PRACTICAL-3

01) Decimal equivalent of $(3A)_{16}$

→

3	A
↓	↓
3	10

$\Rightarrow 16 \times 16^0 + 3 \times 16^1 =$

$\Rightarrow 10 \times 16^0 + 3 \times 16^1 = 58$

$\Rightarrow (58)_{10}$

02) 8 bit unsigned binary of $(56)_{10} - (31)_{10}$

$(56)_{10} - (21)_{10} = (25)_{10}$

↓

$(00011001)_2$

03) Result of adding $(7)_{10}$ & $(-4)_{10}$

$(7)_{10} + (-4)_{10} = (3)_{10}$

↓

$(00000011)_2$

04) which of the following 4bit excess 3 number is equivalent to $(5)_{10}$?

Ans $5 + 3 = (8)_{10}$

$\downarrow$

$(?)_2$

$\downarrow$

$(1000)_2$

05) Consider the equation $(125)_5 = (x8)_y$ with x & y as unknown. The number of solutions is _____.

Ans Converting $(125)_5 \rightarrow (?)_{10}$

$\hookrightarrow 4(40)_{10}$

$(40)_{10} = (x8)_y$

$\hookrightarrow (?)_{16}$

$\downarrow$

$(28)_{16} \longrightarrow (1)$

$\downarrow$

$(?)_{32}$

$\hookrightarrow (18)_{32} \longrightarrow (11)$

Ans 2 solution

06) Convert binary 111111110010 to heradecimd.

Sol

1111	1111	0010
↓	↓	↓
15	15	2
↓	↓	↓
F	F	2

$\rightarrow (FF2)_{16}$

07) octal to decimal $\rightarrow (532.2)_8$.

$\rightarrow (532.2)_8$

$\Rightarrow 5\times8^2 + 3\times8^1 + 2\times8^0 + 2\times8^{-1}$

$\Rightarrow 5\times64 + 3\times8 + 2\times1 + 2 + \frac{1}{8}$

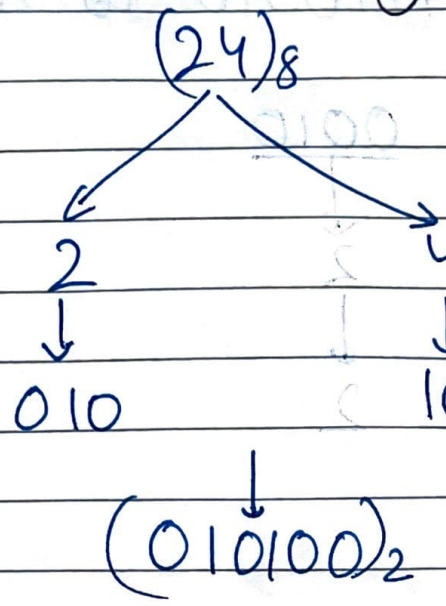
$\Rightarrow 320 + 24 + 2 + .25$

$\Rightarrow (346.25)_{10}$

08) The decimal equivalent of octal No. $(645)_8$ is $(421)_{10}$

09) The quantity of double word is 4/8 bits.

Q10) Octal to binary $\longrightarrow (24)_8$



Q11) Convert binary to octal :-

$(110110001010)_2 \longrightarrow (?)_8$

110 110 001 010

6 6 1 2

$(6612)_8$

Q12) The octal No. $(651.124)_8$ is equivalent to $(425.140625)_{10}$

Ans $(1E2)_{16}$ $E = 14$

$\Rightarrow 2 \times 16^0 + 14 \times 16^1 + 1 \times 16^2$

$\Rightarrow 2 + 224 + 256$

$\Rightarrow (482)_{10}$

Q14) Let r denote number system radix. The only values of r that satisfy the equation.

$\sqrt{121}_6 = 11_r$ is/are :-

Ans The equation is true for any value of $r \geq 2$.