Data Communication and terminologies

1. Data communications are the transfer of data through some
a) transmission medium
b) linear medium
c) Network LAN
d) Protocols

2. Keyboard and traditional monitors are examples of
a) Simplex devices b) Duplex devices
c) Half Duplex devices d) Full Duplex devices

3. The effectiveness of a data communications system depends on four fundamental characteristics
a) delivery, accuracy
b) timeliness and jitter
c) jitter and delivery
d) both a and b

4. Propagation time is equals to
a) Distance/Propagation speed
b) Propagation speed/Bandwidth
c) Message size/ Bandwidth
d) Bandwidth/Queuing time

5. Period is the inverse of
a) Frequency b) Phase
c) Amplitude d) Signals

6. The black and white TV is an example of
a) non periodic composite signal
b) periodic composite signal
c) signal
d) periodic signal

7. If signal does not change at all, its frequency is
a) Zero b) Maximum
c) Infinite d) None of Above

8. Analog data refers to information that is
a) Discrete state **b) Continuous state**
c) Randomly arranged d) None of Above

9. We send a voice signal from a microphone to a recorder, the transmission is
a) Base band transmission
b) Broad band transmission
c) both a and b
d) None of Above

10. The data rate depends upon
a) Bandwidth b) Level of signals
c) Level of noise **d) All of the above**

11. Bit rate is in
a) Bits per Hertz **b) Bits Per Second**
c) Nano seconds d) Pixels per second

12. Digital data refers to the information that is
a) Continuous **b) Discrete**
c) Bits d) Bytes

13. The term that refers to change the digital signal to an analog signal for transmission is called
a) Modulation b) Demodulation
c) Encapsulation d) Bypass

14. A sine wave is defined by
a) amplitude b) frequency
c) Phase **d) All of the above**

15. The concept of Wavelength is equivalent to the
a) Bit rate b) Bandwidth
c) Amplitude **d) Bit Length**

16. The term that refers to loss of energy is called

a) attenuation b) distortion
c) Noise d) Impairments

17. If a noiseless channel with a bandwidth of 3000 Hz transmitting a signal with two signal levels the maximum Bit rate would be
a) 12000 bps **b) 6000 bps**
c) 1800bps d) zero

18. In data communications, we use periodic analog signals and
a) Periodic digital signals
b) Non periodic analog signals
c) Non periodic digital signals
d) both a and c

19. The range of frequencies contained in a composite signal is called
a) Wavelength **b) Bandwidth**
c) amplitude d) Composite

20. SNR stands for
a) Shannon Noise ratio
b) Shannon Noise Relation
c) Signal Noise ratio
d) Signal Noise Relation

21. The last step in Pulse Code Modulation (PCM) is
a) Quantization b) Sampling
c) Encoding d) Modulation

22. The parameter that refers to the signal levels are on one side of the time axis, either above or below is
a) Unipolar b) Bipolar
c) Polar d) Multi level

23. In synchronous transmission, we send bits one after the another without
a) Start bit b) Stop bit
c) gap bit **d) All of the above**

24. The transmission that is used without the timing signal is called
a) synchronous **b) asynchronous**
c) parallel d) isochronous

25. The unit of the signal rate is
a) Bits per second **b) Baud**
c) Seconds d) Hertz

26. Baud rate is the number of
a) signal elements per second
b) bits per second
c) Frames per second
d) None

27. The change or lack of change in the level of the voltage determines the value of the bit is called
a) NRZ b) NRZ-L
c) NRZ-I d) RZ

28. The bandwidth is proportional to the
a) baud rate b) data rate
c) delay rate d) bit rate

29. The idea of Return to Zero (RZ) and None Return to Zero-Level (NRZ-L) are combined into the
a) Manchester
b) Differential Manchester
c) Multilevel
d) Multi transition

Transmission media

1. Transmission media are directly controlled by the
a) physical layer b) data link layer
c) network layer d) session layer

2. The electromagnetic waves ranging in frequencies between 3 kHz and 1 GHz are called
a) High frequency **b) Infrared**
c) Microwaves d) radio waves

3. Twisted-Pair and coaxial cable are used
a) copper b) light
c) unwired d) wireless

4. RG-59 is used in
a) radio b) thick Ethernet
c) thin Ethernet **d) cable TV**

5. Line-of-sight propagation lies above
a) 3 KHz **b) 30 MHz**
c) 15 MHz d) 2 KHz

6. 3 KHz to 300 kHz is reserves for Radio wave and microwave that is actually
a) ground propagation
b) sky propagation
c) line-of-sight propagation
d) None

7. Unguided medium is
a) twisted pair cable b) coaxial cable
c) fiber optic cable **d) free space**

8. Radio waves are
a) unidirectional **b) omnidirectional**
c) bidirectional d) directional

9. Microwaves having frequency between
a) I and 300 GHz b) 3 kHz and 1 GHz
c) 300 kHz and 1 GHz d) 1GHz and 300 GHz

10. In line-or-sight propagation, very high-frequency signals are transmitted in straight lines directly from antenna to
a) sky b) earth
c) antenna d) planet

11. The most common unshielded twisted pair connector is
a) RG-45 b) RG-59
c) RG-58 d) RG-ll

12. Unshielded Twisted-Pair used in
a) telephone
b) T-lines
c) LAN
d) token ring networks

Different Topologies & Network

1. Communication channel is shared by all the machines on the network in
a) broadcast network b) unicast network
c) multicast network d) none

2. Bluetooth is an example of
a) personal area network
b) local area network
c) virtual private network
d) none of the mentioned

3. Communication between a computer and a keyboard involves _____ transmission
a) Automatic b) Half-duplex
c) Full-duplex **d) Simplex**

4. Three or more devices share a link in _____ connection
a) Unipoint **b) Multipoint**
c) Point to point d) None

5. In this topology there is a central controller or hub
a) Star b) Mesh
c) Ring d) Bus

6. This topology requires multipoint connection
a) Star b) Mesh
c) Ring **d) Bus**

7. Data communication system spanning states, countries, or the whole world is
a) LAN **b) WAN**
c) MAN d) None

8. Data communication system within a building or campus is

a) LAN b) WAN

c) MAN d) None

9. Expand WAN

a) World area network

b) Wide area network

c) Web area network

d) None of the mentioned

Application Layer

1. In File Transfer Protocol (FTP), while the control connection is open, the data connection can be opened and closed

a) One time b) Several Times

c) Multiple Times d) None of the given

2. File Transfer Protocol (FTP), uses the well-known port 21 is used for the control connection and the well-known port 20 for the

a) Data Rate **b) Data Connection**

c) Data Protocol d) Data Congestion

3. TELNET is a general-purpose

a) client/server application program

b) host/server application program

c) remote system

d) terminal emulator

4. The FTP uses the services of

a) TCP b) UDP

c) SMTP d) DNS

5. In Hyper Text Transfer Protocol (HTTP), support

a) Proxy Domain b) Proxy Documents

c) Proxy Server d) Proxy IP

6. The Hypertext Transfer Protocol (HTTP), uses the services of TCP on

a) well-known port 80

b) well-known port 81

c) well-known port 82

d) well-known port 83

7. URL stands for

a) Uniform Resource Loader

b) Uniform Resource Line

c) Uniform Resource Locator

d) Uniform Resource Lighter

8. If 5 files are transfered from server A to client B in the same session. The number of connection between A and B is

a) 5 b) 10

c) 2 **d) 6**

9. Choose the statement which is wrong incase of SMTP

a) It requires message to be in 7bit ASCII format

b) It is a pull protocol

c) It transfers files from one mail server to another mail server

d) None of the mentioned

10. Which one of the following protocol is used to receive mail messages?

a) SMTP

b) post office protocol

c) internet message access protocol

d) all of the mentioned

Transport Layer

1. Unlike User Datagram Protocol (UDP), the Transmission Control Protocol (TCP) has the Services which is

a) Connection Oriented

b) Connectionless

c) Connection generated

d) Connection Organizing

2. The maximum size of the TCP header is

a) 20 bytes b) 40 bytes

c) 60 bytes d) 80 bytes

Network layer

1. If an Address Resolution Protocol (ARP) request is broadcast, an Address Resolution Protocol (ARP) reply is

a) Universal **b) Unicast**

c) Multicast d) Data link

2. An IPv4 address is

a) 32 bits long b) 64 bits long

c) 128 bits long d) 192 bits long

3. IGMP stands for

a) Internet Group Management Packet

b) Internet Group Management Path

c) Internet Group Management Protocol

d) Internet Group Management Ping

4. The 14.23.120.8 address lies in which class

a) class A b) class B

c) class D d) class E

5. ICMP stands for

a) Internet Control Message Protocol

b) Internet Control Message Provider

c) Internet Control Messenger

d) All of them

6. One of the main responsibilities of Internet Control Message Protocol (ICMP), is to report

a) IP b) Data

c) Queries **d) Errors**

7. The Dotted-decimal notation of 10000001 00001011 00001011 11101111 would be

a) 193.131.27.255 **b) 129.11.11.239**

c) 192.168.10.9 d) 172.16.11.3

8. The class of the IP addresses 208.34.54.12 will be

a) class A b) Class B

c) Class C d) Class E

Error Detection and Correction & Data link layer

1. Find the even parity bit for 1001011

a) 0 b) 1

c) 2 d) None

2. CRC stands for

a) combine resistance check

b) cyclic redundancy cod

c) combine redundancy code

d) cyclic redundancy check

3. The checksum is used in the Internet by several protocols although not at the

a) session layer b) transport layer

c) network layer **d) data link layer**

4. The data link layer takes the packets from _____ and encapsulates them into frames for transmission.

a) network layer b) physical layer

c) transport layer d) application layer

5. Which one of the following task is not done by data link layer?

a) framing b) error control

c) flow control **d) channel coding**

Switching

1. A Virtual-Circuit Network (VCN) is normally implemented in the

a) session layer b) data link layer

c) network layer d) physical layer

2. Virtual-Circuit Networks and datagram networks are the sub categories of
a) message-switched networks
b) Packet-switched networks
c) Circuit-Switched Networks
d) None of them

3. In a packet-switched network, resources are allocated
a) randomly **b) on demand**
c) reserved already d) both a and c

4. Datagram switching is done at the
a) network layer b) physical layer
c) session layer **d) data link layer**

5. Setup, data transfer, and connection teardown are three phases of
a) circuit switching b) packet switching
c) message switching d) None

6. Circuit switching takes place at the
a) session layer b) application layer
c) data link layer **d) physical layer.**

7. In Circuit Switching, the resources need to be reserved during the
a) Data transfer phase b) teardown phase.
c) setup phase d) propagation phase

8. The Asynchronous Transfer Mode (ATM) network is an example of
a) Packet switching network
b) Datagram Networks
c) Virtual circuit network
d) message switched network

Network Security

1. A proxy firewall filters at the
a) physical layer **b) application layer**
c) data link layer d) network layer

2. A packet filter firewall filters at the
a) application or transport
b) data link layer
c) physical
d) network or transport layer

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1. The Internet Control Message Protocol (ICMP)
A. allows gateways to send error control message to other gateways or hosts.
B. provides communication between the internet protocol software on one machine and the internet protocol software on another.
C. only reports error conditions to the original source, the source must relate errors to individual application programs and take action to correct the problem.
D. All of these.

2. The closeness of the recorded version to the original sound is called
A. fidelity B. Digitization
C. Sampling. D. Nyquist Theorem

3. Which layers of the OSI model are host to host layers ?
A. Transport, Session, Presentation, Application
B. Network, Transport, Session, Presentation
C. Datalink, Network, Transport, Session
D. Physical, Datalink, Network, Transport

4. A _____ is a communication pathway connecting two or more devices. Another of its key characteristic is that it is a shared medium. A signal transmitted by any one device is available for reception by all other devices attached to it.

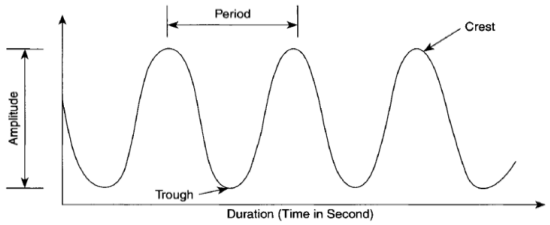
A. Train **B. Bus**
C. Tram C. Aeroplane

5. Bridge works in which layer of the OSI model ?
A. Application Layer. B. Transport Layer
C. Network Layer **D. Datalink Layer**

6. What is the meaning of bandwidth in a network?
A. Transmission capacity of a communication channel.
B. Connected computers in a network.
C. Class of IP used in network.
D. Interconnected by communication channels.

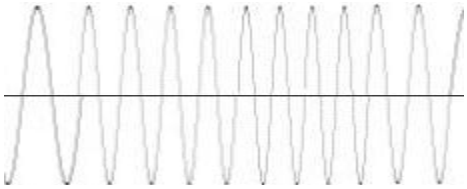
7. Which one of the following transmission systems provides the highest data rate to an individual device ?
A. Computer Bus B. Telephone Bus
C. Voice mode D. Lease lines

8. the diagram below depicts



A. Sound in wave form. B. Wind frequency
C. Compressions on a map. D. Line of sight.

9. The following figure represents.



A. Pure sine wave B. Sampling
C. Pulse code modulation D. Rarefaction

10. The process of taking a snapshot of the waveform at regular intervals and representing it as a binary number is known as
A. Sampling
B. Standard Assessment
C. Sequential Formatting
D. Sound structure

11. The X.25 standard specifies a
A. Technique for start-stop data
B. technique for dial access
C. DTE/DCE interface.
D. Data bit rate.

12. Frames from one LAN can be transmitted to another LAN via a device called
A. Router **B. Bridge**
C. Repeater D. Modem

13. With an IP of 100, you currently have 80 subnets. What subnet mask should you use to maximize the number of available host ? (Incomplete Question)
A. 192 B. 224
C. 248 **D. 252**

14. The _____ houses the switches in token ring
A. Transceiver B. Nine pin connector
C. MAU D. NIC

15. In OSI network architecture, routing is performed by the
A. network Layer B. Data Link Layer
C. Transport Layer D. Session Layer

16. The Hamming (7, 4) code for 0000 using even parity is
A. 0000000 B. 1111111
C. 2222222 D. 12121212