

Network Essentials – Chapter 1B Review

Name _____

1. The five types of network infrastructures are :

Most common : _____

2. A company or an organisation can choose to set up an **intranet**; in this network, only authorized users can have access. If business related personnel are to be given access, then an **extranet** can be set up.

3. In any country, access to the internet is controlled by **Internet Service Providers** (ISP).

4. Methods of connecting to an ISP **from homes** include DSL, Cable, Cellular, Satellite, and Dial-up telephone.

5. DSL stands for Digital Subscriber Line. It uses copper wire cables for sending signals.

6. Methods of connecting to an ISP **from offices** include Dedicated Leased Lines, Metro Ethernet, DSL and satellite.

7. Networks used by us include **Computer Networks, Telephone Networks, and Broadcast Networks**. If used separately, they are known **as multiple networks**; advantage is easier management by administrators; disadvantage is more costly.

7b. These multiple networks have many common devices; if these devices can be integrated into one device or gateway, then we can have a **converged network**. Such a network is more complicated to manage, but less costly.

8. Four **basic characteristics** are used to address **user expectations** of networks:

- Fault tolerance – how a system can continue to work properly despite failure of some of its components
- Scalability – ability for network to be expanded as needed
- Quality of Service (QoS) – overall performance of the network as seen by users
- Security – the ability of the network to protect against hacking and security threats

9. In a telephone network, **circuit switching** is used. The circuit stays active even when no one is using it. Once one circuit is used for a call, it is dedicated throughout the call. During peak periods, some calls may be denied.

10. In a data network, packet switching is used. No dedicated path is used; packets are routed according to the best path available at the time. Communication may be delayed but never denied.

A **packet** is a collection of data, fixed in size. Data sent are broken in many packets.

11. Tier-1 ISP --- provides national and international connections.

Tier-2 ISP --- provides regional connections

Tier -3 ISP --- local providers that offer service to end users

12. QoS ensures priority decisions of service; time-sensitive communication and important data are given high priority.

13. Network **Trends** include BYOD, Online collaboration, Video Communication, Cloud Computing, Data Centers, Smart Home Technology, Power Line Networking, Wireless Broadband.

14. **Security threats** to computer networks include viruses, **worms**, Trojan horses, spyware, adware, zero-day attacks, zero-hour attacks, hacker attacks, Denial of Service (DoS), data interception and theft, identity theft.

15. Network **Security Solutions** include anti-virus software, anti-spyware software, firewall filtering, dedicated firewall systems, Access control lists, Intrusion Prevention Systems (IPS), Virtual Private Networks (VPN)