Network Essentials Review 3

Name _____

1. Before a message is sent from one device to another, it must be formatted and encapsulated.

2. Encapsulation means binding data and functions together and keeping data safe from interference and misuse.

3. A message has a minimum and maximum size. It is broken into segments. Each segment is encapsulated in a frame with the address information.

4. The frames are sent to the receiving host. When received, each frame is de-encapsulated. Once all the frames are received, they are put back into one message.

5. An access method determines when it is ready for a computer to send a message, to avoid collision of information. When collision occurs, data can get corrupted or lost.

6. Hosts use flow control to negotiate correct timing for successful communication, determine the amount of data to send, and determine speed of sending.

7. There is a time limit set for sending of messages over a network, such as 60 second. If it exceeds this limit, an error message will be displayed. This is known as Response Timeout.

8.Three ways of sending messages are:
- Unicast (one-to-one) refers to communication between one sender and one receiver over a network.
- Multicast (one-to-many) refers to one sender sending to many interested receivers (like subscribers).
- Broadcast (one-to-all) refers to a single sender sending to ALL devices in a network.

9. A private message from one sender to one receiver should be send using Unicast. A message to be sent to only interested parties should use Multicast. A message to be sent to ALL devices in a network should be broadcasted.

10. A protocol specifies the rules for communication.

11. Four protocol suites used in the industry for network communications are :
    TCP/IP, ISO, Apple Talk, Novell Netware

12. The OSI Model has 7 layers while the TCP/IP Model has 4 layers.

13. Data sent from one device passes through layer7 to 1, then back from 1 to 7 before reaching the receiving device.

14. Segmenting a message allows different conversations to be interleaved, increasing reliability of network communications. But the level of complexity is increased.

15. PDU stands for Protocol Data Unit. It is a group of information added or removed by a layer of the OSI model.

16. In Layer 1, PDU is a bit, in Layer 2 it is a frame, in Layer 3 it is a packet and in Layer 4 it is a segment. In Layer 5 and above, PDU is referred to as data.

PDU has four fields: the destination service access point, source service access point, control field and information field. In packet-switched data networks, PDU is related to a service data unit.

17. There are two types of encapsulation – data encapsulation and protocol encapsulation.

18. During data encapsulation, the frame header, network header and transport header are added to the data.

19. During protocol encapsulation, the TCP header, IP header and Ethernet header are added to the data.

20. Data go through protocol encapsulation at the Web Server, get sent to Client Server, and then go through data encapsulation.

21. A media access control address (MAC address) is the physical address of a computer. It is a unique identifier assigned to devices in a network segment. Using this address, data can reach the intended Destination.

22. Examples of IP addresses are 192.168.2.2, _____.

23. The Ethernet header contains the MAC address of the sending device and receiving device.

24. The IP packet header contains the IP addresses of the sending device and receiving device.

25. In a TCP/IP network, nodes such as servers, workstations and network devices each have a defined default route setting. This setting points to the default gateway where packets are sent to. The gateway is a router. All traffic to the network must pass through this default gateway. Information for routing are stored in the PDU