CS & IT ENGINEERING

Computer Networks

IPv4 Addressing

DPP 08 (Discussion Notes)

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01 Question

02 Discussion

Q.1

Which of the following is an advantage of classless addressing?

[MCQ]

A. Provide the more IP addresses.

B. Provide the less IP addresses.

C. Reduce the wastage of IP addresses

D. Both (a) and (c)

Q.2

Suppose classless addressing notation of network is 160.79.171.76/20. Then, how many IP addresses is/are possible in the network? 4096 **[NAT]**

160.79.171.76/20

NID = 20 bit

HID = 32-20 = 12 bit

No. of IP Address possible = 2^{12} = 4096

Q.3

Which of the following is correct about classless addressing mode?

[MCQ]

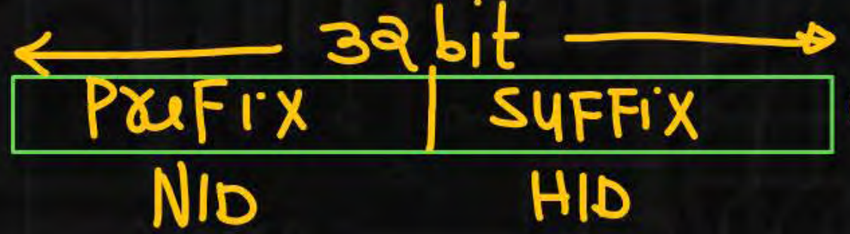
A. Network ID bits and Host bits are same.

B. Network ID bits are more than the Host ID bits.

C. Number of IP addresses are same as number of hosts.

D. None of these.

Classful Addressing



classless Addressing

Q.4

[NAT]

If valid CIDR block is

179.180.190.16

179.180.190.17

179.180.190.18

⋮

179.180.190.143

0 | 9 } ≡ 10

143-16+1 = 128 = 2^7

Block size = 2^7

HID = 7 bit

Total number of hosts in above block is/are $2^7 - 2 = 126$

9-0+1 = 10

Q.5

Suppose, one of the addresses of block is 19.19.19.72/28. What is the range of IP address? [MCQ]

A. 19.19.19.0 to 19.19.19.15

B. 19.19.19.72 to 19.19.19.87

C. 19.19.19.64 to 19.19.19.79

D. 19.19.19.64 to 19.19.19.77

19.19.19.72 | 28

NID = 28 bit, HID = 32-28 = 4 bit

19.19.19.0100 | 1000

8+8+8+4 — NID

HID

19.19.19.0100 | 0000 → 19.19.19.64

19.19.19.0100 | 0001 → 19.19.19.65

⋮

19.19.19.0100 | 1111 → 19.19.19.79

19.19.19.64 — 19.19.19.79

Q.6

Suppose, p.q.r.s/t is valid one of the block. Then which of the following is/are correct about given CIDR notation? [MSQ]

A. Host ID bits are log2(32 – t).

B. Host ID bits are (32 – t).

C. Number of hosts are $(2^{32-t} - 2)$

D. Number of hosts are (2^{32-t}).

P.q.r.s/t

NID = 't' bit

HID = '32-t' bit

No. of Host Possible = $2^{\text{'32-t'}} - 2$

Q.7 Consider an IP address of the block is 184.175.16.16/20. What is the DBA of given IP address? [MCQ]

NID = 20 bit, HID = 32 - 20 = 12 bit

184.175.0001 ----.----------
8 +8 + 4 — HID = 12 bit

A. 184.175.16.31

B. 184.175.16.255

C. 184.175.255.255

D. 184.175.31.255 ✓

184.175.0001 1111.11111111

⇓

184.175.31.255


THANK YOU GW
SOLDIERS !