1) Convert $(10.25)_{10}$ to :

(i) Binary

Ans :-

$2 \mid 10$

$2 \mid 5 - 0$

$2 \mid 2 - 1$

$1 - 0$

$10_{10} = 1010_2$

$0.25 \times 2 = 0.5 \rightarrow 0$

$0.5 \times 2 = 1.0 \rightarrow 1$

$\therefore (10.25)_{10} = (1010.01)_2$

(ii) Octal

Soln :

$8 \mid 10$

$1 - 2$

$0.25 \times 8 = 2.0 \rightarrow 2$

$\therefore 10_{10} = 12_8$

$\therefore (10.25)_{10} = (12.2)_8$

2) Convert $(12.2)_8$ to Decimal.

Soln :

$2 \times 8^{-1} + 2 \times 8^0 + 1 \times 8^1$

$= 2 \times 1/8 + 2 + 8$

$= 0.25 + 10$

$= 10.25$

$\therefore (12.2)_8 = (10.25)_{10}$