Branch : CSE & IT Batch : Hinglish

Computer Network

IPv4 Addressing

DPP 03

[NAT]

1. After subnetting how many steps are needed to communicate with process?_____

[MCQ]

2. Consider the following statements:

S_1: Subnetting was devised to divide a large block (Network) into smaller ones.

S_2: Subnetting was devised to combine several class C blocks into a large block.

Which of the following is/are correct?

(a) S_1 only (b) S_2 only

(c) Both S_1 and S_2 (d) None of these

[MCQ]

3. Consider the following statements:

S_1: In Subnetting subnet bits are borrowed from host ID part.

S_2: In Subnetting subnet bits are borrowed either from HID part or from NID part.

S_3: Subnetting provides security to one network from another network.

Which of the following is/are correct?

(a) S_1 and S_2 (b) S_1 and S_3

(c) S_2 and S_3 (d) All are correct

[MSQ]

4. Which of the following is/are correct statement?

(a) First subnet ID and entire network ID is always same.

(b) Last subnet ID and entire network ID is always same.

(c) DBA of the first subnet and DBA of entire network is always same.

(d) DBA of the last subnet and DBA of entire network is always same.

[MSQ]

5. Consider a subnet mask 255. 255.255.192, the number of subnets is/are possible:

(a) 2^{18} (b) $2^{18}-2$

(c) 2^2 (d) 2^7-2

Answer Key

1. **(4)**
2. **(a)**
3. **(b)**
4. **(a, d)**
5. **(a, c)**

Hints & Solutions

1. (4)

Subnetting complicates the communication process. Instead of the 3step procedure now it becomes 4 step procedure.

(1) Identify the network.
(2) Identify the subnet with in the network.
(3) Identify the host with in the subnet.
(4) Identify the process with in the host.

2. (a)

The process of divide a big network into many smaller subnets is called as subnetting.
Hence, option (a) corrects.

3. (b)

- In subnetting subnet bits are borrowed from HID part only.
- Subnetting provides security to one network from another network.

Hence, option (b) is correct.

4. (a, d)

- First subnet ID and entire network ID is same.
- DBA of the last subnet and DBA of entire network is same.

Hence, (a, d) are correct.

5. (a, c)

Subnet mask = 225.225.255.192
Subnet mask = 11111111. 11111111. 11111111. 11000000
Number of 1's = 26

- If given subnet mask is of class A then,
- Number of subnet bits = 26 – 8 = 18
- Number of subnets = 2^{18}
- If given subnet mask is of class B then,
- Number of subnet bits = 26 – 16 = 10 bits
- Number of subnets = 2^{10}
- If given subnet mask is of class C then,
- Number of bits = 26 – 24 = 2
- Number of subnet = $2^2 = 4$

Number of subnets = 2^2, 2^{10} and 2^{18} are possible.
Hence, option (a, c) are correct.