

CSA - 0735

Assignment

Unit - 4

Computer Networks.

Name: Prashanth. G

Reg no: 192524072

Given:

$$\text{Devices} = 200$$

Handshake size per device = 500 bytes

$$\text{Network rate} = 1 \text{ Mbps}$$

1. What is total handshake data size?

Ans:

Each device sends 500 bytes.

$$\text{Total data} = 200 \text{ devices} \times 500 \text{ bytes} = 100,000 \text{ bytes.}$$

Convert to bits

$$100,000 \text{ bytes} \times 8 = 800,000 \text{ bits.}$$

$$\text{Total handshake data} = 800,000 \text{ bits.}$$

2. If network rate = 1 Mbps, how long to complete handshake?

$$\text{Network speed} = 1 \text{ Mbps} = 1,000,000 \text{ bits/sec.}$$

$$\text{Time} = \text{Total data} / \text{Network rate}$$

$$= 800,000 \text{ bits} / 1,000,000 \text{ bits/sec} = 0.8 \text{ seconds.}$$

$$\text{Total time} = 0.8 \text{ seconds.}$$

What is the time per device?

Total time = 0.8 seconds

Devices = 200

Time per device = $0.8 / 200 = 0.004$ seconds =
4 milliseconds.

Time per device = 4ms.