Practical-3

Q1) Decimal equivalent of $(3A)_{16}$

3 → 3
A → 10

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

$(58)_{10}$

Q2) 8 bit unsigned binary of $(56)_{16} - (31)_{10}$

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

↓

$(00011001)_2$

Q3) Result of adding $(7)_{10}$ & $(-4)_{10}$

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

↓

$(00000011)_2$

Q4) which of the following 4 bit excess 3 number is equivalent to $(5)_{10}$?

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

↓

$(?)_2$

↓

$(1000)_2$

Q5) consider the equation $(125)_5 = (x8)_y$ with x & y are unknown the number of solution is ____

A) converting $(125)_5 \Rightarrow (?)_{10}$

↳ $(40)_{10}$

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

↳ $(?)_{16}$

↓ $(28)_{16}$

$(?)_{32} \rightarrow (18)_{32}$

Ans 2 Solution

Q6) Convert binary 1111 1111 0010 to hexadecimal.

$$\underline{1111} \quad \underline{1111} \quad \underline{0010}$$

$$\downarrow \qquad \downarrow \qquad \downarrow$$

15 15 2

$$\downarrow \qquad \downarrow \qquad \downarrow$$

F F 2

$$(FF2)_{16}$$

Q7) octal to decimal $\rightarrow (532.2)_8$

$$(532.2)_8$$
$$5 \times 8^2 + 3 \times 8^1 + 2 \times 8^0 + 2 \times 8^{-1}$$
$$5 \times 64 + 3 \times 8 + 2 \times 1 + 2 \times \frac{1}{8} y$$
$$320 + 24 + 2 + 25$$
$$(346.25)_{10}$$

Q8) The decimal equivalent of octal No.
$(645)_5$ is $(421)_{10}$

Q9) The quantity of double word is 418 bits.

Q10) octal to binary $\rightarrow (24)_8$

$$(24)_8$$

2 ↘ 4
010   100

$$\downarrow$$

$$(010100)_2$$

Q11) convert binary to octal
$(110110001010)_2 \rightarrow (?)_8$

$$\underline{110} \quad \underline{110} \quad \underline{001} \quad \underline{010}$$
$$\downarrow \qquad \downarrow \qquad 1 \qquad 2$$
6 6 $(6612)_8$

Q127) The octal No. $(651.124)_8$ is equivalent
to $(425.1640625)_{10}$

Ans

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

$$2 \times 16^0 + 14 \times 16^1 + 1 \times 16^2$$
$$2 + 224 + 256$$
$$(482)_{10}$$

Q147 Let r denote number system radius
The only values of r that satisfy
the equation
$$\sqrt{121_r} = 11_r \text{ is } 1 \text{ are} \div$$

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