Computer Networks Questions & Answers – Analyzing Subnet Masks

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on “Analyzing Subnet Masks”.

1. Which of the following is the broadcast address for a Class B network ID using the default subnetmask?
a) 172.16.10.255
b) 255.255.255.255
c) 172.16.255.255
d) 172.255.255.255

View Answer

Answer: c
Explanation: In this case, the class B network ID is 172.16.0.0. We know that the default mask of a class B network is 255.255.0.0. If we OR any address in a network with the complement of the default mask (0.0.255.255), we get the broadcast address of the network. In this case, the result of OR would be 172.16.255.255.

2. You have an IP address of 172.16.13.5 with a 255.255.255.128 subnet mask. What is your class of address, subnet address, and broadcast address?
a) Class A, Subnet 172.16.13.0, Broadcast address 172.16.13.127
b) Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.127
c) Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.255
d) Class B, Subnet 172.16.0.0, Broadcast address 172.16.255.255

View Answer

Answer: b
Explanation: We know that the prefix 172 lies in class B (128 to 191) of IPv4 addresses. From the subnet mask, we get that the class is divided into 2 subnets: 172.16.13.0 to 172.16.13.127 and 172.16.13.128 to 172.16.13.255. The IP 172.16.13.5 lies in the first subnet. So the starting address 172.16.13.0 is the subnet address and last address 172.16.13.127 is the broadcast address.

3. If you wanted to have 12 subnets with a Class C network ID, which subnet mask would you use?
a) 255.255.255.252
b) 255.255.255.255

c) 255.255.255.240
d) 255.255.255.248

View Answer

Answer: c
Explanation: If you have eight networks and each requires 10 hosts, you would use the Class C mask of 255.255.255.240. Why? Because 240 in binary is 11110000, which means you have four subnet bits and four host bits. Using our math, we'd get the following:
24-2=14 subnets
24-2=14 hosts.

4. The combination of _____ and _____ is often termed the local address of the local portion of the IP address.
a) Network number and host number
b) Network number and subnet number
c) Subnet number and host number
d) Host number

View Answer

Answer: c
Explanation: It is termed as the local address because the address won't be applicable outside the subnet. Sub networking is implemented for remote sensing in transparent way from that host which is contained in the sub network which called a local operation.

5. _____ implies that all subnets obtained from the same subnet mask.
a) Static subnetting
b) Dynamic subnetting
c) Variable length subnetting
d) Dynamic length subnetting

View Answer

Answer: a
Explanation: Static subnetting is used when the requirement is of same number of hosts in each subnet for the institution. The same subnet mask can be used to find the subnet id of each subnet. It is usually used to divide large networks into smaller parts.

6. State whether true or false.
i) A connection oriented protocol can only use unicast addresses.
ii) The any cast service is included in IPV6.

a) True, True
b) True, False
c) False, True
d) False, False

View Answer

Answer: a
Explanation: In a connection oriented protocol, the host can only establish connection with another host on one unique channel, that's why it can only use unicast addresses. In IPv6, there is an anycast address in IPv6 which allows sending messages to a group of devices but not all devices in a network.

7. _____ is a high performance fiber optic token ring LAN running at 100 Mbps over distances upto 1000 stations connected.
a) FDDI
b) FDDT
c) FDDR
d) FOTR

View Answer

Answer: a
Explanation: FDDI stands for Fiber Distributed Data Interface. It is a set of standards for fiber optic token ring LANs running at 100 Mbps over distances up to 200 km in diameter and 1000 stations connected.

8. Which of the following are Gigabit Ethernets?
a) 1000 BASE-SX
b) 1000 BASE-LX
c) 1000 BASE-CX
d) All of the mentioned

View Answer

Answer: d
Explanation: In computer networking, Gigabit Ethernet (GbE or 1 GigE) is a term describing various technologies for transmitting Ethernet frames at a rate of a gigabit per second (1,000,000,000 bits per second), as defined by the IEEE 802.3-2008 standard. It came into use beginning in 1999, gradually supplanting Fast Ethernet in wired local networks, as a result of being considerably faster.

9. _____ is a collective term for a number of Ethernet Standards that carry traffic at the nominal rate of 1000 Mbit/s against the original Ethernet speed of 10 Mbit/s.
a) Ethernet
b) Fast Ethernet

c) Gigabit Ethernet
d) Gigabyte Ethernet

View Answer

Answer: b
Explanation: Fast Ethernet is a set of Ethernet Standards which were introduced in 1995, that carry traffic at the nominal rate of 1000 Mbit/s. 100BASE-TX is the most commonly used Fast Ethernet standard.

10. _____ is another kind of fiber optic network with an active star for switching.
a) S/NET
b) SW/NET
c) NET/SW
d) FS/NET

View Answer

Answer: a
Explanation: A 50-MBd active star fiber optical Local area network (LAN) and its optical combiner and mixing rod splitter are presented. The limited power budget and relatively large tapping losses of light wave technology, which limit the use of fiber optics in tapped bus LAN topologies, are examined and proven tolerable in optical star topologies.

Sanfoundry Global Education & Learning Series – Computer Networks.

To practice all areas of Computer Networks, here is complete set of 1000+ Multiple Choice Questions and Answers.

« Prev - Computer Networks Questions & Answers – IPV4 and IPV6 Comparision

» Next - Computer Networks Questions & Answers – Designing Subnet Masks

Related Posts:

- Apply for Computer Network Internship
- Practice Computer Science MCQs
- Check Computer Network Books
- Check Computer Science Books
- Apply for Computer Science Internship

Computer Network MCQ