⊡ Quiz-1

1| invalid : $(BCA973EFEA)_{14}$ ⟹ E and F not possible in base-14

$(5621545 2353)_6$ ⟹ 6 not possible in base 6.

2|

@ $X = (146)_8$

$Y = (43)_5 = (27)_8$

$Z = (25)_8$

$W = (12A)_{11} = (231)_8$

For Y.

$43_5 = 4 \times 5^1 + 3 \times 5^0 = 23_{10}$

$8 \underline{|23}$

$8 \underline{|2} \quad 7$

$\quad 0 \quad 2 \qquad \therefore (27)_8$

For W.

$12A_{11} = 1 \times 11^2 + 2 \times 11^1 + A \times 11^0$

$= 153_{10}$

$8 \underline{|153}$

$$8 \underline{|19} \quad 1$$
$$8 \underline{|2} \quad 3 \qquad \therefore (231)_8$$
$$0 \qquad 2$$

Now,

- $X * Y = 146 * 27 = (4452)_8$

- $W - Z = 231 - 25 = (204)_8$

- $E = 4452 + 204 = (4656)_8$

$$
\begin{array}{r}
146 \\
\times \ 27 \\
\hline
1312 \\
3140 \\
\hline
4452
\end{array}
$$

ⓑ $E = 4656$

$$\swarrow \ \downarrow \ \downarrow \ \searrow$$
$$8 \quad 10 \quad 9 \quad 10$$
$$(1000 \ 1010 \ 1001 \ 1010)_{Ex-4}$$

3| $-50 = -(0110010) = (1001110)_{2s}$

$-63 = -(0111111) = (1000001)_{2s}$

$$-55 \rightarrow \quad 1001110$$
$$+\underline{\quad -63 \quad} \rightarrow \quad \underline{1000001}$$
$$\cancel{1}0001111$$

$$\therefore \text{ overflow}$$