

# CS601 by Sparrow

## Final Term

Fall 2021-2022

1. Radio wave transmission utilizes \_\_\_\_\_ different types of propagation.
  - Two
  - Three
  - Four
  - **Five**
2. Analog refers to something that is continuous in \_\_\_\_\_.
  - **Time**
  - Space
  - Frequency
  - None of the given
3. A sine wave is \_\_\_\_\_.
  - Periodic and discrete
  - Aperiodic and discrete
  - **Periodic and continuous**
  - Aperiodic and continuous
4. In frequency shift keying, \_\_\_\_\_ remain(s) constant.
  - Frequency
  - Amplitude
  - Both Amplitude and Phase
  - **Both Phase and Frequency**
5. Quantization is a method of assigning \_\_\_\_\_ values in a specific range to sampled instances.

- Negative
- Positive
- Binary

➤ **Integral**

6. Ethernet Address is of-----bytes

- 4
- **6**
- 8
- 12

7. In \_\_\_\_\_, a station monitors the medium after it sends a frame to see if the transmission was successful.

- CSMA
- None of Given
- **CSMA/CA**

8. POTS stand for\_\_\_\_?

- **Plain Old Telephone System**
- Plain Old Telephone Services

9. Like Data link layer, \_\_\_\_\_ is also responsible for Flow control.

- **Transport Layer**
- Session Layer

10. What was the main draw back in ALOHA Random-Access method?

- Redundancy in Data
- Potential Collision
- Inconsistent Data rate
- **All of the given**

11. DB is negative if a signal is \_\_\_\_\_.

- **Attenuated**
- Distorted
- Amplified
- Noisy

12. Central Hub in a Tree is an \_\_\_\_\_.

➤ **Active hub**

➤ Passive hub

13. At the Application layer, object/information is in the form of \_\_\_\_\_.

➤ Message

➤ **Packet**

➤ Segment

➤ Frame

14. \_\_\_\_\_ uses fiber-optic cable

➤ **10base-F**

15. The transmission medium that carries the message is referred to as the \_\_\_\_\_.

➤ Send and receive device

➤ **Communication channel**

➤ Protocol

➤ Gateways

16. Latency is made of \_\_\_\_\_ components.

➤ **Two**

➤ Three

➤ Four

➤ Five

17. Analog to Analog Conversion Methods include \_\_\_\_\_.

➤ **AM, PM and FM**

➤ AM, FSK and PM

➤ AM, PM and QAM

➤ None of the given

18. \_\_\_\_\_ is the rate of change with respect to time.

➤ Voltage

➤ Time

➤ Frequency

➤ **Amplitude**

19. The Internet is \_\_\_\_\_.

➤ Software for sending e-mail around the world

- A government-owned agency that links computers
- **A global network of computers networks**
- a specialized form of local area network

20. Signals travels through fiber optic cable are in the form of \_\_\_\_\_.

- **Light**
- Bits
- Electromagnetic
- Bytes

21. In \_\_\_\_\_ encoding, we use three levels: positive, zero, and negative.

- Polar
- Nonpolar
- multilevel
- **Bipolar**

22. A periodic signal completes one cycle in 0.001 s. What is the frequency?

- 1 Hz
- **100 Hz**
- 1 KHz

23. Zero crossing bandwidth is also called as equivalent noise bandwidth.

- True
- **False**

24. \_\_\_\_\_ was used as the medium in 10 Base-T.

- **Twisted Cable**
- Thick Coaxial Cable
- Thin Coaxial Cable

25. One of the most common protocols for point-to-point access is \_\_\_\_\_.

- **PPP**
- IP

26. Encoding digital data into digital signals is called \_\_\_\_\_.

- Analog-to-Digital Conversion
- **Digital-to-Digital Conversion**
- Digital-to-Analog Conversion

- None of the given

27. Digitizing an Analog Signal is called \_\_\_\_\_.

- **Analog-to-Digital Conversion**
- Digital-to-Digital Conversion
- Digital-to-Analog Conversion
- None of the given

28. Low pass channel has \_\_\_\_\_ bandwidth between two stations.

- **Dedicated**
- Shared
- Multiplexed
- Infinite

29. What is the period of a Sine wave having frequency of 2 Hz?

- 0.2
- 0.1
- **0.5**
- 0.3

30. A broadcast signal is received by the orbiting satellites which rebroadcasts \_\_\_\_\_.

- To the resender
- To the sender
- To the atmosphere
- **None of the given**

31. Normally the value of  $K_{max}$  in pure ALOHA is \_\_\_\_\_.

- 25
- 10
- **15**
- 30

32. \_\_\_\_\_ of a signal is the collection of all the component frequencies it contains.

- Time domain
- Frequency domain
- **Frequency spectrum**
- None of the given

33. In which controlled-access method all data exchanges must be made through

primary device even when the ultimate destination is a secondary device?

- **Polling**
- Reservation
- Token Passing
- Port Forwarding

34. \_\_\_\_\_ is correct formula to determine the total number of ports needed for one system connected in a mesh network.

- $N+1$
- $N-1$
- **$N(N+1)$**
- $N \times N$

35. The flag in PPP is a byte that needs to be \_\_\_\_\_ whenever it appears in the data section of the frame.

- Duplicated
- Blocked
- Cleaned
- **Escaped**

36. To control and manage the transfer of data, a protocol called Point to Point Protocol (PPP) is used at the \_\_\_\_\_ layer.

- Physical
- **Network**
- Presentation
- Data link

37. What is the Bandwidth of a periodic signal if it is decomposed into 4 sine waves with frequencies 200, 400, 600 and 800?

- 100
- 500
- 300
- **600**

38. In selective-reject ARQ, only the specific damaged or lost frame is \_\_\_\_\_.

- **Retransmitted**
- Forwarded
- Selected
- Rejected

39. Two or more computers connected so that they can communicate with each other and share information is called a \_\_\_\_\_.

- Satellite
- Protocol
- Broadcast
- **Network**

40. If the Hamming distance between sent and received code word is \_\_\_\_\_, then it shows that received data is corrupted.

- **$\neq 0$**
- = 0
- $\neq 1$
- = 1

41. Congestion Control is a feature of layer(s).

- Data Link
- Network
- Transport
- **All mentioned**

42. Which of the following consist of just one redundant bit per data unit?

- Two dimensional Parity check
- CRC
- **Simple Parity Check**
- Checksum

43. A property of a signal where it is being received by receiver after reflection from different intermediate objects (Building, iron polls, walls) is called \_\_\_\_\_

- **Attenuation**
- Interference
- Error
- Multipath Propagation

44. \_\_\_\_\_ Medium is used in wireless LANs for transportation of data.

- Copper pair cable
- Optical fiber cable
- Coaxial cable
- **Air**

45. Checksum is an error-detection technique that can be applied to a message of \_\_\_\_\_ length.

- Exactly 4
- Exactly 8
- Exactly 32
- **Any**

46. The extra bits added with the original data for error detection/correction are called \_\_\_\_\_.

- Fault bits
- Port numbers
- **Redundant bits**
- Process IDs

47. A fiber -optic cable transmit signals in the form of \_\_\_\_\_.

- **Light**
- Sound
- Wave
- None of the given

48. In CSMA/CA, \_\_\_\_\_ is the amount of time divided into slots.

- Interframe Window
- **Contention** Window
- Fragmented Window
- Collided Window

49. In circuit switched networks we have low efficiency but minimal \_\_\_\_\_.

- Delay
- **Speed**
- Throughput
- Errors

50. The level of signal is always positive in NRZ encoding.

- True
- **False**

51. WDM stands for \_\_\_\_\_.

- **Wave Division Multiplexing**
- Wrong Division Multiplexing

- Well Division Multiplexing
- West Division Multiplexing

52. Asynchronous transmission is \_\_\_\_\_.

- **Slow**
- Fast
- Costly
- None effective

53. Data is transmitted using light through a \_\_\_\_\_ cable.

- Twisted pair
- **Fiber-optic**
- Coaxial
- Microwave

54. STP is more expensive than UTP and is less susceptible to noise.

- **True**
- False

55. PSK is susceptible to the noise degradation.

- True
- **False**

56. CDMA stands for \_\_\_\_\_.

- Carrier Division Multiple Access
- Carrier Data Multiple Access
- Code Data Multiple Access
- **Code Division Multiple Access**

57. \_\_\_\_\_ is not a function of Data Link Control.

- Framing
- **Modulation**
- Error Control
- Flow Control

58. Time domain plot show changes in signal phase with respect to time.

- True
- **False**

59. Which of the following is not a characteristic of a sine wave?

- Amplitude
- **Segmentation**
- Phase
- Frequency

60. In TCP/IP protocol suite, the process of adding header at each layer on sending side is known as \_\_\_\_\_.

- Encapsulation
- De-encapsulation
- **Packetizing**
- Framing

61. Asynchronous TDM is efficient only when the size of the time slot is kept relatively \_\_\_\_\_.

- **Large**
- Small
- Medium
- Zero

62. \_\_\_\_\_ Signal can take infinite levels of intensity over time.

- Digital
- Discrete
- **Analog**
- Logical

63. DLC in Data Link Layer stands for \_\_\_\_\_.

- Divide Line Communication
- Data Line Code
- **Data Link Control**
- Demand Link Coordination

64. In IEEE 802.11, a station with \_\_\_\_\_ mobility can move from one BSS to another, but the movement is confined inside one ESS.

- None of the choices are correct
- No-transition
- **ESS-transition**
- BSS-transition

65. In IEEE 802.11, communication between two stations in two different BSSs usually

occurs via two \_\_\_\_\_.

- BSSs
- ESSs
- None of the given
- **Aps**

66. The logical connection between the peer layers is \_\_\_\_\_ connection.

- Physical
- Direct
- Indirect
- **Tangible**

67. \_\_\_\_\_ encoding is almost obsolete today

- Bipolar
- **Unipolar**
- Polar
- None of the given

68. PAP and CHAP are used by \_\_\_ as Authentication Protocols.

- **PPP**

69. Which one of the following is not a Channelization Protocol?

- FDMA
- **CSMA**
- CDMA
- TDMA

70. In Block coding scheme, number of code words is always \_\_\_\_\_ data words.

- Less than
- **Equal to**
- Greater than
- Same as

71. In \_\_\_\_\_, each station is allocated a time slot during which it can send data.

- CDMA
- NDMA
- **TDMA**
- FDMA

72. The message 1110 sent by a source is received by a destination as 1011. This is \_\_\_\_\_ type of error.

➤ **Burst**

- Single-Bit
- Uni-Bit
- Hamming

73. The most common type of connector used by coaxial cable is \_\_\_\_\_.

➤ **BNC**

- RJ-45
- RJ-11
- RJ-57

74. Each computer on the Internet has a unique numeric address called a(n) \_\_\_\_\_.

- domain address
- protocol address
- **IP address**
- Web address

75. The inversion of the level at 1 bit is called as \_\_\_\_\_.

- NRZ-L
- **NRZ-I**
- RZ
- None of the given.

76. \_\_\_\_\_ is an Authentication Protocol, which uses two-step process to authenticate user information.

- CHAP
- LCP
- **PAP**
- ICMP

77. ALOHA the earliest random access method was developed in early \_\_\_\_\_.

- 1950s
- 1960s
- 1980s
- **1970s**

78. The amplitude of a digital signal depends upon the \_\_\_\_\_ to represent a bit.

- Phase
- Wavelength
- Bandwidth
- **Voltage**

79. Which error detection method uses one's complement arithmetic?

- Cyclic Redundancy Check (CRC)
- Longitudinal Red Check (LRC)
- **Checksum**
- Simple Parity Check

80. Quadrature Amplitude Modulation (QAM) is the combination of \_\_\_\_\_ and \_\_\_\_\_.

- **FSK, PSK**
- PSK, FSK
- ASK, PSK
- ASK, FSK

81. Which of the following statement is correct?

- **Digital signals are less prone to Noise**
- Digital signals are highly prone to Noise
- Analog Signals are less prone to Noise
- Digital signals are not affected by Noise

82. \_\_\_\_\_ is normally used where speed is priority in data transfer.

- **Serial data transmission**
- Hybrid data transmission
- Parallel data transmission
- Both parallel and serial data transmission

83. The \_\_\_\_\_ protocol uses both flow and error control.

- TCP/IP
- HDLC
- ICMP
- **Stop-and-Wait**

84. Switch is a network device which operates on the \_\_\_\_\_ layer of the TCP/IP protocol suite.

- Application
- Transport
- Presentation
- **Data link**

85. If a digital signal has "L" number of levels. \_\_\_\_\_ is the number of bits required to represent each level.

- **Log L**
- Log Base 2 L
- L Square
- Log(2\*L)

86. In an analog hierarchy to carry voice channels, a group can carry \_\_\_\_\_ voice channels.

- 60
- 12
- **20**
- 10

87. \_\_\_\_\_ is an Authentication Protocol, which is used by the PPP to authenticate passwords.

- CHAP
- **PAP**
- LCP
- ICMP

88. Primary device uses \_\_\_\_\_ to receive transmission from the secondary devices.

- **ACK**
- ENQ
- POLL

89. Token Bus has no commercial application in data communications

- **True**
- False

90. Which one is not the function of data link layer?

- **Line discipline**
- Flow control

- Error control
- Network control

91. In CRC there is no error if the remainder at the receiver is \_\_\_\_\_.

- Equal to the remainder at the sender
- **Zero**
- Nonzero
- The quotient at the sender

92. In ASK, Noise usually affects the \_\_\_\_\_.

- **Amplitude**
- Phase
- Sample
- Frequency

93. Sampling means measuring \_\_\_\_\_ of signal at equal intervals

- **Amplitudes**
- Frequencies
- Phases
- None of the given

94. Data Link layer provides services to the \_\_\_\_\_ layer.

- Application
- Transport
- **Network**
- Session

95. BSC supports \_\_\_\_\_ transmission using \_\_\_\_\_ flow control.

- Full-duplex, Stop and wait ARQ
- Half-duplex, Selective reject ARQ
- Full-duplex, Selective reject ARQ
- **Half-duplex, Stop and wait ARQ**

96. In \_\_\_\_\_ each band is reserved for a specific station, and it belongs to the station all the time.

- **FDMA**
- CDMA
- TDMA
- CSMA

97. TROPOSHERE is the layer of atmosphere above the troposphere but below space

- True
- **False**

98. The inversion of the level represents a 1 bit in \_\_\_\_\_ encoding

- **NRZ-I**
- NRZ-L
- RZ
- Manchester

99. \_\_\_\_\_ Works with topologies in which one device is designated as a primary station and the other devices are secondary stations.

- Reservation
- **Polling**
- Token
- None of the given

100. The original Ethernet technology with the data rate of 10 Mbps is called \_\_\_\_\_ ?

- **Standard Ethernet**
- Fast Ethernet
- Gigabit Ethernet
- 10 Gigabit Ethernet

101. In \_\_\_\_\_, each station sends a frame whenever it has a frame to send.

- **Slotted ALOHA**
- Fragmented ALOHA
- Pure ALOHA
- None of the given

102. In a technique called, compounding High-and-Low Resolution Packets, the low resolution section in the first packet is \_\_\_\_\_.

- **CRC**
- Parity code
- Empty

103. In line discipline the initiator first transmits a frame called an \_\_\_\_\_

- Enquiry
- Acknowledgment

➤ **NAK**

➤ Request

104. To make sure that source does not overwhelm destination by sending data faster than it can be handled and processed is called?

➤ Addressing & Routing

➤ Exchange Management

➤ **Flow Control**

➤ Recovery

105. \_\_\_\_\_ are used to exchange session management and control information between connected devices.

➤ I-frames

➤ **U-frames**

➤ S-frames

➤ N-frames

106. Time division multiplexing is used in \_\_\_\_\_ systems.

➤ Analog

➤ Hybrid

➤ **Digital**

➤ Automated

107. What is the frequency of a sine wave if it completes one cycle in 5 seconds?

➤ 0.5

➤ 0.6

➤ 0.3

➤ **0.2**

108. Which of the following is most affected by noise?

➤ PSK

➤ **ASK**

➤ FSK

➤ QAM

109. \_\_\_\_\_ is sometimes called the bit rate.

➤ Signal rate

➤ Modulation rate

➤ **Data rate**

- Pulse rate
110. Radio is an example of \_\_\_\_\_ signal conversion.
- **Analog to analog**
  - Analog to digital
  - Digital to Digital
  - Digital to analog
111. In order to find the location of two errors in an eight bit stream, we have to see \_\_\_\_\_ different combinations.
- **28**
  - 16
  - 8
  - 4
112. Guard bands are used in \_\_\_\_\_ multiplexing technique, to avoid overlapping of frequency bands assigned to each user.
- PDM
  - CSMA
  - TDM
  - **FDM**
113. The term \_\_\_\_\_ means that only one bit of a given data unit is changed from 1 to 0 or from 0 to 1.
- Packet Error
  - Burst Error
  - **Single Bit Error**
  - Character Error
114. If the ASCII character H is sent and the character I is received, what type of error is this?
- **Single-bit**
  - Multiple-bit
  - Burst
  - Recoverable
115. Error control in the data link layer is based on \_\_\_\_\_
- **Automatic repeat request**
  - Automatic repeat acknowledgment

- Automatic send acknowledgment
116. Time domain shows changes in \_\_\_\_\_.
- time w.r.t signal amplitude
  - **signal amplitude w.r.t time**
  - time
  - All of the given
117. Baud rate is greater than or equal to the bit rate.
- True
  - **False**
118. YMODEM has \_\_\_\_\_ Byte of data unit.
- **1024**
  - 256
  - 128
  - 512
119. Like 10 Base 5, 10 Base 2 is a \_\_\_\_\_ topology LAN.
- Ring
  - Mesh
  - Star
  - **Bus**
120. For FEC using XOR operation, we divide a packet into N chunks, and need to send \_\_\_\_\_ Chunks to the receiver side.
- N
  - 2N
  - $(N+1)/2$
  - **N+1**
121. At the CRC generator, \_\_\_\_\_ added to the data unit after the division process
- 0s are
  - 1s are
  - The polynomial
  - **The CRC remainder is**
122. The flag in PPP is a byte that needs to be \_\_\_\_\_ whenever it appears in

the data section of the frame.

- Duplicated
- Blocked
- Cleaned
- **Escaped**

123. In each character protocol each character of frame is encoded using \_\_\_\_ coding system.

- **Bit-oriented**

124. Mr. Asif while sitting in Lahore is talking with his friend in Dubai through Skype is an example of \_\_\_\_\_.

- Local Area Network
- **Metropolitan Area Network**
- Wide Area Network
- Home Based Network

125. In \_\_\_\_\_, a signal is directed straight from antenna to antenna.

- **Line of sight propagation**
- Ground propagation
- Space propagation
- Tropospheric propagation

126. No matter whether the link is dedicated or broadcast, data link control (DLC) layer provides services between \_\_\_\_\_.

- Virtual LANs
- **Two adjacent nodes**
- Ethernet links
- Source and destination PCs

127. Multiplexing is the set of techniques that allows simultaneous TX of multiple signals across \_\_\_\_\_ data link

- **Single**
- Multi
- Single and Multi
- None of the given

128. Need for Addressing makes Asynchronous TDM inefficient for bit or byte \_\_\_\_\_.

- Interleaving
  - **Addition**
  - Subtraction
  - None of the given
129. The logical connection between the peer layers is \_\_\_\_\_ connection.
- Physical
  - **Direct**
  - Indirect
  - Tangible
130. Traditionally MANs have been implemented using one of the 2 technologies, Circuit Switching and Packet Switching
- True
  - **False**
131. IN MAC the \_\_\_\_\_ generates the data and passes it along with any control information to a \_\_\_\_\_.
- **DTE, DCE**
  - DCE, DTE
  - DTE, DTE
  - DCE, DCE
132. What is the vied for a specific saved for a specific frequency of 5 Hz?
- **0.2**
  - 0.1
  - 0.5
  - 0.3
133. Error correction is more \_\_\_\_\_ than the error detection.
- Easy
  - Useless
  - Informal
  - **Difficult**
134. A \_\_\_\_\_ modem is used to connect two DTEs directly.
- **'NULL'**
  - Cable
  - DSL

- None of the given
135. Analog signals are refers to be \_\_\_\_\_
- **Continuous**
  - Discrete
  - Periodic
  - Aperiodic
136. What is the period of a Sine wave having frequency of 10 Hz?
- 0.2
  - **0.1**
  - 0.5
  - 0.3
137. There are \_\_\_\_\_ basic categories of multiplexing.
- 2
  - **3**
  - 7
  - 5
138. At the CRC generator, \_\_\_\_\_ added to the data unit before the divisional process.
- **0s are**
  - 1s are
  - A polynomial is
  - A CRC remainder is
139. MAC stand for \_\_\_\_\_
- Media Access Controller
  - Main Access Control
  - Mandatory Access Control
  - **Media Access Control**
140. The VLF and LF bands use \_\_\_\_\_ propagation for communications.
- Ground
  - **Sky**
  - Line of sight
  - Space

141. **Line Configuration** refers to the way two or more devices attach to a \_\_\_\_\_.
- Path
  - Circuit
  - **Link**
  - Router
142. **POST** stand for \_\_\_\_\_?
- Plain Old Telephone Set
  - Plain Old Time Sharing
  - Plain Old Telephone System
  - **Plain Old Telephone Service**
143. If users must take turns using the link, then it is called Spatial Sharing.
- True
  - **False**
144. Possession of **TOKEN** gives the station the right to \_\_\_\_\_.
- Modify the data
  - **Send the data**
  - Delete the data
  - Receive the data
145. There are \_\_\_\_\_ types of guided media.
- 2
  - **3**
  - 4
  - 5
146. **Aloha, CSMA/CD and CSMA/CA** are part of \_\_\_\_\_.
- Controlled Access protocol
  - Channelization protocol
  - Mutual access protocol
  - **Random Access protocol**
147. The maximum data rate in the uploading direction is still \_\_\_\_\_.
- 26.6 Kbps
  - **33.6 Kbps**
  - 36.6 Kbps
  - 46.6 Kbps

148. By using \_\_\_\_\_ system, change in the file contents during file transmission can be avoided.
- Routing
  - Flow Control
  - **Error Detection and Correction**
  - Congestion Control
149. Which one of the following is a correct-access method?
- Polling
  - Token Passing
  - **Reservation**
  - All of the given
150. There are \_\_\_\_\_ types of serial transmission.
- 3
  - 4
  - **2**
  - None of the given
151. \_\_\_\_\_ is the process of converting digital data to digital signals.
- CSMA/CD
  - CSMA/CA
  - **Line coding**
  - Segmentation
152. In ASK both \_\_\_\_\_ and \_\_\_\_\_ remain constant.
- Amplitude, Frequency
  - Amplitude, phase
  - **Frequency, Phase**
  - Amplitude, Samples
153. At the data-link layer, \_\_\_\_\_ protocol is designed to handle both flow and error control, but communication is one frame at a time.
- Simple
  - Go-Back-N
  - Selective-Repeat
  - **Stop-and-Wait**

154. The PPP protocol uses \_\_\_\_\_, which is responsible for establishing, maintaining, configuring, and terminating links.
- Internet Protocol Control Protocol (IPCP)
  - Challenge Handshake Authentication Protocol (CHAP)
  - Network Control Protocols (NCPs)
  - **Link Control Protocol (LCP)**
155. Flow control is needed to prevent \_\_\_\_\_.
- Bit errors
  - Overflow of the sender buffer
  - **Overflow of the receiver buffer**
  - Collision between sender and receiver
156. GO-BACK-N protocol is one of the \_\_\_\_\_ layer protocols, which is used to control the flow of data during the transmission.
- Physical
  - **Network**
  - Presentation
  - Data link
157. Which one of the following is a Random-Access protocol?
- TDMA
  - **CDMA/CD**
  - ALOHA
  - CDMA/CA
158. What is the Bandwidth of a periodic signal if it is decomposed into 4 sine waves with frequencies 300, 600, 900 and 1200?
- 100
  - **900**
  - 300
  - 600
159. \_\_\_\_\_ relatively measures the strength of two signals.
- Signal rate
  - Bit rate
  - Decibel
  - **Pulse Rate**

160. If duration of noise is decreased during a transmission over noisy channel, fixed data rate of the channel will cause \_\_\_\_\_ number of bits being impacted by the noise.
- Constant
  - **More**
  - Less
  - Zero
161. \_\_\_\_\_ is responsible for governing node to node communication.
- Application Layer
  - Session Layer
  - **Data Link layer**
  - Presentation Layer
162. If the window size is 63 in go-back N ARQ then what is the range of sequence number?
- **0 to 63**
  - 0 to 64
  - 1 to 63
  - 1 to 64
163. Which layer is concerned with the syntax and semantics of info exchange between two systems?
- Physical
  - Application
  - Session
  - **Presentation**
164. In Pulse Code Modulation (PCM), the sampling is dependent on \_\_\_\_\_.
- Time
  - Amplitude
  - Frequency
  - **Signal Rate**
165. Human voice is example of \_\_\_\_\_ signal.
- Digital
  - **Analog**
  - Discrete
  - None of the given

166. The \_\_\_\_\_ is the number of signal elements sent per unit time.
- Data rate
  - **Signal rate**
  - Bit rate
  - Period
167. VCI address is \_\_\_\_\_ address in virtual circuit approach.
- Private
  - Variable
  - Local
  - **Global**
168. In the \_\_\_\_\_ method, the stations in a network are organized in a logical ring.
- **Token-passing**
  - Polling
  - Reservation
  - None of the given
169. \_\_\_\_\_ Category of coaxial cable is used for Cable TV.
- RG-58
  - RG-59
  - **RG-11**
  - RG-47
170. For Carrier Sense Multiple Access/Collision Detection (CSMA/CD) we need a restriction on the \_\_\_\_\_
- Collision Size
  - Signal Size
  - **Frame Size**
  - Station Size
171. In Y-MODEM Multiple files can be sent simultaneously
- **True**
  - False
172. Error detection and correction are the services provided by \_\_\_\_\_ layer.
- **Data link layer**

- Application layer
- Physical layer
- Session layer

173. In statistical time division multiplexing, numbers of slots in frame are less than \_\_\_\_\_.

- Output data rate
- **Input lines**
- Input frequency
- Multiplexed T lines

174. Transmission Control Protocol is a(n) \_\_\_\_\_ layer protocol.

- Transport
- Application
- Session
- **Network**

175. Is there any difference between Data communication and telecommunication are network?

- Yes
- **No**

176. In Block coding we divide our message into blocks of k bits called as \_\_\_\_\_.

- Code words
- **Data words**
- Passwords
- Cross words

177. \_\_\_\_\_ Transmission technology (based on Ethernet) provides a data rate of 1 billion bits per second.

- Fast Ethernet
- Standard Ethernet
- **Gigabit Ethernet**
- 10BASE-T Ethernet

178. In line discipline after the data transmission, the sending system finishes with a \_\_\_\_\_ frame.

- **EOT**

- EKT
  - ENT
  - ESP
179. In ASK correct formula for calculating the bandwidth is as \_\_\_\_\_.
- **$B=(1+d)S$**
  - $B=(1*d)S$
  - $B=(d-1)S$
  - $B=(d-5)S$
180. In OSI model headers are added at layer \_\_\_\_\_.
- 1,2,3 only
  - 6,5,7 only
  - 5,4,3 only
  - **6,5,4,3,2 only**
181. \_\_\_\_\_ is/are un-reliable protocol(s).
- IP and TCP
  - **UDP**
  - IP and UDP
  - TCP
182. WDM stands for \_\_\_\_\_.
- Wideband De-Modulation
  - Worst Data Manipulation
  - **Wavelength Division Multiplexing**
  - None of the given
183. Need for Addressing makes Asynchronous TDM inefficient for bit or byte \_\_\_\_\_.
- Interleaving
  - **Addition**
  - Subtraction
  - None of the given
184. \_\_\_\_\_ takes data from one high speed line and breaks it into portions.
- **Multiplexing**
  - Inverse multiplexing
  - Inverse subtraction

- Inverse addition
185. A sine wave is defined by \_\_\_\_\_ characteristics.
- 2
  - **3**
  - 4
  - 5
186. CHAP is an Authentication Protocol, which uses \_\_\_\_\_ process to authenticate user information.
- Two-way
  - **Three-way**
  - Four-way
  - Five-way
187. Which error detection method consists of a parity bit for each unit as well as an entire data unit of parity bits?
- Checksum
  - Cyclic Redundancy Check (CRC)
  - **Longitudinal Red Check (LRC)**
  - Vertical Redundancy Check (VRC)
188. A portion of the path that carries TX between a given pair of devices is known as \_\_\_\_\_.
- Direct Point
  - Bridge
  - **Channel**
  - Access Point
189. SONET stands for \_\_\_\_\_
- **synchronous optical network**
  - synchronous operational network
  - stream optical network
  - shell operational network
190. Fast Ethernet has a data rate of \_\_\_\_\_ Mbps.
- 10
  - **100**
  - 1000
  - 10,000

191. Multiplexing is the set of techniques that allows simultaneous TX of multiple signals across \_\_\_\_\_ data link
- **Single**
  - Multi
  - Single and Multi
  - none of the given
192. In the encoding where positive to negative transition is one and vice versa is zero.
- Manchester
  - Differential Manchester
  - All of the given
  - **None of given**
193. Following characteristics fully describe \_\_\_\_\_,  
Amplitude Period/Frequency Phase
- **Sine Waves**
  - Digital Signals
  - Aperiodic Signals
  - None of the given
194. In Pure ALOHA, the vulnerable time is \_\_\_\_\_ the frame transmission time.
- Same as
  - Three times
  - **Two times**
  - Four times
195. Which level of the TCP/IP reference model routes data/information across a network channel?
- Application Layer
  - Data Link Layer
  - Transport Layer
  - **Network Layer**
196. In analog transmission, the base signal is called the\_\_\_\_\_.
- **Carrier Signal**
  - Analog signal

- Digital signal
- Modulated signal

197. In \_\_\_\_\_, both peak amplitude and frequency remains constant as the phase changes.

- **PSK**
- QAM
- Both PSK & QAM
- None of the given

198. Terminal, microprocessor, computer, printer or any other device that generates or consumes digital data is known as \_\_\_\_\_

- DCE
- **DTE**
- DCE & DTE
- None of the given

199. Digital signals are referred to be \_\_\_\_\_.

- Continuous
- **Discrete**
- All of the given
- None of the given

200. In \_\_\_\_\_ a dedicated communication path is established between two stations through the nodes of the network

- **Circuit switching**
- Packet switching

201. Circuit-switched networks have \_\_\_\_\_ efficiency but \_\_\_\_\_ delay compared to the packet switched networks.

- high, minimal
- high, high
- **low, minimal**

202. Category 5 UTP cable is used for data transmission of upto \_\_\_\_\_.

- **100 Mbps**
- 200 Mbps
- 250 Mbps
- 400 Mbps

203. All of popular Fiber optic connectors are \_\_\_\_\_ shaped.
- Conical
  - **Barrel**
  - Circular
  - Rectangular
204. AM signal requires \_\_\_\_\_ the BW of original signal
- **Twice**
  - Half
  - Same
  - Three Times
205. S-frames in High-Level Data Link Control (HDLC) are only used to transfer \_\_\_\_\_ information.
- User data
  - **Control**
  - Redundant
  - Original
206. Collisions in CSMA/CA are avoided through \_\_\_\_\_.
- The Interframe Space
  - The Contention Window
  - Acknowledgements
  - **All of the given**
207. In even parity check code, the value of syndrome is \_\_\_\_\_ if the number of 1s is even.
- 1
  - 2
  - **0**
  - 4
208. If we need to correct a single error in an 8-bit data unit, we need to consider \_\_\_\_\_ possible error locations.
- **16**
  - 2
  - 4
  - 8

209. \_\_\_\_\_ is used in the Stop-and-Wait protocol to overcome the issue of duplication.

- Frame sequencing
- Acknowledgement numbering
- Counter and Timer reset
- **Frame sequencing and Acknowledgement numbering**

210. \_\_\_\_\_ Category of coaxial cable is used for thin Ethernet.

- **RG-58**
- RG-59
- RG-1
- RG-47

211. \_\_\_\_\_ contains a repeater.

- **Active hub**
- Passive hub

212. IN MAC, when nodes use a multi-point or broadcast link, we need a \_\_\_\_\_ to coordinate access to the link.

- **Multiple-access protocol**

213. Session layer is responsible for \_\_\_\_\_.

- Reassembly of data
- **Maintaining the connection**

214. Which of the following is an example of ITU-T modem standards:?

- **T-series**
- X-series
- N-series
- V-series

215. The data rate of a T-1 line is \_\_\_\_\_.

- 1.544 Gbps
- 2.544 Mbps
- 1.544 Kbps
- **1.544 Mbps**

216. There are three types of Hubs that exist. Which of the following options correctly describes these three?
- Passive, dormant, special
  - Active, dormant , passive
  - Passive, Active, Turbo
  - **Passive, Active, Intelligent**
217. What is the frequency of a sine wave if it completes one cycle in 2 seconds?
- **0.5**
  - 0.6
  - 0.3
  - 0.2
218. To calculate the data rate for noisy channel \_\_\_\_\_ formula is used.
- **Shannon**
  - Nyquist
  - Propagation
  - Greedy
219. In Synchronous TDM, Time slots are not same in number as input devices.
- True
  - **False**
220. The type of ALOHA which improves the efficiency of Pure ALOHA is \_\_\_\_\_.
- **Slotted ALOHA**
  - Upper ALOHA
  - Integrated ALOHA
  - Lower ALOHA
221. At the CRC checker, \_\_\_\_\_ means that the data unit is damaged.
- A string of 0s
  - A string of 1s
  - A string of alternating 1s and 0s
  - **A nonzero remainder**
222. RZ stands for \_\_\_\_\_.
- Return to Z
  - Retire a Zero

- **Return to Zero**
- None of the given
223. \_\_\_\_\_ Mode of serial transmission guarantees fixed rate of data.
- Synchronous
- Asynchronous
- **Isochronous**
- Metasochronous
224. In Pure ALOHA, the vulnerable time is \_\_\_\_\_ the frame transmission time.
- Same as
- **Two times**
- Three times
- Four times
225. We can have \_\_\_\_\_ different groups with a 4 bit block.
- 4
- **8**
- 16
- 32
226. Which of the following sublayer resolves the contention for the shared media?
- **MAC**
- LLC
- Physical
- None of the given.
227. Synchronous transmissions have \_\_\_\_\_.
- A start bit
- A stop bit
- Gaps between bytes
- **None of the given**
228. Using \_\_\_\_\_ encoding scheme in digital transmission, we represent 0 by zero voltage level and represent 1 by any positive voltage level.
- Polar
- AMI

- Bipolar
- **Unipolar**

229. \_\_\_\_\_ was used as a medium in 10 Base-T

- Thick coaxial Cable
- Think coaxial Cable
- **Twisted Pair Cable**
- Two Modes For Cable

230. When data are transmitted from device A to device B, the header from A's layer 4 is read by B's \_\_\_\_\_ layer.

- **Physical**
- Transport
- Application

**Contact for Help.**

**We have checked all the Answers if you find any mistake let us know.**

**Sparrow +923313000225.**

**Remember in Prayers.**

**Best Of Luck.**