i) $T_{FR} = (31 - 5.6) = 25.4$ ns

Station 1 to Station 2

$T_P = 12 - 5.6 = 6.4$

Station 1 to Station 3

$T_P = 18.4 - 5.6 = 12.8$ ns

$\therefore$ Max $T_P = 12.8$ ns

ii) For detecting collision,

$T_{FR} >= 2T_P$

$\therefore$ Minimum cases,

$T_{FR} = 2 \times T_P$ [Here, $T_P = T_{Pmax}$]

$= 2 \times 12.8$

$= 25.6$ ns

$\therefore T_{FR} = \frac{\text{Frame Size}}{\text{Bandwidth}}$

$\Rightarrow F.S = 25.6 \times 10^{-9} \times 10 \times 10^9$ bits

$= 256$ bits

$= 32$ byte

Frame transmission in the diagram,

$$T_{FR} = 25.4ns = \frac{F.S}{B.W}$$

$$\Rightarrow F.S = 25.4 \times 10^{-9} \times 10 \times 10^{9}$$

$$= 254 \text{ bits}$$

$$= \frac{254}{8}$$

$$= 31.75$$

Ans: **No**