Faculty of
Computer Science

CSC230
Computer Networks

Ch1_ Network Fundamentals

Assignment #1

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1. Which of the following characteristics is essential for data communication systems to support real-time audio and video applications effectively?
   A. Delivery and accuracy only.
   B. Jitter and timeliness.
   C. Delivery, timeliness, and jitter.
   D. Timeliness and accuracy only.
2. In a data communication system, which component is responsible for defining the rules and procedures required for communication between sender and receiver?
   A. Message
   B. Protocol
   C. Transmission Medium
   D. Receiver
3. Which of the following applications would most likely utilize full-duplex communication?
   A. Remote control and TV receiver.
   B. Walkie-talkies.
   C. Telephone networks and computer networks.
   D. Broadcast radio.
4. Which of the following best describes the role of clients and servers in a network?
   A. Clients provide information requested by the server, while servers request and display the information from clients.
   B. Servers manage the entire network, while clients handle internal communications within the server.
   C. Clients request and display information obtained from servers, while servers provide information or services to clients using specialized software.
   D. Both clients and servers perform identical roles in a peer-to-peer network.
5. What is the primary limitation of a peer-to-peer network compared to a client-server network?
   A. Higher complexity and cost.
   B. Inability to perform file sharing or printer sharing.
      Lack of centralized administration and scalability.
   C. It is only suitable for large-scale corporate environments.

6. Which of the following statements correctly distinguishes physical and logical topology diagrams?
   A. Physical topology diagrams illustrate the addressing scheme of the network, while logical topology diagrams show the physical location of devices and cables.
   B. Logical topology diagrams focus on the physical installation of devices, while physical topology diagrams focus on the ports and addressing.
   C. Physical topology diagrams show the physical location of devices and cable installation, whereas logical topology diagrams illustrate devices, ports, and the addressing scheme of the network.
   D. Both physical and logical topology diagrams focus solely on device locations and ignore cable installation.

7. Which term refers to a network that provides secure access to the corporate offices by suppliers, customers and collaborators?
   A. Internet
   B. intranet
   C. extranet
   D. extendednet.
8. A large corporation has modified its network to allow users to access network resources from their personal laptops and smart phones. Which networking trend does this describe?
   A. cloud computing
   B. online collaboration
   C. bring your own device
   D. video conferencing
9. What is an ISP?

   A. It is a standards body that develops cabling and wiring standards for networking.

   B. It is a protocol that establishes how computers within a local network communicate.

   C. It is an organization that enables individuals and businesses to connect to the Internet.

   D. It is a networking device that combines the functionality of several different networking devices in one.

10. An employee at a branch office is creating a quote for a customer. In order to do this, the employee needs to access confidential pricing information from internal servers at the Head Office. What type of network would the employee access?

    A. an intranet

    B. the Internet

    C. an extranet

    D. a local area network

11. A networking technician is working on the wireless network at a medical clinic. The technician accidentally sets up the wireless network so that patients can see the medical records data of other patients. Which of the four network characteristics has been violated in this situation?

    A. fault tolerance

    B. scalability

    C. security

    D. Quality of Service (QoS)

    E. Reliability

12. What two criteria are used to help select a network medium from various network media? (Choose two.)

    A. the types of data that need to be prioritized

    B. the cost of the end devices utilized in the network

    C. the distance the selected medium can successfully carry a signal

    D. the number of intermediate devices installed in the network

    E. the environment where the selected medium is to be installed

13. What type of network traffic requires QoS?

    A. email

    B. on-line purchasing

    C. video conferencing

    D. wiki

14. What term describes a network owned by one organization that provides safe and secure access to individuals who work for a different organization?

    A. extranet

    B. cloud

    C. BYOD

    D. quality of service

15. What term describes a network where one computer can be both client and server?

    A. peer-to-peer

    B. cloud

    C. BYOD

    D. quality of service

16. What term describes a type of network used by people who work from home or from a small remote office?

    A. SOHO network

    B. BYOD

    C. quality of service

    D. converged network

17. What term describes a computing model where server software runs on dedicated computers?

    A. client/server

    B. internet

    C. intranet

    D. extranet

18. What term describes a policy that allows network devices to manage the flow of data to give priority to voice and video?

    A. quality of service

    B. internet

    C. intranet

    D. extranet

19. What term describes a private collection of LANs and WANs that belongs to an organization?

    A. intranet

    B. internet

    C. extranet

    D. peer-to-peer

20. What term describes the ability to use personal devices across a business or campus network?

    A. BYOD

    B. internet

    C. intranet

    D. extranet

21. When data is encoded as pulses of light, which media is being used to transmit the data?

    A. Wireless

    B. Fiber optic cable

    C. Copper cable.

    D. Coaxial Cable.

22. Which two devices are intermediary devices? (Choose two)

    A. Host

    B. Router

    C. Switch

    D. Servers

23. A college is building a new dormitory on its campus. Workers are digging in the ground to install a new water pipe for the dormitory. A worker accidentally damages a fiber optic cable that connects two of the existing dormitories to the campus data center. Although the cable has been cut, students in the dormitories only experience a very short interruption of network services. What characteristic of the network is shown here?

    A. quality of service (QoS)

    B. scalability

    C. security

    D. fault tolerance

    E. integrity

24. Which device performs the function of determining the path that messages should take through internetworks?

    A. a router

    B. a firewall

    C. a web server

    D. a DSL modem

25. What two criteria are used to help select a network medium from various network media? (Choose two.)

    A. the types of data that need to be prioritized

    B. the cost of the end devices utilized in the network

    C. the distance the selected medium can successfully carry a signal

    D. the number of intermediary devices installed in the network

    E. the environment where the selected medium is to be installed

26. Which two statements describe intermediary devices? (Choose two.)

    A. Intermediary devices generate data content.

    B. Intermediary devices alter data content.

    C. Intermediary devices direct the path of the data.

    D. Intermediary devices connect individual hosts to the network.

    E. Intermediary devices initiate the encapsulation process.

27. What are two functions of end devices on a network? (Choose two.)

    A. They originate the data that flows through the network.

    B. They direct data over alternate paths in the event of link failures.

    C. They filter the flow of data to enhance security.

    D. They are the interface between humans and the communication network.

    E. They provide the channel over which the network message travels.

28. Which area of the network would a college IT staff most likely have to redesign as a direct result of many students bringing their own tablets and smartphones to school to access school resources?

    A. extranet

    B. intranet

    C. wired LAN

    D. wireless LAN

    E. wireless WAN

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    C. an extranet

    D. a local area network

30. Which two connection options provide an always-on, high-bandwidth Internet connection to computers in a home office? (Choose two.)

   A. cellular

   B. DSL

   C. satellite

   D. cable

   E. dial-up telephone

31. Which two Internet connection options do not require that physical cables be run to the building? (Choose two.)

   A. DSL

   B. cellular

   C. satellite

   D. dialup

   E. dedicated leased line

32. Which expression accurately defines the term bandwidth?

   A. a method of limiting the impact of a hardware or software failure on the network

   B. a measure of the data carrying capacity of the media

   C. a state where the demand on the network resources exceeds the available capacity

   D. a set of techniques to manage the utilization of network resources

33. Fill in the blank.
   A ------------- network is capable of delivering voice, video, text, and graphics over the same communication channels.

34. What type of network must a home user access in order to do online shopping?

   A. an intranet

   B. the Internet

   C. an extranet

   D. a local area network

35. What type of network traffic requires QoS?

    A. email

    B. on-line purchasing

    C. video conferencing

    D. wiki

36. Which description correctly defines a converged network?

    A. a single network channel capable of delivering multiple communication forms

    B. a network that allows users to interact directly with each other over multiple channels

    C. a dedicated network with separate channels for video and voice services

    D. a network that is limited to exchanging character-based information

37. A college is building a new dormitory on its campus. Workers are digging in the ground to install a new water pipe for the dormitory. A worker accidentally damages a fiber optic cable that connects two of the existing dormitories to the campus data center. Although the cable has been cut, students in the dormitories only experience a very short interruption of network services. What characteristic of the network is shown here?

    A. quality of service (QoS)

    B. scalability

    C. security

    D. fault tolerance

    E. integrity

38. Which type of cloud computing is built specifically to meet the needs of a specific industry, such as healthcare or media?

    A. Public Clouds

    B. Hybrid Clouds

    C. Private Clouds

    D. Community Clouds

    E. Virtual Clouds

39. Where is a Campus Area Network (CAN) typically used?

    A. Large telecommunication networks.

    B. Residential neighborhoods.

    C. University campuses or military bases.

    D. Home office setups.

40. Which statement about LANs and WANs is correct?

    A. WANs are faster than LANs in data transmission speed.

    B. LANs interconnect devices within a single organization, while WANs span multiple organizations.

    C. WANs are more secure than LANs due to limited access.

    D. LANs require telecommunications service providers, while WANs do not.

Match Questions:

1. **Match the requirements of a reliable network with the supporting network architecture. (Not all options are used.)**

	1. **Provide redundant links and devices.**
A. **security**	2. **Match the type of communication with a specific priority.**
B. **fault tolerance**	3. **Protect the network from unauthorized access.**
C. **scalability**	4. **Ensure that streaming data is provided over high speed links.**
	5. **Expand the network without degrading the service for existing users.**

2. **Match each characteristic to its corresponding Internet connectivity type. (Not all options are used.)**

A. uses coaxial cable as a medium	**1. dialup telephone**
B. not suited for heavily wooded areas	**2. DSL**
C. typically has very low bandwidth	**3. Cable**
D. high bandwidth connection that runs over telephone line	**4. satellite**