IC2K1749

Roll No → IC 2K1749
Enrollment No → DX17000998
Class → MCA VII Sem Sec 'B'
Subject → Computer Networks
Date → 15/01/2021 Friday.

Q1
Ans

a) Any cast Routing → Require help of DNS server.
b) RIP → distance vector routing protocol
c) IGRP → routing information between gateway
d) 802.5 → Token ring.
e) RARP → Obbelete and replaced by DHCP
f) OSPF → link state routing protocol
g) ICMP → layer 3 protocol
h) IEEE 802.8 → Fiber optics connection.

Q2
Ans An IPV4 address is 32 bits long which has $2^{32} = 4294967296$ address space while IPv6 has 128 bit address and has 2^{128} addresses space

Q3
Ans We know that
Transmission time RTT = length of packat / Bandwidth.
given, length of packet = 4.2km = 4200
Bankwidth → 2.2×10^8

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$$\therefore RTT = \left(\frac{42000}{2.2\times10^8}\right)\times 2 \quad \{\times 2 \text{ for both sending \& receiving packet}\}$$

Minimum size of packet ⇒

(size) length of packet = ~~Bandwidth~~ RTT / Transmission Time

$$= 2$$

size of packet = RTT × Bandwidth.

$$= 2\left(\frac{4200}{2.2\times10^8}\right)\times 10^7$$

$$= \frac{12\times 4200}{22_{11}}$$

$$= \frac{4200}{11}$$

$$= 381.8 \text{ bytes and}$$

Q8

N_1

Dist	Dest	Next
N_1	0	N_1
N_2	3	N_2
N_3	∞	–
N_4	∞	–
N_5	∞	–

N_2

Dis	Dis	Next
N_1	3	N_1
N_2	0	N_2
N_3	5	N_3
N_4	∞	–
N_5	4	N_5

N_3

Dis	Dist	Next
N_1	∞	–
N_2	5	N_2
N_3	0	N_3
N_4	1	N_4
N_5	5	–

N_4

Dist	Dest	Next
N_1	∞	–
N_2	∞	–
N_3	1	N_3
N_4	0	N_4
N_5	3	N_5

N_5

Dist	Dest	Next
N_1	∞	–
N_2	4	N_2
N_3	∞	–
N_4	3	N_4
N_5	0	N_5

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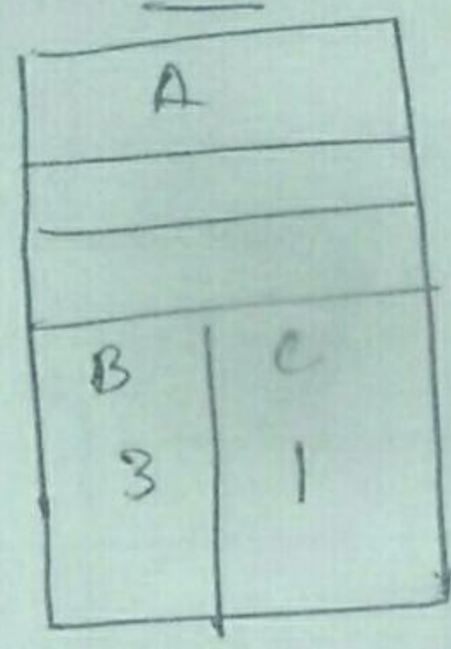
Router N2

Dest	Dist	Next
N1	3	N2
N2	0	N2
N3	5	N3
N4	5	N4
N5	6	N3

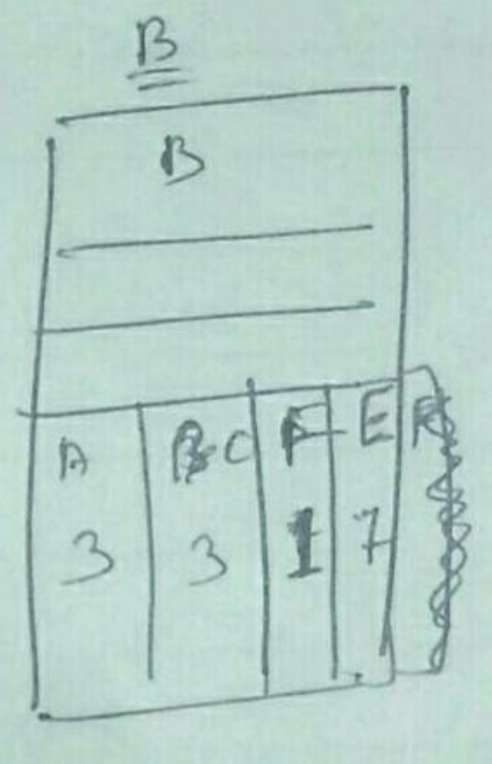
Q6

Ans ~~Route~~

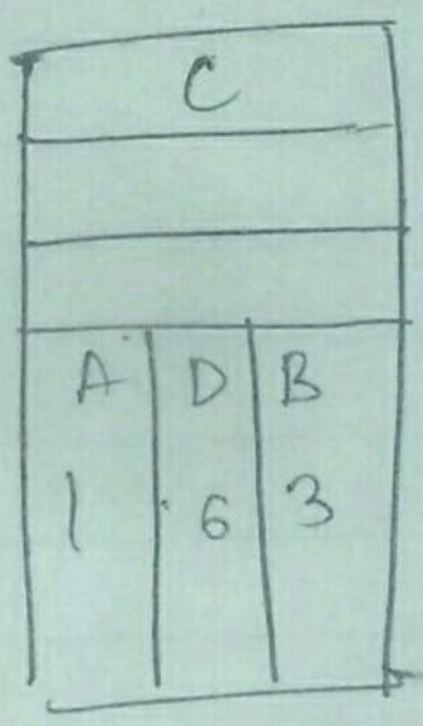
A

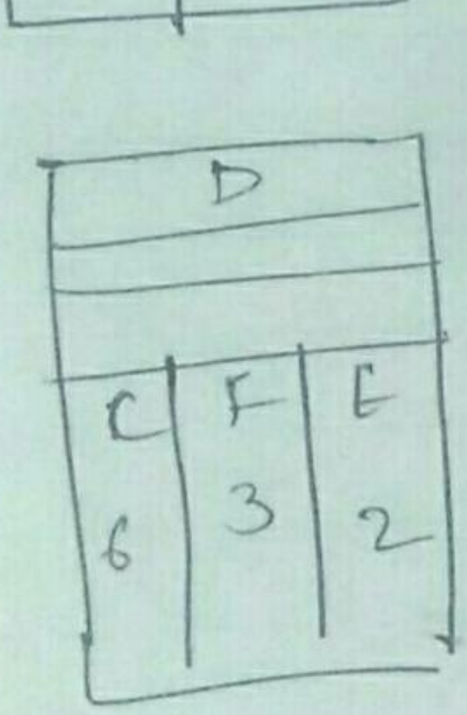


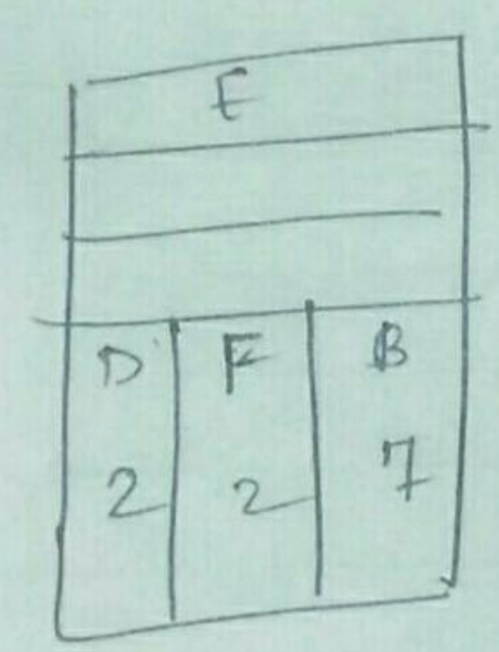
B

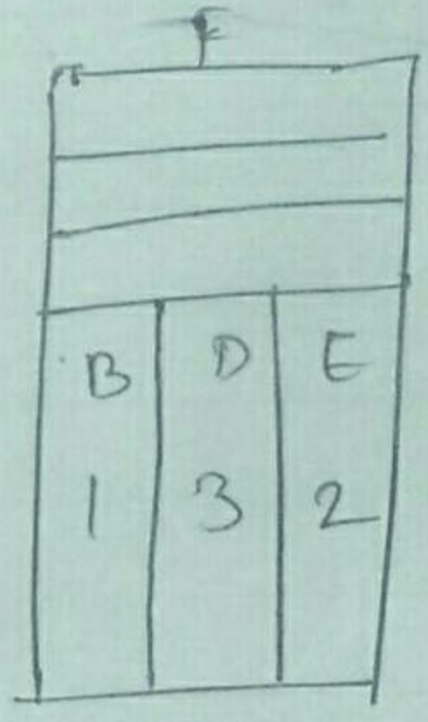


C









Q4 Ans In slotted aloha network 20 Kbps channel is used for sending message packets of 50 bits long size. Its maximum efficiency will be 0.368 = 36.8%.

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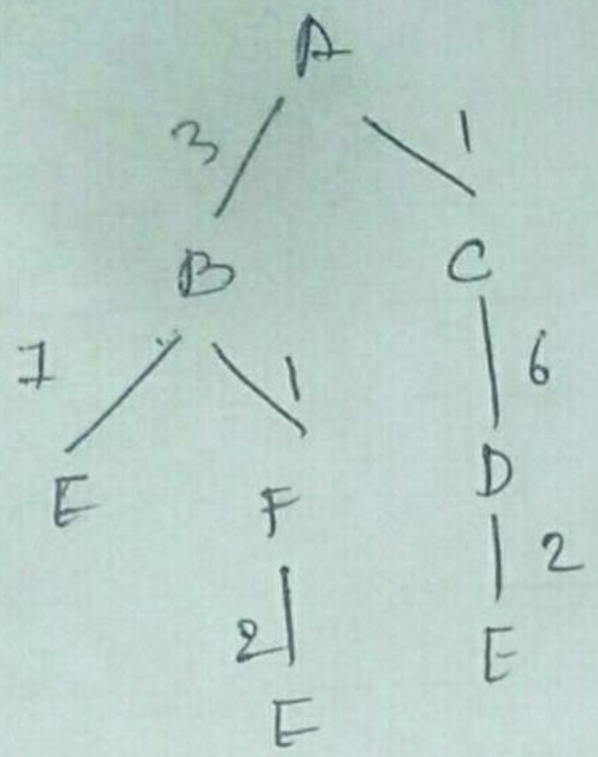
Q7



A → B → E ⇒ 10

A → B → F → E ⇒ 6

A → C → D → E = 9

shortest path is A → B → F → E