CSE 320

Quiz-02

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Sec: 7

[Retake Quiz]
5 Q + Math

Ans. to the Ques No - (a)

Given that,

distance = 15000 km

$= (15000 \times 1000)$ m

speed $= 2.4 \times 10^8$ m/s

∴ Propagation time $= \dfrac{Distance}{propagation\ speed}$

$= \dfrac{15000 \times 1000}{2.4 \times 10^8}$

$= 0.062$ s

Given that,

bitrates $= 300$ kbps.

bandwidth $= 25$ KHz

$L = ?$

We know,

for Noiseless channel,

Bit rate $= 2 \times$ bandwidth $\times \log_2(L)$

$\Rightarrow 300 \times 2 \times 25 \times \log_2(L)$

$\Rightarrow \log_2(L) = 6$

$\Rightarrow L = (2)^6$

$\Rightarrow L = 64$

(Ans)