Branch: CSE & IT

Computer Network

IPv4 Addressing

DPP 02

Batch: Hinglish

[MSQ]

- 1. Which of the following is/are correct?
 - (a) In unicast communication transmitting a packet from one computer to another computer in different class is possible.
 - (b) In unicast communication transmitting a packet from one computer to another computer in same class is possible.
 - (c) Transmitting a packet from one computer to all computer is called multicast communication.
 - (d) Transmitting a packet from one computer to many computer is called broadcast communication.

[MCQ]

- **2.** Which of the following is true?
 - (a) Network ID is same for each class in IP address.
 - (b) Direct broadcast address (DBA) is same for each class
 - (c) Limited broadcast address (LBA) is same for class A, B and C.
 - (d) Limited broadcast address (LBA) for class D is 255.255.255.255.

[NAT]

3. Consider a host with IP address 192.11.0.248, how many network ID bits are allocated for given IP? _____.

[NAT]

- **4.** Consider the following statements:
 - **S₁:** ARP request is always broadcast with in the network.
 - **S₂:** ARP reply is unicasting.
 - **S₃:** MAC address is of 6 bytes.
 - **S₄:** With the help of port number process can be found within the host.

Total number of INCORRECT statements is/are

[MCQ]

- **5.** Consider a host with IP address 190.11.25.0 which of the following will be a valid network ID?
 - (a) 190.11.255.255
 - (b) 190.0.0.0
 - (c) 190.11.0.0
 - (d) None of these

[MCQ]

- **6.** Consider the IP address 224.224.92.69 which of following will be direct broadcast address for the given host IP?
 - (a) 224.224.92.255
 - (b) 224.244.255.225
 - (c) 255.255.255.255
 - (d) None of these

[MSQ]

- **7.** Consider an IP address 167.0.64.68. Which of the following option is/are correct for given IP address?
 - (a) Limited broadcast address for the given IP address is 255.255.255.255.
 - (b) Direct broadcast address for given IP address is 167.255.255.255.
 - (c) Network ID for given IP address is 167.0.0.0.
 - (d) Limited broadcast address for given IP is same as direct broadcast address.

[MCQ]

- **8.** The correct dotted decimal notation format for given hexadecimal notation (HDN) 162184AF is
 - (a) 175.132.33.22
 - (b) 22.33.132.174
 - (c) 22.33.132.175
 - (d) None of these

Answer Key

- (a, b) 1.
- 2. **(c)**
- 3. (24)
- **(0)**

- 5.
- (c) (d) (a, c) (c)
- 7. 8.



Hints & Solutions

1. (a, b)

- Transmitting a packet from one computer to another computer with in the same class or in the different class is known as unicast communication.
- Transmitting a packet from one to many (0 or more) is known as multicast communication.
- Transmitting a packet from one to all computer is known as broadcast communication.

2. (c)

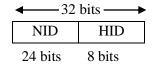
- Limited broadcast address (LBA) is same for class A, B and C i.e 255.255.255.
- There is no LBA and DBA in class D and E.

3. (24)

IP = 192.11.0.248 $= \underline{110}00000.00001011.00000000.11111000$

First three bits are 110. It's class C IP address Class C IP range = 192 – 223

Class C



Total NID bits = 24

Hence, (24) is correct.

4. (0)

- ARP request is broadcasting.
- ARP reply is unicasting.
- Size of MAC address is 48 bits or 6 bytes.
- Identification of process with in the host is port number.

5. (c)

IP address: 190.11.25.0 (Class B) Network mask: 255.255.0.0

• IP address

AND

Network mask

Network ID

• 190.11.25.0

AND

255.255.0.0

= 101111110.00001011.00011001.00000000 11111111.1111111111.00000000.000000000

10111110.00001011.00000000.00000000

NID = 190.11.0.0

Hence, option (c) is correct.

6. (d)

IP = 224.224.92.69

- Class D range 224 to 240. So, it belongs to class D IP address.
- For class D there is no NID, HID, DBA and LBA because class D IP address is used for multicasting.

7. (a, c)

IP address = 167.0.64.68

Network ID = AND
$$255.255.0.0$$
 $\overline{167.0.0.0}$

DBA = 167.0.255.255

LBA = 255.255.255.255

Hence, option (a, c) are correct.

8. (c)

HDN = 162184AF

$$= \begin{vmatrix} 1 & 6 & 2 & 1 & 8 & 4 & A & F \\ 0001 & 0110 & 0010 & 0001 & 1000 & 0100 & 1010 & 1111 \end{vmatrix}$$

= 00010110.00100001.10000100.10101111

= 22.33.132.175

Hence, option (c) is correct.





