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Mid-2

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ID :- 2019- 3-60-034

Course :- 405

Section :- B 3

Ans. To Q.No:- 1 (a)

Subnet Mask in CIDR is,

$8 + 9 = 17$

19.0.0.0 /17

— x —

Ans. To Q.No:- 1(b)

The 1st and Last numbers are Network IP address and the Broadcast IP address. So any thing in between these 2 can be subnets.

Binary :-

Network IP:- 00010011 00000000 00000000 00000000

Broadcast IP:- 00010011 11111111 11111111 11111111

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~~So, we can see the~~

Decimal :-

Network IP :- 19.0.0.0

Broadcast IP :- 19.255.255.255

So, The subnet's will be in between Network and Broadcast IP.

~~Ans. To Q. No.- 5(c)~~

— x —

Scanned with CamScanner

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Ans. To Q.No:- 1 (c)

Binary :-

Network :-	00010011 00000000	0	0000000 00000000
113th Subnet :-	00010011 00000101	1	0000000 00000000
1st Host of 113th :-	00010011 00000101	1	0000000 00000001
113th Broadcast :-	00010011 00000101	1	1111111 11111111
Last Host of 113th :-	00010011 00000101	1	1111111 11111110

Decimal :-

Network :- 19.0.0.0

113th Subnet :- 19.5.128.0

1st Host :- 19.5.128.1

Last Host :- 19.5.255.254

113th Broadcast :- 19.5.255.255

—X—

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Ans. To Q. No:- 2 (a)

Here, 112.140.132.173 is from class A. So the host is of 2^{24}. From the question we can see that $(22-8) = 14$ bits are used for the subnet, so, $2^{14} - 2 = 16384 - 2 = 16382$ subnets are possible with in the network.

—X—

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Ans. To. Q.No:- 2(b)

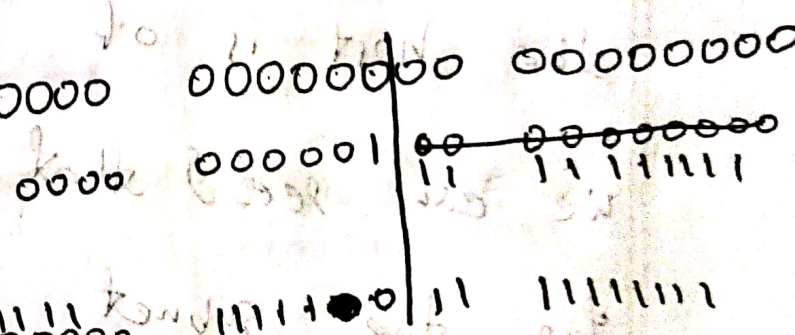
IP= 112.140.132.173/22

Binary :-

Network :- 01110000 00000000

1st Subnet Broadcast :- 01110000 00000000

Last Subnet Broadcast :- 01110000 11111111



Decimal :-

Network :- 112.0.0.0

1st Subnet Broadcast :- 112.0.7.255

Last Subnet Broadcast :- 112.255.251.255

—X—

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Ans. To Q.No:- 2 (c)

IP - 112.140.132.173/22

Binary :-

Network :- 01110000 00000000 000000|00 00000000

9th Subnet :- 01110000 00000000 001001|00 00000000

9th Subnet Broadcast :- 01110000 00000000 001001|11 11111111

9th Subnet Last Host :- 01110000 00000000 001001|11 11111110

Decimal :-

Network :- 112.140.0.0

9th Subnet :- 112.0.36.0

9th Subnet Broadcast :- 112.0.39.255

9th Subnet Last Host :- 112.0.39.254

—x—

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Ans. To Q. No 8

Using NAT a privat IP can get access to outside networks.

In the question host : 172.16.10.5 and 172.16.10.7 are requesting to a web server 156.147.26.34. So at 1st the requests will go through NAT, where NAT will incorporate the Real IP of the ISP to the request Packes source IP and Replace the ISP's real IP with the hosts Private IP. The NAT will also assent an Index number to each of these hosts header. The Index will co-respond the the Privat IP in

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a table which NAT has. The Indexes will be stored in the TPDU Headers port address, Since there are 6 bits empty there.

Now, After the incorporation of the real IP the packet gets all the real IP privileges, and as be easily be routed to the web server.

When the webserver will send a reply packet to the NAT, The NAT will the check the destination IP which is the real IP of the ISP and the Index value. The it will compare it with the Index of the NAT table and send the packet to its coresponding hosts.

—x—

Ans To Q No: 4

T to do N; TB + BN = 10 + 8 = 18 ms

TD + DN = 19 + 9 = 28 ms

TG + GN = 16 + 15 = 31 ms

TH + HN = 18 + 11 = 29 ms

So, From the above calculation T will choose to send the packet to B, Since B it will the shortest time.

—x—

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Ans To Q.No. 5

112.130.100.259/20 is of class A and the 12 bits are used for the subnet.

So, $2^{12} - 2 = 4094$ subnets. and $2^{12} - 2 = 4094$ hosts are under each subnet.

Binary :-

Network :-	01110000	00000000	0000 0000 00000000
1st Subnet :-	01110000	00000000	0001 0000 00000000
Last " :-	01110000	11111111	1110 0000 00000000

Decimal :-

Network :- 112. 0. 0. 0

1st subnet :- 112. 0. 16. 0

Last " :- 112. 225. 224. 0

—y—