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$$d) -5_{10} - 4_{10}$$

First we have to write in binary form

$$= -(101)_2 - (100)_2$$

$$2's \text{ complement of } 101 = 011$$

$$2's \text{ complement of } 100 = 100$$

Now add both

$$\begin{array}{r} 011 \\ + 100 \\ \hline 111 \end{array}$$

Again 2's complement of answer  $(111) = (-1001)$

$$(-101)_2 + (-100)_2 = (-1001)_2$$

$$b) +5_{10} + 4_{10}$$

Solution :-

$$+5_{10} = (0101)_2$$

$$+4_{10} = (0100)_2$$

$$\begin{array}{r} (00101)_2 \\ + (00100)_2 \\ \hline (01001)_2 \end{array}$$

$$c) -5_{10} + 4_{10}$$

$$2's \text{ complement of } (1101)_2 = (0011)_2$$

$$\text{Now add with } (0100)_2$$

$$\begin{array}{r} (0011)_2 \\ (0100)_2 \\ \hline (0111)_2 \end{array}$$

Again 2's complement of Answer

$$(0111)_2 = (0001)_2$$

$$(-5_{10} + 4_{10}) = (-1_{10})$$

