24/oct/2020

Digital Logic Design (DLD)

ABDUL RAFEH CSC 20S 104 (C) Assignment #01

Decimal to Binary:-

1) $(303)_{10} = (?)_2$

2	303	
2	151	1
2	75	1
2	37	1
2	18	1
2	9	0
2	4	1
2	2	0
	1	0

$(100101111)_2$

$(303)_{10} = (100101111)_2$ Ans

2) $(990)_{10} = (?)_2$

2	990	
2	495	0
2	247	1
2	123	1
2	61	1
2	30	1
2	15	0
2	7	1
2	3	1
	1	1

$(1111011110)_2$

$(990)_{10} = (1111011110)_2$ Ans

Binary to Decimal :-

1) $(1111\,0011)_2 = (?)_{10}$

$(1\times2^0)+(1\times2^1)+(1\times2^4)+(0\times2^3)+(0\times2^2)+(1\times2^5)+(1\times2^6)$

$64 + 32 + 16 + 0 + 0 + 2 + 1$

$(1111\,0011)_2 = (115)_{10}$ Ans

2) $(1111\,0000\,111)_2 = (?)_{10}$

$(1\times2^0)+(1\times2^1)+(1\times2^2)+(0\times2^3)+(0\times2^4)+(0\times2^5)+(1\times2^7)+(1\times2^8)+(1\times2^9)+(1\times2^{10})$

$1024 + 512 + 256 + 128 + 0 + 0 + 0 + 0 + 4 + 2 + 1$

$(1111\,0000\,111)_2 = (1927)_{10}$ Ans

Decimal to Octal :-

1) $(3026)_{10} = (?)_8$

8	3026	
8	378	2
8	47	2
	5	7

$(3026)_{10} = (5722)_8$ Ans

2) $(501)_{10} = (?)_8$

8	501	
8	62	5
	7	6

$(501)_{10} = (765)_8$ Ans

Decimal to Hexadecimal :-

1) $(2509)_{10} = (?)_{16}$

16	2509	
16	156	13 ⟶ = D
	9	12 ⟶ = C

$(2509)_{10} = (9CD)_{16}$ Ans

2) $(1305)_{10} = (?)_{16}$

16	1305	
16	81	9
	5	1

$(1305)_{10} = (519)_{16}$ Ans

Octal to Decimal :

1) $(3502)_8 = (?)_{10}$

$(3\times8^3) + (5\times8^2) + (0\times8^1) + (2\times8^0)$

$1536 + 320 + 0 + 2$

$(3502)_8 = (1858)_{10}$ Ans

2) $(257)_8 = (?)_{10}$

$(2\times8^2) + (5\times8^1) + (7\times8^0)$

$128 + 40 + 7$

$(257)_8 = (175)_{10}$ Ans