Chapter 1 Computer Networks and the Internet

1. The ( ) is a worldwide computer network, that is, a network that interconnects millions of computing devices throughout the world. ppt3

A public Internet
B Intranet
C switch net
D television net

2. Which kind of media is not a guided media? ( )

A twisted-pair copper wire
B a coaxial cable
C fiber optics
D digital satellite channel

3. Which kind of media is a guided media? ( )

A geostationary satellite
B low-altitude satellite
C fiber optics
D wireless LAN

4. The units of data exchanged by a link-layer protocol are called ( ).

A Frames
B Segments
C Datagrams
D bit streams

5. Which of the following option belongs to the circuit-switched networks? ( )

A FDM
B TDM
C VC networks
D both A and B

6. ( )makes sure that neither side of a connection overwhelms the other side by sending too many packets too fast.

A Reliable data transfer
B Flow control
C Congestion control
D Handshaking procedure

7. ( ) means that the switch must receive the entire packet before it can begin to transmit the first bit of the packet onto the outbound link.

A Store-and-forward transmission
B FDM
C End-to-end connection
D TDM

8. Datagram networks and virtual-circuit networks differ in that ( ).

A datagram networks are circuit-switched networks, and virtual-circuit networks are packet-switched networks.
B datagram networks are packet-switched networks, and virtual-circuit networks are circuit-switched networks.
C datagram networks use destination addresses and virtual-circuit networks use VC. numbers to forward packets toward their destination.
D datagram networks use VC. numbers and virtual-circuit networks use destination addresses to forward packets toward their destination.

9. In the following options, which one is not a guided media? ( )

A twisted-pair wire
B fiber optics
C coaxial cable
D satellite

10. Processing delay does not include the time to ( ).

A examine the packet's header
B wait to transmit the packet onto the link
C determine where to direct the packet
D check bit-error in the packet

11. In the following four descriptions, which one is correct? ( )

A The traffic intensity must be greater than 1.
B The fraction of lost packets increases as the traffic intensity decreases.
C If the traffic intensity is close to zero, the average queuing delay will be close to zero.
D If the traffic intensity is close to one, the average queuing delay will be close to one.

12. The Internet's network layer is responsible for moving network-layer packets known as ( ) from one host to another.

A frame
B datagram
C segment
D message

13. The protocols of various layers are called ( ).

A the protocol stack
B TCP/IP
C ISP
D network protocol

14. There are two classes of packet-switched networks: ( ) networks and virtual-circuit networks.

A datagram
B circuit-switched
C television
D telephone

15. Access networks can be loosely classified into three categories: residential access, company access and ( ) access.

A cabled
B wireless
C campus
D city area

Question 16～17

Suppose, a is the average rate at which packets arrive at the queue, R is the transmission rate, and all packets consist of L bits, then the traffic intensity is (16), and it should no greater than (17).

16. A LR / a
B La / R
C Ra / L
D LR / a

17. A 2
B 1
C 0
D -1

18. In the Internet, the equivalent concept to end systems is ( ).
A hosts
B servers
C clients
D routers

19. In the Internet, end systems are connected together by ( ).
A copper wire
B coaxial cable
C communication links
D fiber optics

20. End systems access to the Internet through its ( ).
A modems
B protocols
C ISP
D sockets

21. End systems, packet switches, and other pieces of the Internet, run ( ) that control the sending and receiving of information within the Internet.
A programs
B processes
C applications
D protocols

22. There are many private networks, such as many corporate and government networks, whose hosts cannot exchange messages with hosts outside of the private network. These private networks are often referred to as ( ).
A internets
B LAN
C intranets
D WAN

23. The internet allows ( ) running on its end systems to exchange data with each other.
A clients applications
B server applications
C P2P applications
D distributed applications

24. The Internet provides two services to its distributed applications: a connectionless unreliable service and () service.
A flow control
B connection-oriented reliable
C congestion control
D TCP

25. It defines the format and the order of messages exchanged between two or more communicating entities, as well as the actions taken on the transmission and/or receipt of a message or other event. The sentence describes ( ).
A Internet
B protocol
C intranet
D network

26. In the following options, which does not define in protocol? ( )
A the format of messages exchanged between two or more communicating entities
B the order of messages exchanged between two or more communicating entities
C the actions taken on the transmission of a message or other event
D the transmission signals are digital signals or analog signals 模拟信号

27. In the following options, which is defined in protocol? ( )
A the actions taken on the transmission and/or receipt of a message or other event
B the objects exchanged between communicating entities
C the content in the exchanged messages
D the location of the hosts

28. In the following options, which does not belong to the network edge? ( )
A end systems
B routers
C clients
D servers

29. In the following options, which belongs to the network core? ( )
A end systems
B routers
C clients
D servers

30. In the following options, which is not the bundled with the Internet's connection-oriented service? ( )
A reliable data transfer
B guarantee of the transmission time
C flow control
D congestion-control

31. An application can rely on the connection to deliver all of its data without error and in the proper order. The sentence describes ( ).

A flow control
B congestion-control
C reliable data transfer
D connection-oriented service

32. It makes sure that neither side of a connection overwhelms 淹没 压倒 the other side by sending too many packets too fast. The sentence describes ( ).
A flow control
B congestion-control
C connection-oriented service
D reliable data transfer

33. It helps prevent the Internet from entering a state of gridlock. When a packet switch becomes congested, its buffers can overflow and packet loss can occur. The sentence describes ( ).
A flow control
B congestion-control
C connection-oriented service
D reliable data transfer

34. The Internet's connection-oriented service has a name, it is ( ).
A TCP
B UDP
C TCP/IP
D IP

35. In the following options, which service does not be provided to an application by TCP?( )
A reliable transport
B flow control
C video conferencing
D congestion control

36. The Internet's connectionless service is called ( ).
A TCP
B UDP
C TCP/IP
D IP

37. In the following options, which does not use TCP?( )
A SMTP
B internet telephone
C FTP
D HTTP

38. In the following options, which does not use UDP?( )
A Internet phone
B video conferencing
C streaming multimedia
D telnet

39. There are two fundamental approaches to building a network core, ( ) and packet switching.
A electrical current switching
B circuit switching
C data switching
D message switching

40. In ( ) networks, the resources needed along a path to provide for communication between the end system are reserved for the duration 持续 of the communication session.
A packet-switched
B data-switched
C circuit-switched
D message-switched

41. In ( ) networks, the resources are not reserved; a session's messages use the resources on demand, and as a consequence, may have to wait for access to communication link.
A packet-switched
B data-switched
C circuit-switched
D message-switched

42. In a circuit-switched network, if each link has *n* circuits, for each link used by the end-to-end connection, the connection gets ( ) of the link's bandwidth for the duration of the connection.
A a fraction 1/*n*
B all
C 1/2
D n times

43. For ( ), the transmission rate of a circuit is equal to the frame rate multiplied by the number of bits in a slot.
A CDMA
B packet-switched network
C TDM
D FDM

44. ( ) means that the switch must receive the entire packet before it can begin to transmit the first bit of the packet onto the outbound link.
A Queuing delay
B Store-and-forward transmission
C Packet loss
D Propagation

45. The network that forwards packets according to host destination addresses is called ( ) network.
A circuit-switched
B packet-switched
C virtual-circuit
D datagram

46. The network that forwards packets according to virtual-circuit numbers is called ( ) network.
A circuit-switched
B packet-switched
C virtual-circuit
D datagram

47. In the following entries, which is not a kind of access network?( )

A residential access

B company access

C wireless access

D local access

48. Suppose there is exactly one packet switch between a sending host and a receiving host. The transmission rates between the sending host and the switch and between the switch and the receiving host are R_1 and R_2, respectively. Assuming that the switch uses store-and-forward packet switching, what is the total end-to-end delay to send a packet of length L? (Ignore queuing delay, propagation delay, and processing delay.) ( )

A $L/R_1+L/R_2$

B L/R_1

C L/R_2

D none of the above

49. The time required to examine the packet's header and determine where to direct the packet is part of the ( ).

A queuing delay

B processing delay

C propagation delay

D transmission delay

50. The time required to propagate from the beginning of the link to the next router is ( ).

A queuing delay

B processing delay

C propagation delay

D transmission delay

51. Consider sending a packet of 3000bits over a path of 5 links. Each link transmits at 1000bps. Queuing delays, propagation delay and processing delay are negligible 可以忽略的. (6 points)

(1).Suppose the network is a packet-switched virtual circuit network. VC setup time is 0.1 seconds. Suppose the sending layers add a total of 500 bits of header to each packet. How long does it take to send the file from source to destination?

(2).Suppose the network is a packet-switched datagram network and a connectionless service is used. Now suppose each packet has 200 bits of header. How long does it take to send the file?

(3).Suppose that the network is a circuit-switched network. Further suppose that the transmission rate of the circuit between source and destination is 200bps. Assuming 0.02s setup time and 200 bits of header appended to the packet, how long does it take to send the packet?

Solution: (1). t=5*(3000+500)/1000+0.1=17.6s

(2). t=5*(3000+200)/1000=16s

(3). t=(3000+200)/200+0.02=16.02s