

30/05/2020

Digital Logic Design (DLD)

ABDUL RAHEM CSC 205 104 (C) Assignment #1 (P2)

Number System Conversion :-

Binary To Hexadecimal :-

1) $(11100100101)_2 = (?)_{16}$

$$\begin{array}{cccc} 0 & 1 & 1 & 1 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 1 \\ & 7 & & 2 & & & 5 & & & & & \end{array}$$

$(11100100101)_2 = (725)_{16}$ Ans

R.W			
8	4	2	1
0	1	0	1
8	4	2	1
0	0	1	0
8	4	2	1
0	1	1	1

2) $(110001001000)_2 = (?)_{16}$

$$\begin{array}{cccc} 1 & 1 & 0 & 0 & 0 & 1 & 0 & 0 & 1 & 0 & 0 & 0 \\ & C & & 4 & & & 8 & & & & & \end{array}$$

$(110001001000)_2 = (C48)_{16}$ Ans

Row			
8	4	2	1
1	0	0	0
8	4	2	1
0	1	0	0
8	4	2	1
1	1	0	0

Octal To Binary :-

1) $(7001)_8 = (?)_2$

$$\begin{array}{cccc} 7 & 0 & 0 & 1 \\ 111 & 000 & 000 & 001 \end{array}$$

$(7001)_8 = (111000000001)_2$ Ans

2) $(6005)_8 = (?)_2$

$$\begin{array}{cccc} 6 & 0 & 0 & 5 \\ 110 & 000 & 000 & 101 \end{array}$$

$(6005)_8 = (110000000101)_2$ Ans

1) $(100AC)_{16} = (?)_2$ Hexadecimal To Binary:-

<u>1</u>	<u>0</u>	<u>0</u>	<u>A</u>	<u>C</u>
0001	0000	0000	1010	1100

$$(100AC)_{16} = (0001\ 0000\ 0000\ 1010\ 1100)_2 \quad \underline{\text{Ans}}$$

2) $(FC600)_{16} = (?)_2$

<u>F</u>	<u>C</u>	<u>6</u>	<u>0</u>	<u>0</u>
1111	1100	0110	0000	0000

$$(FC600)_{16} = (1111\ 1100\ 0110\ 0000\ 0000)_2 \quad \underline{\text{Ans}}$$

Hexadecimal To Octal:-

1) $(A0FC)_{16} = (?)_8$

<u>A</u>	<u>0</u>	<u>F</u>	<u>C</u>	
1010	0000	1111	1100	$= 1010\ 0000\ 1111\ 1100$

<u>001</u>	<u>010</u>	<u>000</u>	<u>011</u>	<u>111</u>	<u>100</u>
1	2	0	3	7	4

$$1010000011111100 = 120374$$

$$(A0FC)_{16} = (120374)_8 \quad \underline{\text{Ans}}$$

$$2) (BFE)_{16} = (?)_8$$

$$\begin{array}{ccc} \underline{B} & \underline{F} & \underline{E} \\ 1011 & 1111 & 1110 \end{array} = 1011111110$$

$$\begin{array}{cccc} \underline{101} & \underline{111} & \underline{111} & \underline{110} \\ 5 & 7 & 7 & 6 \end{array}$$

$$(BFE)_{16} = (5776)_8 \text{ Ans}$$