* Analytical Problems *

Praveen

CSA5765 - Fundamentals of Computing. 19211CSC01

* Decimal to Hexadecimal *

1) $(2020)_{10}$ to $(?)_{16}$

16 | 2020
16 | 126 → 4
7 → 14

$\Rightarrow (7E4)_{16}$

2) $(2020.65625)_{10}$ to $(?)_{16}$

16 | 2020
16 | 126 → 4
7 → 14

$0.625 \times 16 = 10.0$

$0.5 \times 16 = 8$

$\Rightarrow 7E \Rightarrow A8$

$\Rightarrow (7EA8)_{16}$

3) $(172)_{10} \rightarrow (?)_{16}$

16 | 172
10 → 12

$\Rightarrow (AC)_{16}$

4) $(49) \rightarrow (?)_{16}$

16 | 49
3 → 1

$\Rightarrow 31$

$\Rightarrow (31)_{16}$

5) $(172.983)_{10} \rightarrow (?)_{16}$

16 | 172
10 → 12

(AC)

$0.983 \times 16 = 15.7$

$0.7 \times 16 = 11.2$

$0.2 \times 16 = 3.2$

FB

$\Rightarrow (ACFB)_{16}$

6) $(122510)_{10} \rightarrow (?)_{16}$

16 | 122510
16 | 7625 — 10
16 | 479 — 11
16 | 29 — 15
1 — B

$\therefore (1FBA)_{16}$

7) $(60010)_{10} \rightarrow (\quad)_{16}$

16 | 60010
16 | 3750 → 10
16 | 234 → 6
14 → 10

$\Rightarrow (EA6A)_{10}$

8) $(175)_{10} \rightarrow (\quad)_{16}$

16 | 175
10 → 15

$\Rightarrow (AF)_{16}$

9) $(1150)_{10} \rightarrow (\quad)_{16}$

16 | 450
16 | 28 → 2
1 → 12

$\Rightarrow (1C2)_{16}$

10) $(3000)_{10} \rightarrow (\quad)_{16}$

16 | 3000
16 | 187 → 8
11 → 11

$\Rightarrow (BB8)_{16}$

11) $(1542)_{10} \rightarrow (\quad)_{16}$

16 | 1542
16 | 96 → 6
6 → 0

$\Rightarrow (606)_{16}$

12) $(105)_{10} \rightarrow (\quad)_{16}$

16 | 105
6 → 9

$\Rightarrow (69)_{16}$

13) $(199)_{10} \rightarrow (\quad)_{16}$

16 | 199
16 | 12 → 7
C

$\Rightarrow (C7)_{16}$

14) convert $Base_{10}$ to $Base_8$.

8 | 1032
8 | 129 → 0
8 | 16 → 1
2 → 0

$\Rightarrow (2010)_8$

15) $(1032.6875)_{10} \rightarrow (\quad)_8$

8 | 1032		
8 | 129 → 0	$0.6875 \times 8 = 5.4$	
8 | 16 → 1	$0.5 \times 8 = 4$	
2 → 0	54	

$\Rightarrow (2010.54)_8$

16) $(167.878)_{10} \rightarrow (\quad)_8$

8 | 172	
8 | 21 → 4	$0.878 \times 8 = 7.0$
2 → 5	

$\Rightarrow (254.7)_8$

17) $(172)_{10} \rightarrow (\quad)_8$

8 | 172
8 | 21 → 4
2 → 5

$\Rightarrow (72)_{10} \rightarrow (254)_8$

18) $(127)_{10} \rightarrow (\quad)_8$

8 | 127
8 | 15 → 7
1 → 7

$= 177$

$\Rightarrow (127)_{10} \rightarrow (177)_8$.

IP Address Identification

1) 250.1.1.1 → Belongs to class A
2) 193.42.1.1 → Belongs to class B
3) 249.240.80.78 → Belongs to class E
4) 215.45.45.0 → Belongs to class C
5) 33.0.0.0 → Belongs to class A
6) 158.98.80.0 → Belongs to class B