**Linux Quiz-3**

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: 192.168.1.0/26

broadcast id: 192.168.1.63

subnetwortk: 255.255.255.192

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

broadcast id: 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

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

192.168.15.49

192.168.15.62

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

Domain Name System is used to resolve human-readable hostnames into machine-readable IP addresses. it allows a user connecting to the Internet with a dynamic IP address access to applications that usually require a static IP address.

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

NS specifies which are the DNS servers for your domain

CNAME purpose is to redirects from your domain's subdomains to other domains / subdomains;

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

Load balancing refers to efficiently distributing incoming network traffic across a group of back-end servers.

8. List out the benefits of Proxy Server.

Secure and Private Browsing

Caching

anonymous

improves performance

web development

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

NAT is Network Address Translation. Computers and servers need to be identified to each other by a unique address, that is IP addresswith 32 bits. 32 bits address would accommodate for over 4 billion unique addresses. Processing 4 billion address is difficult. here NAT is used. NAT resulted in two types of IP addresses, public and private. A range of private addresses were introduced, which anyone could use, as long as these were kept private within the network and not routed on the internet.

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