 109 - 63 \\ = 46 \end{array}$$

e.  $00010110_{BCD} \div 00010101_{BCD} = (7)_{10}$

10's complement of a number is 1 added to it's 9's complement number  
 10's complement number of 00010101 is 99989898

Q12:- Convert the following expression to standard SOP forms:

$$(C+D)(\bar{A}+D)$$

Ans 12:-

$$(C+D) \& \& (\bar{A}+D)$$

=

$$(C \bar{A} + \bar{A} D)$$