

201912046

C#



Q1 : Routing Protocol :

a)

At Router	Next Hop	Distance
R1	22.22.192.2	3
R2	22.22.2.4	2
R3	22.22.2.4	2
R4	Direct	1
R5	Direct	1

b)

At Router	Next Hop	Distance
R1	22.22.1.2	12
R2	22.22.192.1	13
R3	22.22.2.4	2
R4	Direct	1
R5	Direct	1

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Nidhi



Q2 Ethernet :

Ans. a)

i) Yes. At link layer, Host A can directly access Host C, as the learning bridge is transparent to all the hosts.

ii) Yes. Bridge won't forward the traffic from network S_1 to S_2 in this case and the two network segments are partitioned into two independent collision domains.

iii) No. Host A needs to use the same network segment (S_1) upon which Host B & the www server is communicating on.

iv) Yes. Host A sends broadcast frame & the bridge will forward all the broadcast frames that it receives to the other segment.

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NDAns. b)

- When there is collision between 2 or more host, random interval is used.

Drawback: The colliding host may choose same value of K . As the colliding host increase, the delay to send frame increases.

Ans. c)

$$K = 6$$

- After 8th collision K set =

- K set = $\{0, 1, 2, 3, \dots, 31\}$ as it is from $\{0, \dots, 2^n - 1\}$ for $n = 6$

Probability of $K = 6$

$$P(K=6) = \frac{1}{32}$$

$$\text{Time} = \frac{512 \times 6}{10^3 \times 10^6} = \frac{3072}{10^9}$$

$$= 0.0003072 \text{ second}$$

$$= 307.2 \text{ } \mu\text{s}$$

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CH

Q3

Protocol Name	Purpose
DHCP	It is a network management protocol used to automate the process of configuring devices on IP networks. It gives computers IP address & list of IP address of first-hop routers, subnet mask of subnet where subnet resides & address of local DNS server.
ARP	It is used to get the MAC address of first hop router & local DNS server.
DNS	If local DNS server doesn't have the IP address of web page on which you have to communicate then DNS Protocol is use to get IP address of web page.
HTTP	Computers will send HTTP request to web server via first hop router.

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RIP, OSPF, BGP	If our packet goes to outer network from our local network it will use one of combined of given protocol to find the first hop router DNS server which is out side.
HTTP	Computers will send HTTP request to web server via first hop router
TCP / IP	To divide HTTP request into TCP segment & further into IP packets
HTTP Response	Server will send response back using HTTP.