Branch : CSE & IT Batch:Hinglish

WEEKLY TEST – 01

Subject : Computer Networks

Topic : Types of Communication and Classful Addressing

Maximum Marks 15

Q.1 to 5 Carry ONE Mark Each

[MCQ]

1. Consider an IP address 150.0.94.31 what will be the Network ID for given IP?

(a) 150.0.94.0

(b) 150.0.0.0

(c) 150. 0.255.25

(d) Both (a) and (b)

[MCQ]

2. Which of the following IP address can be used for SIP address as well as destination IP address?

(a) 200.200.254.255

(b) 255.255.255.255

(c) 200.208.0.100

(d) Both (a) and (b)

[MCQ]

3. Which of the following is possible number of network and hosts in each network under class B address in IPV_4 addressing format respectively?

(a) 2^{16}, 2^{16}

(b) 2^{16}, 2^{16-2}

(c) 2^{14}, $2^{16}-2$

(d) 2^{14}, 2^{16}

[MSQ]

4. Which of the following address can be used for inter process communication in a host?

(a) 0.0.0.0

(b) 127.0.100.5

(c) 127.10.15.127

(d) 127.127.127.127

[MCQ]

5. Identify the type of the IP address 192.192.192.255 (Assuming classful addressing scheme followed).

(a) Directed broadcast address

(b) Limited broadcast address

(c) Host IP address

(d) Network address

Q.6 to 10 Carry TWO Mark Each

[MCQ]

6. Consider an IP address 23. 108.157.24. How many bits are allocated for HID (Assuming classful addressing is used)?

(a) 8

(b) 16

(c) 24

(d) 32

[MCQ]

7. What percentage is occupied by class C IP addresses?

(a) 50%

(b) 25%

(c) 12.5%

(d) 6.25%

[MCQ]

8. How many networks are present in class C?

(a) 2^{30} (b) 2^{21}

(c) 2^{8} (d) 2^{29}

[MCQ]

9. Which of the following is false about networks and hosts (Assume classful addressing is used)?

(a) Class A networks 2^{7} and hosts $2^{24} – 2$

(b) Class B networks 2^{14} and hosts $2^{16} – 2$

(c) Class C networks 2^{21} and hosts 254

(d) Class A networks $2^{7}–2$ and hosts $2^{24} – 2$

[MCQ]

10. Consider an IP address 128.16.16.10 belong to which class?

(a) class A

(b) class B

(c) class C

(d) class D

Answer Key

1. **(b)**
2. **(c)**
3. **(d)**
4. **(b, c, d)**
5. **(a)**
6. **(c)**
7. **(c)**
8. **(b)**
9. **(a)**
10. **(b)**

Hints and Solutions

1. (b)

IP address = 150.0.94.31 [Class B]

Network mask = 255.255.0.0

Network ID = 150.0.94.31

And

255.255.0.0

150.0.0.0

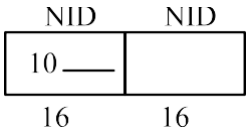
2. (c)

(a) 200.200.254.255 is a DBA of Network

(b) 255.255.255.255 is a LBA of Network

- LBA cannot be used as SIP
- DBA cannot be used as SIP
- 200.200.0.100 we can use SIP as well as DIP

3. (d)



Number of networks = $2^{16-2} = 2^{14}$

Number of IP Addresses = 2^{16}

Hence, option (d) is correct.

4. (b, c, d)

- 127.x.y.z is used for inter process communication or self-connectivity.

Hence, option (b, c, d) are correct.

5. (a)

IP address 192.192.192.255 belongs to class C

192.192.192 . 255

↓ ↓

NID HID

All 1's in HID, so it's direct broadcast address.

Hence option (a) is correct.

6. (c)

23.108.157.24 is belong to class A.

In class A

NID = 8 bits

HID = 24 bits

Hence, option (c) is correct.

7. (c)

Suppose total IP address are 2^{32}

For class A = 2^{31} = 50%

For class B = 2^{30} = 25%

For class C = 2^{29} = 12.5%

Hence, option (c) is correct.

8. (b)

In class C first 3 bits are fixed (110)

NID = 24 bits

HID = 8 bits

So total number of networks in class C = 2^{24-3}

So total number of networks in class C = 2^{21}

Hence, option (b) is correct.

9. (a)

In class A number of networks are 1 to 126 because we do not consider 0.0.0.0 and 127.x.y.z. So number of networks in class A = $2^7 - 2$ and number of hosts are $2^{24} - 2$. So option (a) is false.

10. (b)

128.16.16.10 belong to class B

Class B range = 128 to 191

Hence, option (b) is correct.