

**CS601 Finalterm Mcqs**

**Updated handouts 2022**

**#Final-Term**

**ORANGE MONKEY TEAM**

**Important NOTE:-**

Maybe toppers are successful in school or college carrier but backbenchers are successful in their life because toppers run according to books while backbenchers don't follow rules and regulation that is why backbenchers are successful. For life, there are no books and another reason why toppers can't succeed because they fear failure and don't try anything new. Backbenchers don't fear failure as they have faced the failure in their school or college carrier so that is the reason they try new things and at last gain success.

As Abdul Kalam nicely quoted, "The best brains of the nation may be found on the last benches of the classroom"

**Translation into Urdu:**

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**ORANGE MONKEY TEAM**

ہوسکتا ہے کہ ٹاپرز اسکول یا کالج کیریئر میں کامیاب ہوں لیکن بیک بینچر اپنی زندگی میں کامیاب ہوتے ہیں کیونکہ ٹاپر کتابوں کے مطابق چلتے ہیں جب کہ بیک بینچر قواعد و ضوابط پر عمل نہیں کرتے اسی وجہ سے بیک بینچر کامیاب ہوتے ہیں۔ زندگی کے لیے، کوئی کتابیں نہیں ہیں اور ایک اور وجہ ہے کہ ٹاپرز کامیاب نہیں ہو پاتے کیونکہ وہ ناکامی سے ڈرتے ہیں اور کچھ نیا کرنے کی کوشش نہیں کرتے۔ بیک بینچر ناکامی سے نہیں ڈرتے کیونکہ انہوں نے اپنے اسکول یا کالج کیریئر میں ناکامی کا سامنا کیا ہے یہی وجہ ہے کہ وہ نئی چیزیں آزما رہے ہیں اور آخر کار کامیابی حاصل کرتے ہیں۔

جیسا کہ عبدالکلام نے اچھی طرح سے نقل کیا ہے، "قوم کے بہترین دماغ کلاس روم کے آخری بینچوں پر مل سکتے ہیں۔"





1. In \_\_\_\_\_ each station is allocated a time slot during which it can send data  
TDMA.....confirm
2. PAP and CHAP are used by \_\_\_\_\_ as Authentication Protocols.  
PPP.....confirm
3. In each character protocol each character of frame is encoded using \_\_\_\_\_ coding system .  
Bit-oriented
4. IN MAC, when nodes use a multi-point or broadcast link, we need a \_\_\_\_\_ to coordinate access to the link.  
Multiple-access protocol/.....confirm
5. The original Ethernet technology with the data rate of 10 MBps is called \_\_\_\_\_?  
Standard Ethernet....confirm
6. \_\_\_\_\_ uses fiber-optic cable

**10base-F....confirm**

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

**PPP.....confirm**

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

**PAP.....confirm**

9. 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

**More.....confirm**

10. For carrier sense Multiple Access/Collision Detection (CSMA/CD), we need a restriction on the

**Collision size....confirm**

11. Stop-and-Wait protocol is used for \_\_\_\_\_.

**Both flow and error control.....confirm**

12. In hexadecimal notation of Ethernet address, each byte is separated by \_\_\_\_\_ symbol.

**Colon....confirm**

13. In a linear block code, the \_\_\_\_\_ of any two valid codewords creates another valid codeword.

14.

**XOR.....confirm**

15. In the \_\_\_\_\_ method, the stations in a network are organized in a logical ring.

**Token-passing....confirm**

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

CSMA.....confirm

17. In order to find the location of two errors in an eight bit stream, we have to see \_\_\_\_\_ different combinations.

28....confirm

18. If we need to correct a single error in an 8-bit data unit, we need to consider \_\_\_\_\_ possible error locations

16.....confirm

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

Slotted ALoHA.....confirm

20. \_\_\_\_\_ is the process of converting digital data to digital signals.

Line coding.....confirm

21. In case of higher data rate, the number of impacted bits will be \_\_\_\_\_.

Higher

22. In \_\_\_\_\_ protocol, the sender sends one frame at a time and wants for an acknowledgment before sending the next one.

Stop-and-wait

23. In block coding we divide our message into blocks of K bits called as \_\_\_\_\_.

Data words....confirm

24. CDMA stands for \_\_\_\_\_.

Code division Multiple Access.....confirm

25. \_\_\_\_\_ is not a function of data link control.

Modulation.....confirm

26. CHAP is an Authentication Protocol, which uses \_\_\_\_\_ process to authenticate user information.

Three-way.....confirm from net

27. In the context of Ethernet address, the source address is always a \_\_\_\_\_ address.

Unicast...confirm

28. In the context of Ethernet address, the destination address is always a \_\_\_\_\_ address.

Unicast, multicast, broadcast....confirm

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

Gigabit Ethernet....confirm

30. Fast Ethernet has a data rate of \_\_\_\_\_ Mbps.

100.....confirm

31. In random access method, when two or more than two nodes transmit at the same time when

All the nodes in collision survives

32. Data link layer is divided into \_\_\_\_\_ sub layers

Two.....confirm

33. If the hamming distance between sent and received code word is \_\_\_\_\_ then it shows that received data is corrupted.

(Is not equal to)0....confirm

34. In order to find hamming distance between two pair of words, \_\_\_\_\_ logical operation is used.

XOR....confirm

35. Ethernet address is of \_\_\_\_\_ bytes

6....confirm

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

CSMA/CD.....confirm

37. For carrier sense Multiple Access/Collision Detection (CSMA/CD), we need a restriction on the \_\_\_\_\_.

Frame size...confirm

38. Ethernet address is of \_\_\_\_\_ bytes

6

39. What was the main drawback in the aloha random access method

Redundancy in data

40. In telephone, network POP stands for

Point-of presence

41. Possession of token gives the station the right to \_\_\_\_\_.

Send the data

42. In Ethernet, the source address field in the MAC frame is the \_ address

Previous station physical

43. Normally the value of Kmax in pure aloha is

15

44. \_\_\_\_\_ uses thin coaxial cable.

10 base 5

45. MAC stands for \_\_\_\_\_

Media access control

46. In the context of Ethernet implementations maximum medium length of 10 base-F

2000

47. Transmission technology based on Ethernet provides a data rate of 1 billion bits per second.

## Standard Ethernet

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

None of the given

49. MAC address is of \_\_\_\_\_.

48 bits

50. The type of aloha which improves the efficiency of pure aloha is.

Slotted aloha

51. A personal computer or workstation on an Ethernet network must have \_\_\_\_\_ card

NIC

52. In which controlled access method all data exchange must be made through primary device even when the ultimate destination is a secondary device

Polling

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

FDMA

54. In pure aloha the vulnerable time is \_\_\_\_\_ the frame transmission time

Two times

55. DSL stands for \_\_\_\_\_.

Digital subscriber line

56. In the context of Ethernet address, the source address is always a \_\_\_\_\_ address

Multicast

57. The original Ethernet technology with the data rate of 10 Mbps is called

Standard ethernet

58. Which of the following is a correct controlled access method

All options

59. When we represent the data in CDMA if a station is idle then it sends

0

60. In telephone, network POP stands for \_\_\_\_\_.

Point of presence

61. What was the main drawback in the aloha random access method

Redundancy data rate

62. \_ transmission technology based on Ethernet provide a data rate of 1 billion bits per second

Gigabit Ethernet

63. In which controlled access method all data exchanges must be made through a primary device even when the ultimate destination is a secondary device.

Polling

64. In telephone, network POP stands for

Point of presence

65. Mac address is of \_\_\_\_\_

48 bits

66. In \_\_\_\_\_ collision are avoided by deferring transmission even if the channel is idle

The interframe space

67. POTS stand for \_?

Plain old telephone system.....confirm

68. Normally the value of  $K_{max}$  in pure aloha is

15

69. In Ethernet frame both destination and sender addresses are of length  
6 byte

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

71. The original Ethernet technology with a data rate of 10MBps is called  
Standard Ethernet

72. The \_\_\_\_\_ method has the highest chance of collision because two or more stations may find the line idle and send their frames immediately  
1 persistent method

73. IN allocated a time slot during which it can send data each station is  
TDMA

74. In which controlled access method all data exchanges must be made through primary device even when the ultimate destination is a secondary device  
Polling

75. CDMA stands for  
Code data multiply access

76. Works with topologies in which one device is designated as a primary station and the other device are secondary stations  
Polling

77. In Ethernet, the source address field in the MAC frame is the address  
Next destination physical

1. VCI address is \_\_\_\_\_ address in virtual circuit approach.

1. Private

2. Variable

3. Local

**4. Global**

**2. Traditionally MANs have been implemented using one of the 2 technologies, Circuit Switching and Packet Switching**

1. true

**2. false**

**3. In the \_\_\_\_\_ method, the stations in a network are organized in a logical ring.**

**1. Token-passing**

2. Polling

3. Reservation

4. None of the given

**4. Like 10 Base 5, 10 Base 2 is a \_\_\_\_\_ topology LAN.**

1. Ring

2. Mesh

3. Star

**4. Bus**

**5. In Pure ALOHA, the vulnerable time is \_\_\_\_\_ the frame transmission time.**

1. Same as

2. Three times

**3. Two times**

4. Four times

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

1. send and receive device

**2. communication channel**

3. protocol

4. gateways

**7. Analog signals are refers to be \_\_\_\_\_**

**1. Continuous**

2. Discrete

3. Periodic

4. Aperiodic

**8. There are \_\_\_\_\_ types of serial transmission.**

**1. 3**

2. 4

**3. 2**

4. None of the given

9. To calculate the data rate for noisy channel \_\_\_\_\_ formula is used.

1. Shannon

2. Nyquist

3. Propagation

4. Greedy

10. There are three types of Hubs that exist. Which of the following options correctly describes these three?

1. Passive, dormant, special

2. Active , dormant , passive

3. Passive, Active, Turbo

4. Passive, Active, Intelligent

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

1. Voltage

2. Time

3. Frequency

4. Amplitude

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

1. Physical

2. Network

3. Presentation

4. Data link

13. What is the frequency of a sine wave if it completes one cycle in 2 seconds?

1. 0.5

2. 0.6

3. 0.3

4. 0.2

14. \_\_\_\_\_ relatively measures the strength of two signals.

1. Signal rate

2. Bit rate

3. Decibel

4. Pulse Rate

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

1. Active hub

2. passive hub

16. At the CRC generator, \_\_\_\_\_ added to the data unit before the divisional process.

1. 0s are

2. 1s are

3. a polynomial is

4. a CRC remainder is

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

1. to the resender
2. to the sender
3. to the atmosphere
4. none of the given

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

1. Duplicated
2. Blocked
3. Cleaned
4. Escaped

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

1. Line of sight propagation
2. Ground propagation
3. Space propagation
4. Tropospheric propagation

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

1. Two dimensional Parity check.

2. CRC

**3. Simple Parity Check**

4. Checksum

**21. The term \_\_\_\_\_ means that only one bit of a given data unit is changed from 1 to 0 or from 0 to 1.**

1. Packet Error

2. Burst Error

**3. Single Bit Error**

4. Character Error

**22. Flow control is needed to prevent \_\_\_\_\_.**

1. Bit errors

2. Overflow of the sender buffer

**3. Overflow of the receiver buffer**

4. Collision between sender and receiver

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

1. Transport

2. Application

3. Session

**4. Network**

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

1. Light
2. Sound
3. Wave
4. None of the given

25. Possession of TOKEN gives the station the right to \_\_\_\_\_.

1. Modify the data
2. Send the data
3. Delete the data
4. Receive the data

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

1. NRZ-L
2. NRZ-I
3. RZ
4. None of the given.

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

1. Redundancy in Data
2. Potential Collision
3. Inconsistent Data rate
4. All of the given

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

1. twisted pair
2. fiber-optic
3. coaxial
4. microwave

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

1. Slotted ALOHA
2. Fragmented ALOHA
3. Pure ALOHA
4. None of the given

30. In OSI model headers are added at layer \_\_\_\_\_.

1. 1,2,3 only
2. 6,5,7 only
3. 5,4,3 only
4. 6,5,4,3,2 only

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

1. Yes
2. No

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

1. CHAP

**2. PAP**

3. LCP

4. ICMP

**33. Which level of the TCP/IP reference model routes data/information across a network channel?**

1. Application Layer

2. Data Link Layer

3. Transport Layer

**4. Network Layer**

**34. In ASK, both \_\_\_\_\_ and \_\_\_\_\_ remain constant.**

1. Amplitude, Frequency

2. Amplitude, phase

**3. Frequency, Phase**

4. Amplitude, Samples

**35. Which error detection method consists of a parity bit for each unit as well as an entire data unit of parity bits?**

1. Checksum

2. Cyclic Redundancy Check (CRC)

**3. Longitudinal Red Check (LRC)**

4. Vertical Redundancy Check (VRC)

36. Baud rate is greater than or equal to the bit rate.

1. True

2. False

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

1. BNC

2. RJ-45

3. RJ-11

4. RJ-57

38. In even parity check code, the value of syndrome is \_\_\_\_\_ if the number of 1s is even.

1. 1

2. 2

3. 0

4. 4

39. What is the period of a Sine wave having frequency of 10 Hz?

1. 0.2

2. 0.1

3. 0.5

4. 0.3

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

1. PSK
2. QAM
3. Both PSK & QAM
4. None of the given

41. There are \_\_\_\_\_ types of guided media.

1. 2
2. 3
3. 4
4. 5

42. \_\_\_\_\_ is responsible for governing node to node communication.

1. Application Layer
2. Session Layer
3. Data Link layer
4. Presentation Layer

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

1. True
2. False

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

1. DCE
- 2. DTE**
3. DCE & DTE
4. None of the given

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

1. 25
2. 10
- 3. 15**
4. 30

**46. Sampling means measuring \_\_\_\_\_ of signal at equal intervals**

- 1. Amplitudes**
2. Frequencies
3. Phases
4. None of the given

**47. A sine wave is \_\_\_\_\_.**

1. periodic and discrete
2. aperiodic and discrete
- 3. periodic and continuous**
4. aperiodic and continuous

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

1. NRZ-I
2. NRZ-L
3. RZ
4. Manchester

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

1. Addressing & Routing
2. Exchange Management
3. Flow Control
4. Recovery

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

1. true
2. false

51. In which controlled-access method all data exchanges must be made through primary device even when the ultimate destination is a secondary device?

1. Polling
2. Reservation
3. Token Passing
4. Port Forwarding

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

1. Log L
2. Log Base 2 L
3. L Square
4. Log(2\*L)

53. \_\_\_\_\_ category of coaxial cable is used for Cable TV.

1. RG-58
2. RG-59
3. RG-11
4. RG-47

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

1. true
2. false

55. Radio is an example of \_\_\_\_\_ signal conversion.

1. Analog to analog
2. Analog to digital
3. Digital to Digital
4. Digital to analog

56. Analog To Analog Conversion Methods include \_\_\_\_\_.

1. AM, PM and FM

2. AM, FSK and PM
3. AM, PM and QAM
4. None of the given

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

- 1. Standard Ethernet**
2. Fast Ethernet
3. Gigabit Ethernet
4. 10 Gigabit Ethernet

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

1. Amplitude
- 2. Segmentation**
3. Phase
4. Frequency

**59. By using \_\_\_\_\_ system, change in the file contents during file transmission can be avoided.**

1. Routing
2. Flow Control
- 3. Error Detection and Correction**
4. Congestion Control

**60. In order to find the location of two errors in an eight bit stream, we have to see \_\_\_\_\_ different combinations.**

1. 28

2. 16

3. 8

4. 4

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

1. Interframe Window

2. Contention Window

3. Fragmented Window

4. Collided Window

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

1. Frame sequencing

2. Acknowledgement numbering

3. Counter and Timer reset

4. Frame sequencing and Acknowledgement numbering

63. Which one of the following is a correct-access method?

1. Polling

2. Token Passing

3. Reservation

4. All of the given

64. In the encoding where positive to negative transition is one and vice versa is zero.

1. Manchester
2. Differential Manchester
3. All of the given
4. None of given

65. If the window size is 63 in go-back N ARQ then what is the range of sequence number?

1. 0 to 63
2. 0 to 64
3. 1 to 63
4. 1 to 64

66. Following characteristics fully describe \_\_\_\_\_,  
Amplitude  
Period/Frequency  
Phase

1. Sine Waves
2. Digital Signals
3. Aperiodic Signals
4. None of the given

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

1. Analog-to-Digital Conversion
2. Digital-to-Digital Conversion

3. Digital-to-Analog Conversion

4. None of the given

68. At the CRC checker, \_\_\_\_\_ means that the data unit is damaged.

1. A string of 0s

2. A string of 1s

3. A string of alternating 1s and 0s

4. A nonzero remainder

69. Which one of the following is a Random-Access protocol?

1. TDMA

2. CDMA/CD

3. ALOHA

4. CDMA/CA

70. Human voice is example of \_\_\_\_\_ signal.

1. Digital

2. Analog

3. Discrete

4. None of the given

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

1. Output data rate

2. Input lines

3. Input frequency

4. Multiplexed T lines

72. A \_\_\_\_\_ modem is used to connect two DTEs directly.

1. 'NULL

2. Cable

3. DSL

4. None of the given

73. If we need to correct a single error in an 8-bit data unit, we need to consider \_\_\_\_\_ possible error locations.

1. 16

2. 2

3. 4

4. 8

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

1. Large

2. Small

3. Medium

4. Zero

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

1. TCP/IP

2. HDLC

3. ICMP

**4. Stop-and-Wait**

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

1. CDMA

2. NDMA

**3. TDMA**

4. FDMA

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

1. Fault bits

2. Port numbers

**3. Redundant bits**

4. Process IDs

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

1.  $N+1$

2.  $N-1$

**3.  $N(N+1)$**

4.  $N \times N$

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

1. signal rate
2. modulation rate
- 3. Data rate**
4. pulse rate

80. Collisions in CSMA/CA are avoided through \_\_\_\_\_.

1. The Interframe Space
2. The Contention Window
3. Acknowledgements
- 4. All of the given**

81. \_\_\_\_\_ category of coaxial cable is used for thin Ethernet.

- 1. RG-58**
2. RG-59
3. RG-1
4. RG-47

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

- 1. Line discipline**
2. Flow control
3. Error control
4. Network control

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

1. Reassembly of data
- 2. Maintaining the connection**

84. \_\_\_\_\_ mode of serial transmission guarantees fixed rate of data.

1. Synchronous
2. Asynchronous
- 3. Isochronous**
4. Metasochronous

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

1. Application
2. Transport
- 3. Network**
4. Session

86. The \_\_\_\_\_ is the number of signal elements sent per unit time.

1. Data rate
- 2. Signal rate**
3. Bit rate
4. Period

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

1. Physical

**2. Direct**

3. Indirect

4. Tangible

**88. What is the period of a Sine wave having frequency of 5 Hz?**

**1. 0.2**

2. 0.1

3. 0.5

4. 0.3

**89. A sine wave is defined by \_\_\_\_\_ characteristics.**

1. 2

**2. 3**

3. 4

4. 5

**90. 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.**

1. Constant

**2. More**

3. Less

4. Zero

91. S-frames in High-Level Data Link Control (HDLC) are only used to transfer \_\_\_\_\_ information.

1. User data
2. Control
3. Redundant
4. Original

92. The \_\_\_\_\_ generates the data and passes it along with any control information to a \_\_\_\_\_.

1. DTE, DCE
2. DCE, DTE
3. DTE, DTE
4. DCE, DCE

93. The type of ALOHA which improves the efficiency of Pure ALOHA is \_\_\_\_\_.

1. Slotted ALOHA
2. Upper ALOHA
3. Integrated ALOHA
4. Lower ALOHA

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

1. 0.2
2. 0.1
3. 0.5

4. 0.3

95. WDM stands for \_\_\_\_\_.

1. Wideband De-Modulation

2. Worst Data Manipulation

3. Wavelength Division Multiplexing

4. None of the given

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

1. Two

2. Three

3. Four

4. Five

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

1. Physical

2. Direct

3. Indirect

4. Tengible

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

1. EOT

2. EKT

3. ENT

4. ESP

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

1. Time domain

2. Frequency domain

3. Frequency spectrum

4. None of the given

100. CHAP is an Authentication Protocol, which uses \_\_\_\_\_ process to authenticate user information.

1. Two-way

2. Three-way

3. Four-way

4. Five-way

101. RZ stands for \_\_\_\_\_.

1. Return to Z

2. Retire a Zero

3. Return of Zero

4. None of the given

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

1. FDMA

2. CDMA

3. TDMA

4. CSMA

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

1. Encapsulation

2. De-encapsulation

**3. Packetizing**

4. Framing

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

1. Code words

**2. Data words**

3. Passwords

4. Cross words

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

1. Delay

**2. Speed**

3. Throughput

4. Errors

**5. Error correction is more \_\_\_\_\_ than the error detection.**

1. Easy
2. Useless
3. Informal
- 4. Difficult**

**6. AM signal requires \_\_\_\_\_ the BW of original signal**

- 1. Twice**
2. Half
3. Same
4. Three Times

**7. Asynchronous transmission is \_\_\_\_\_.**

- 1. Slow**
2. Fast
3. Costly
4. None effective

**8. The Internet is \_\_\_\_\_.**

1. software for sending e-mail around the world
2. a government-owned agency that links computers
- 3. a global network of computers networks**
4. a specialised form of local area network

**9. Time division multiplexing is used in \_\_\_\_\_ systems.**

1. Analog

2. Hybrid

**3. Digital**

4. Automated

**10. Radio wave transmission utilizes \_\_\_\_\_ different types of propagation.**

1. Two

2. Three

3. Four

**4. Five**

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

1. Exactly 4

2. Exactly 8

3. Exactly 32

**4. Any**

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

1. Message

**2. Packet**

3. Segment

4. Frame

13. POST stand for \_\_\_\_\_?

1. Plain Old Telephone Set
2. Plain Old Time Sharing
3. Plain Old Telephone System
4. Plain Old Telephone Service

14. Which of the following statement is correct?

1. Digital signals are less prone to Noise
2. Digital signals are highly prone to Noise
3. Analog Signals are less prone to Noise
4. Digital signals are not affected by Noise

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

1. Retransmitted
2. Forwarded
3. Selected
4. Rejected

16. In ASK correct formula for calculating the bandwidth ia as \_\_\_\_\_.

1.  $B=(1+d)S$
2.  $B=(1*d)S$
3.  $B=(d-1)S$

4.  $B=(d-5)S$

17. **Encoding digital data into digital signals is called \_\_\_\_\_.**

1. Analog-to-Digital Conversion

**2. Digital-to-Digital Conversion**

3. Digital-to-Analog Conversion

4. None of the given

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

1.  $\neq 0$

2.  $= 0$

3.  $\neq 1$

4.  $= 1$

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

1. FSK, PSK

2. PSK, FSK

3. ASK, PSK

4. ASK, FSK

20. **PSK is susceptible to the noise degradation.**

1. True

**2. False**

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

1. Reservation
- 2. Polling**
3. Token
4. None of the given

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

1. Virtual LANs
- 2. Two adjacent nodes**
3. Ethernet links
4. Source and destination PCs

23. CDMA stands for \_\_\_\_\_.

1. Carrier Division Multiple Access
2. Carrier Data Multiple Access
3. Code Data Multiple Access
- 4. Code Division Multiple Access**

24. If users must take turns using the link, then it is called Spatial Sharing.

1. true
- 2. false**

25. **GO-BACK-N** protocol is one of the \_\_\_\_\_ layer protocols, which is used to control the flow of data during the transmission.

1. Physical
- 2. Network**
3. Presentation
4. Data link

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

- 1. Circuit switching**
2. Packet switching

27. Signals travel through fiber optic cable are in the form of \_\_\_\_\_.

- 1. Light**
2. Bits
3. Electromagnetic
4. Bytes

28. \_\_\_\_\_ contains a repeater.

- 1. Active hub**
2. Passive hub

29. In frequency shift keying, \_\_\_\_\_ remain(s) constant.

1. Frequency
- 2. Amplitude**

3. Both Amplitude and Phase

**4. Both Phase and Frequency**

**30. \_\_\_\_\_ is/are un-reliable protocol(s).**

1. IP and TCP

2. UDP

**3. IP and UDP**

4. TCP

**31. \_\_\_\_\_ is not a function of Data Link Control.**

1. Framing

**2. Modulation**

3. Error Control

4. Flow Control

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

1. domain address

2. protocol address

**3. IP address**

4. Web address

**33. dB is negative if a signal is \_\_\_\_\_.**

**1. Attenuated**

2. Distorted

3. Amplified

4. Noisy

**34. We can have \_\_\_\_\_ different groups with a 4 bit block.**

1. 4

2. 8

3. 16

4. 32

**35. Line Configuration refers to the way two or more devices attach to a \_\_\_\_\_.**

1. Path

2. Circuit

3. Link

4. Router

**36. Error detection and correction are the services provided by \_\_\_\_\_ layer.**

1. Data link layer

2. Application layer

3. Physical layer

4. Session layer

**37. Which of the following sublayer resolves the contention for the shared media.**

1. MAC

2. LLC
3. Physical
4. None of the given.

**38. There are \_\_\_\_\_ basic categories of multiplexing.**

1. 2
- 2. 3**
3. 7
4. 5

**39. Low pass channel has \_\_\_\_\_ bandwidth between two stations.**

- 1. Dedicated**
2. Shared
3. Multiplexed
4. Infinite

**40. BSC supports \_\_\_\_\_ transmission using \_\_\_\_\_ flow control.**

1. Full-duplex, Stop and wait ARQ
2. Half-duplex, Selective reject ARQ
3. Full-duplex, Selective reject ARQ
- 4. Half-duplex, Stop and wait ARQ**

**41. Quantization is a method of assigning \_\_\_\_\_ values in a specific range to sampled instances.**

1. Negative
2. Positive
3. Binary
- 4. Integral**

**42. \_\_\_\_\_ encoding is almost obsolete today**

1. Bipolar
- 2. Unipolar**
3. Polar
4. None of the given

**43. YMODEM has \_\_\_\_\_ Byte of data unit.**

- 1. 1024**
2. 256
3. 128
4. 512

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

- 1. Transport Layer**
2. Session Layer

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

1. Equal to the remainder at the sender

2. Zero

3. Nonzero

4. The quotient at the sender

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

1. Serial data transmission

2. Hybrid data transmission

3. Parallel data transmission

4. Both parallel and serial data transmission

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

1. Less than

2. Equal to

3. Greater than

4. Same as

48. A portion of the path that carries TX between a given pair of devices is known as \_\_\_\_\_.

1. Direct Point

2. Bridge

3. Channel

4. Access Point

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

1. 100
2. 500
3. 300
4. 600

50. \_\_\_\_\_ is the process of converting digital data to digital signals.

1. CSMA/CD
2. CSMA/CA
3. Line coding
4. Segmentation

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

1. Fast Ethernet
2. Standard Ethernet
3. Gigabit Ethernet
4. 10BASE-T Ethernet

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

1. Data Link
2. Network
3. Transport

**4. All mentioned**

**53. In Pure ALOHA, the vulnerable time is \_\_\_\_\_ the frame transmission time.**

- 1. Same as
- 2. Two times**
- 3. Three times
- 4. Four times

**54. What is the Bandwidth of a periodic signal if it is decomposed into 4 sine waves with frequencies 300, 600, 900 and 1200?**

- 1. 100
- 2. 900**
- 3. 300
- 4. 600

**55. \_\_\_\_\_ signal can take infinite levels of intensity over time.**

- 1. Digital
- 2. Discrete
- 3. Analog**
- 4. Logical

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

- 1. Local Area Network
- 2. Metropolitan Area Network**

3. Wide Area Network

4. Home Based Network

**57. Which layer is concerned with the syntax and semantics of info exchange between two systems?**

1. Physical

2. Application

3. Session

**4. Presentation**

**58. Time domain shows changes in \_\_\_\_\_.**

1. time w.r.t signal amplitude

**2. signal amplitude w.r.t time**

3. time

4. All of the given

**59. In ASK, Noise usually affects the \_\_\_\_\_.**

**1. Amplitude**

2. Phase

3. Sample

4. Frequency

**60. In analog transmission, the base signal is called the \_\_\_\_\_.**

**1. Carrier Signal**

2. Analog signal

3. Digital signal

4. Modulated signal

**61. Which of the following is most affected by noise?**

1. PSK

**2. ASK**

3. FSK

4. QAM

**62. In Synchronous TDM, Time slots are not same in number as input devices.**

1. True

**2. False**

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

1. Duplicated

2. Blocked

3. Cleaned

**4. Escaped**

**64. Guard bands are used in \_\_\_\_\_ multiplexing technique, to avoid overlapping of frequency bands assigned to each user.**

1. PDM

2. CSMA

3. TDM

**4. FDM**

**65. DLC in Data Link Layer stands for \_\_\_\_\_.**

- 1. Divide Line Communication
- 2. Data Line Code
- 3. Data Link Control**
- 4. Demand Link Coordination

**66. In Pulse Code Modulation (PCM), the sampling is dependent on \_\_\_\_\_.**

- 1. Time
- 2. Amplitude
- 3. Frequency
- 4. Signal Rate**

**67. Digital signals are referred to be \_\_\_\_\_.**

- 1. Continuous
- 2. Discrete**
- 3. All of the given
- 4. None of the given

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

- 1. satellite
- 2. protocol

3. broadcast

4. network

69. Which error detection method uses one's complement arithmetic.

1. Cyclic Redundancy Check (CRC)

2. Longitudinal Red Check (LRC)

3. Checksum

4. Simple Parity Check

70. WDM stands for \_\_\_\_\_.

1. Wave Division Multiplexing

2. Wrong Division Multiplexing

3. Well Division Multiplexing

4. West Division Multiplexing

71. Analog refers to something that is continuous in \_\_\_\_\_.

1. Time

2. Space

3. Frequency

4. None of the given

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

1. 0.5

2. 0.6

3. 0.3

4. 0.2

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

1. 60

2. 12

3. 20

4. 10

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

1. True

2. False

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

1. Application

2. Transport

3. Presentation

4. Data link

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

1. I-frames

2. U-frames

3. S-frames

4. N-frames

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

1. Burst

2. Single-Bit

3. Uni-Bit

4. Hamming

