**Linux Quiz-3**

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**1. What is the Network ID, Broadcast Address, and first & last valid IP on the subnetwork that the host 192.168.1.15/26 belongs to?**

**Network ID : 192.168.1.0**

**broadcast Address: 192.168.1.63**

**First valid IP: 192.168.1.1**

**last valid IP: 192.168.1.62**

**2. What is the broadcast address of network 10.14.64.0/20?**

**Broadcast address: 10.14.79.255**

**3. Which of the following is a valid IP host address given the network ID of 191.254.0.0 while using 11 bits for subnetting?**

**a. 191.254.0.32**

**b. 191.254.0.96**

**c. 191.254.1.29**

**d. 191.54.1.64**

**A is the answer**

**4. List the valid host range for subnet 192.168.15.48/28.**

**5. What is DNS and explain it's usefulness.**

**Domain Name Servers (DNS) This is necessary because, although domain names are easy for people to remember, computers or machines, access websites based on IP addresses.**

**6. Explain the purpose of NS records and CNAME records in DNS?**

**7. Describe the purpose of load balancing and list out the load balancing algorithms.**

**It distributes work load to the network traffic with a group of backend servers. To increase the efficiency of the volume, we need to increase the servers to balance the load. It distributes the client request to the multiple servers. It ensures high availability and reliability. Provides flexibility to add or substract the servers. The load balancing algorithms are:**

**Robin-round: Distributed client request across the group of servers.**

**Least connection: New request is sent to the server with fewest connection.**

**IP hash: The IP address is used to determine which server receives the request.**

**8. List out the benefits of Proxy Server.**

**It helps in troubleshooting**

**It can also be a component of the firewall**

**It can also cache web pages and improves the performance**

**9. What is NAT and explain it's purpose.**

**Refer material.**

**Network address translation (NAT) is a methodology of remapping one IP address space into another by modifying network address information in Internet Protocol (IP) datagram packet headers while they are in transit across a traffic routing device.**

**10. Explain terms a) TLD b) FQDN c) sub domain in DNS**

**Refer Material**

**TLD:-) It is called Top-level domain. It is the general part and is the further most position to the right**

**FQDN:-FQDN is the fully qualified domain name and is also called as absolute domain name.**

**c) sub domain :-A sub domain refers to any domain that is part of a larger domain. Each domain can control sub domain.**