

1. List and Describe the layers of the OSI reference model?
2. What is the main difference between OSI reference model and the TCP/IP architecture?
3. What is the network address of the subnet which contains a host with the IP address 192.89.9.6 with the subnet mask 255.255.255.0 ?
4. An address in a block is given as 180.9.18.10. Find the number of addresses in the block, the first address, and the last address?
5. An organization is granted the block 131.40.5.64/26. Find the number of addresses for the whole network?
6. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?
7. If an Ethernet port on a router were assigned an IP address of 170.20.99.4/25, what would be the valid subnet
8. address of this host?
9. What is the broadcast address of a host with an IP address
10. of 170.20.60.0/21?
11. If you need 20 hosts in a subnet with a Class C network ID, which subnet mask would you prefer?
12. Consider three machines A, B and C with IP addresses 10.10.5.2, 100.10.5.5 and 10.10.5.6 respectively. The subnet mask is set to 255.255.255.252 for all the three machines. Deduce the conclusion of this setup?
13. Given a star, bus and ring topologies with 5 connecting endpoint devices each. For each topology, compute the number of ports per device and total number of ports in the given network?
14. Name and Describe the three classification of networks?
15. What is the role of IP Addressing, Port Addressing and MAC addressing in computer networks?
16. List the layers of OSI reference model and give the services offered by each layer?
17. Computer A and B belong to a different LAN. Computer A want to communicate with communicate B through the intermediate router. Which layers of the OSI reference model will be affected as the data in transmitted from Computer A to Computer B and explain why?
18. What are the Two layered architectures in computer networks and explain the difference?
19. Define Protocols in computers networks?
20. Define layering and give the two advantages of layering in computer networks?
21. Classify the switching techniques in computer networks?
22. Name and Describe the different types of topologies in computer networks?
23. Network communications uses protocols. What are the elements used in network communications?
24. What is the significance of router, repeater, hub and bridge in the network? Compare the devices in terms of their applications?