Computer Networks & Communication

May-1998

Q. 9 b)

Ans. : For pure ALOHA s = 0.184

∴ usable Bandwidth for channel

$= 0.184 \times 56\text{kbps}$

$= 10.3\text{kbps}$

Each station transmits at

$$\frac{1000 \text{ bits}}{100 \text{ sec}} = 10 \text{ bps}$$

$$\text{No. of stations} = \frac{\text{Usable Bandwidth}}{\text{Station data rate}}$$

$$= \frac{10.3 \times 10^3}{10}$$

$= 1030$ stations

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Q. 2 a)

Ans. : The efficiency will be 50% when the time to transmit the frame equals the round trip propagation delay.

For 20kbps bit rate =

i.e. 20 bits/ms. 20×100(2000bits) takes 100ms.

∴ for frame size = 2000 bits

Stop and wait protocol gives 50% efficiency.