

BIT107 & DIP206 MCQ TEST FINAL QUESTION – FROM CHAPTER 1 TO 19

Attempt to answer the following MCQ questions:

1. The three forces that have driven the architecture and evolution of data communications and networking facilities are:
 - a. Traffic growth, advances in technology, and legal considerations.
 - b. Traffic growth, development of services, and advances in technology.**
 - c. Development of services advances in technology, and legal considerations.
 - d. Advances in technology, lower costs, and greater capacities.
 - e. Voice applications, the advent of the Internet, and increased mobility of users.
2. Which of the following is NOT one of the stated trends in technology identified as contributing to increasing traffic and services in networks?
 - a. The emergence of the Internet.
 - b. More and more people are discovering the World Wide Web as a valuable resource.**
 - c. The ever-increasing use of mobile devices and applications.
 - d. Increasing quality and variety of services in both voice and data networks.
 - e. The fact the both computing and communication technologies are getting faster and cheaper.
3. Which of the following is NOT one of the main application areas that serve as one of the drivers in determining the design and makeup of enterprise networks?
 - a. Transaction processing**
 - b. IP telephony
 - c. Multimedia messaging
 - d. E-business
 - e. Customer relationship management
4. Which of the following is NOT one of the four layers in the model of business-driven convergence?
 - a. Networks**
 - b. Infrastructure
 - c. Management
 - d. Services

- e. Applications
5. Which of the following is the most commonly used standard for computer communications?
- a. SLA
 - b. TCP/IP**
 - c. ISO
 - d. USD
 - e. DLINK
6. Select all of the following which represent digital forms of information.
- a. A watch with two hands
 - b. A mechanical odometer on a car
 - c. A watch that displays time as HH:MM**
 - d. A gas gauge
 - e. A page filled with English prose**
 - f. A fax transmission**
7. Which of the following represents the most basic unit of digital information?
- a. Byte
 - b. Nibble
 - c. Pixel
 - d. Bit**
 - e. Octet
8. A stereo compact disc typically requires the bandwidth for each channel to be:
- a. 300 Hz
 - b. 3,400 Hz
 - c. 8,000 Hz
 - d. 20,000 Hz**
 - e. 1,410,000 Hz
9. When using data communications with 8-bit codes, the number of alphabetic symbols:
- a. must be exactly 256.
 - b. must be greater than 8.
 - c. can be greater than 1024 bytes.
 - d. must be less than 256.**

e. determines the number of octets.

10. The time interval between when a user presses a key and when the result of that action arrives at his or her workstation is called the:
- a. **response time.**
 - b. turn-around time.
 - c. think time.
 - d. delay time.
 - e. transmission time.
11. Which of the following typically is not supported by distributed processing?
- a. Applications
 - b. Device controllers
 - c. Data
 - d. Control
 - e. **Mainframes**
12. Which of the following is not a benefit of distributed data processing?
- a. Increased responsiveness to organizational needs
 - b. Better correspondence to organizational patterns
 - c. Greater user involvement and control
 - d. **Enhanced centralization of data definitions**
 - e. Reduced systems incompatibility
13. Which of the following is not a function provided by servers in client/server systems?
- a. Printing services
 - b. **Data entry**
 - c. Database services
 - d. Gateways
 - e. Fax services
14. The three ways of organizing data for use by an organization are:
- a. **centralized, replicated, and partitioned.**
 - b. centralized, structured, and partitioned.
 - c. structured, replicated, and partitioned.
 - d. centralized, replicated, and structured.
 - e. distributed, replicated, and partitioned.

15. A paradigm for electronic communications where a dedicated path is opened and maintained during the exchange is called:
- a. message switching.
 - b. circuit switching.**
 - c. packet switching.
 - d. data switching.
 - e. analog switching.
16. The development of a internationally distributed collection of multimedia files addressed using universal resource locators led to the:
- a. Telnet package.
 - b. Email system.
 - c. World-wide-web.**
 - d. FTP package.
 - e. Domain resource locator.
17. The problems of using IP numbers for addressing hosts in the Internet are resolved using:
- a. the concept of domains and the use of domain names.**
 - b. the use of Telnet applications.
 - c. the use of email servers.
 - d. splitting IP addresses into four octets.
 - e. using fixed routing paths through the network.
18. The Domain Name System (DNS) is comprised of four elements. Which of the following is NOT one of these elements?
- a. The domain name space
 - b. IP addresses**
 - c. DNS database
 - d. Name servers
 - e. Resolvers

19. The key features of the DNS database are:
- a. variable-depth hierarchy for names, distributed databases, and name servers.
 - b. Resolvers, distributed databases, and name servers.
 - c. Distribution controlled by the database, resolvers, and distributed databases.
 - d. Domain name spaces, name servers, and variable-depth hierarchies.
 - e. Variable-depth hierarchy for names, distributed databases, and distribution controlled by the database.**
20. Which of the following is a commonly used set of standards for computer communications?
- a. SLA
 - b. ISO
 - c. POP
 - d. TCP/IP**
 - e. FTP
21. A device that connects networks with differing addressing schemes, packet sizes and interfaces is called a:
- a. hub.
 - b. router.**
 - c. switch.
 - d. repeater.
 - e. bridge.
22. The current IP specification uses addresses to identify hosts that consist of:
- a. 16 bits.
 - b. four bits.
 - c. 32 bits.**
 - d. 64 bits.
 - e. 128 bits.
23. The newer IPv6 specification uses addresses to identify hosts that consist of:
- a. 16 bits.
 - b. four bits.
 - c. 32 bits.
 - d. 64 bits.

- e. **128 bits.**
- 24. Email functions visible to a user, such as facilities for preparing and submitting messages, filing, replying, and forwarding, are considered:
 - a. message transfer agent functions.
 - b. client functions.
 - c. email client functions.
 - d. **user agent functions.**
 - e. SMTP functions.
- 25. Which of the following is a true statement regarding SMTP processing of messages?
 - a. Messages typically are sent through multiple SMTP systems while going from the sender to the recipient.
 - b. The SMTP sender remains responsible for a message until it has been delivered to the recipient.
 - c. **SMTP does not guarantee that all messages are delivered.**
 - d. SMTP attempts to send messages until the recipients become available.
 - e. SMTP allows only one recipient for each message that is sent.
- 26. A widely used extension to the RFC 822 framework that expands what can be sent via email is called:
 - a. **MIME.**
 - b. ASCII.
 - c. VoIP.
 - d. SMTP.
 - e. IMAP.
- 27. When using HTTP, an application program that establishes connections for the purpose of sending requests to a server is called a:
 - a. **client.**
 - b. server.
 - c. host.
 - d. resource.
 - e. gateway.

28. When using HTTP, an application program that accepts connections in order to service requests by sending back responses is called a:
- a. client.
 - b. server.**
 - c. host.
 - d. resource.
 - e. gateway.
29. Which of the following is not a class of client/server processing?
- a. Host-based processing
 - b. Server-based processing
 - c. Client-based processing
 - d. Cooperative processing
 - e. Network-based processing**
30. Advantages of a web/database system as compared to a more traditional database approach include:
- a. improved functionality and ease of administration.
 - b. ease of administration and transaction tracking.
 - c. rapid development and flexible information presentation.**
 - d. Easy deployment and improved functionality.
 - e. Improved functionality and transaction tracking.
31. Which of the following describes class A networks?
- a. Many networks, each with a few hosts
 - b. Medium number of networks, each with a medium number of hosts
 - c. Few networks, each with many hosts**
 - d. A dedicated network, with a set number of hosts
 - e. A network dedicated to multicast applications
32. Which of the following describes class B networks?
- a. Many networks, each with a few hosts
 - b. Medium number of networks, each with a medium number of hosts**
 - c. Few networks, each with many hosts
 - d. A dedicated network, with a set number of hosts
 - e. A network dedicated to multicast applications

33. Which of the following describes class C networks?
- a. **Many networks, each with a few hosts**
 - b. Medium number of networks, each with a medium number of hosts
 - c. Few networks, each with many hosts
 - d. A dedicated network, with a set number of hosts
 - e. A network dedicated to multicast applications
34. The maximum number of Class A network addresses is:
- a. 16
 - b. **126**
 - c. 128
 - d. 256
 - e. 16,384
35. Which of the following is NOT one of the typical characteristics of back-end networks?
- a. High data rate
 - b. High-speed interface
 - c. Distributed access
 - d. **Extended distance**
 - e. Small number of devices
36. Which of following is NOT one of the design that determines data rate and distance?
- a. **The number of senders**
 - b. The number of receivers
 - c. Interference
 - d. Transmission impairment
 - e. Bandwidth
37. The fact that signal strength falls off with distance is called:
- a. bandwidth.
 - b. **attenuation.**
 - c. resistance.
 - d. propagation.
 - e. amplification.

38. Which of the following is NOT one of the distinguishing characteristics for optical fiber cables compared with twisted pair or coaxial cables?
- a. Greater capacity
 - b. Small size
 - c. Lower attenuation
 - d. Electromagnetic isolation
 - e. **Heavier weight**
39. Which of the following LAN technologies has the highest capacity?
- a. Ethernet
 - b. Fast Ethernet
 - c. Fibre Channel
 - d. Wireless LAN
 - e. **Gigabit Ethernet**
40. Which of the following is not one for the speeds found in modern Ethernet LAN?
- a. 10 Mbps
 - b. 100 Mbps
 - c. 1 Gbps
 - d. 10 Gbps
 - e. **100 Gbps**
41. A basic service set (BSS) is:
- a. **the smallest building block of a wireless LAN**
 - b. the same as an access point
 - c. the same as a control module
 - d. always connected to a backbone distribution system.
 - e. an isolated set of devices using wireless
42. IEEE 802.11 defines a number of services that need to be provided by wireless LAN to provide functionality. Which of the following is not one of these services?
- a. Association
 - b. Reassociation
 - c. Authentication
 - d. **Coordination**

- e. Disassociation
- 43. Data communications via circuit switching involves three phases. These phases are:
 - a. connect, transfer, hangup
 - b. ring, talk, hangup
 - c. dial, transfer, disconnect
 - d. establishment, data transfer, disconnect**
 - e. establishment, multiplex, hangup
- 44. A public telecommunications network can be described using for generic components:
 - a. senders, receivers, lines, and nodes.
 - b. subscribers, local loops, exchanges, and trunks.**
 - c. subscribers, trunks, nodes, and loops.
 - d. senders, receivers, exchanges, and trunks.
 - e. Local loops, subscriber lines, exchanges, and trunks.
- 45. Control signaling on circuit switching networks performs a number of functions. Which of the following is NOT one of classes of function for control signaling?
 - a. establishment**
 - b. supervisory
 - c. address
 - d. call information
 - e. network management
- 46. Which of the following is NOT one of the stated advantages of packet switching over circuit switching?
 - a. There is less network delay.**
 - b. Line efficiency is greater.
 - c. Data rate conversion can be provided.
 - d. Priorities can be used.
 - e. Connections are never rejected.

47. Which of the following is NOT a reason for network jitter when using packet switching networks?
- a. Packets may vary in length.
 - b. Switches may vary in the time required to process packets.
 - c. Packets may take different paths through the network.
 - d. Packets may encounter network congestion.
 - e. **Data rates will vary from one trunk line to the next.**
48. What is the purpose of Networks:
- a. **To share resources**
 - b. To share users
 - c. To share Management Information System
 - d. To Share one administrator
49. The device used in the conversion of signals from digital to analogue and analogue to digital is
- a. DTE
 - b. **MODEM**
 - c. ADC
 - d. DAC
50. Which of the following is not a network topology
- a. Bus
 - b. Star
 - c. **Logic**
 - d. Ring
51. Thick & Thin Cables are
- a. Twisted pair
 - b. **Coaxial cable**
 - c. Fibre optic
 - d. Microwave
52. In network switching technology, which technique will not establish a route for the packets of a message but each packet is free standing and a route independent from predecessor or successor.
- a. Circuit switching
 - b. Dial up switching
 - c. Virtual switching
 - d. **Datagram**
53. What accessing method does Ethernet standard use?
- a. P-persistent CSMA
 - b. **CSMA/CD**
 - c. CSMA/CA
 - d. CSMA/CRC

54. what is the standard for cheaper net or thin wire ethernet
- a. 10base5
 - b. 10base2**
 - c. 10baseT
 - d. 10broad36
55. If a network segment needed to be extended beyond its capacity what interconnection device is used simply to boost and transmit the network signal on both identical segments
- a. Gateway
 - b. Router
 - c. Bridge**
 - d. Repeater
56. Which interconnection device is used to connect dissimilar networks?
- a. Gateway
 - b. Router**
 - c. Bridge
 - d. Repeater
57. What technology can support WAN and LAN, operate at 155MPS and use cell relay packet switching
- a. ISDN
 - b. ATM**
 - c. X.25
 - d. X.21
58. Which of the following protocol work at the transport and network layer of OSI model
- a. TCP/IP**
 - b. SNA/APPC
 - c. NETBEUI
 - d. IPX/SPX
59. Which is of the following is not a client server network operating system
- a. Netware V4.0
 - b. Windows NT V4.0
 - c. Unix V7.0
 - d. Windows 98 release 2**
60. Which one of the following is not a hazard, which will affect the planning route of a network?
- a. High temperature
 - b. Electrical radiation
 - c. Electrical plant
 - d. Water pipes**

61. Prior to cellular radio, mobile radio and telephone services required:
- a. **a high-power transmitter/receiver.**
 - b. multiple transmitters/receivers.
 - c. only one or two dedicated channels.
 - d. that many channels be used, which exceed the frequency capacity.
 - e. wired networks for support.
62. When using cellular networks,
- a. a single base station can serve multiple cells.
 - b. adjacent cells must use the same frequencies.
 - c. **adjacent cells are assigned different frequencies.**
 - d. non-adjacent cells are assigned different frequencies.
 - e. non-adjacent cells can use any frequency.
63. The ideal design for cells in a cellular network is a hexagonal shape because:
- a. this makes enforcement of shapes easier.
 - b. this is the easiest to implement.
 - c. **this makes all frequencies available to all cells.**
 - d. makes the distance to all adjacent cells the same.
 - e. all cells can be isolated.
64. When a mobile unit moves, it may connect with a different base station. This action is called:
- a. **a handoff.**
 - b. a transfer.
 - c. a reconfiguration.
 - d. a dropped signal.
 - e. an intertower pickup.
65. Which of the following is NOT one of the ways that frequency spectrum can be divided among active users?
- a. frequency division multiple access
 - b. time division multiple access
 - c. code division multiple access
 - d. space division multiple access

e. cell division multiple access

66. Analog signals differ from digital signals in that:
- a. analog signals are represented vs. time while digital signals are measured vs. frequency.
 - b. analog signals are periodic, digital signals are not.
 - c. **analog signals are continuous while digital signals remain at one constant level and then move to another constant level.**
 - d. analog signals operate a higher frequencies than digital signals.
 - e. digital signals operate at higher frequencies than analog signals.
67. A sine wave is a periodic signal that:
- a. has equal phase, frequency and amplitude.
 - b. can be either digital or analog.
 - c. has a maximum peak amplitude equal to it's frequency.
 - d. has a frequency that is less than its amplitude.
 - e. **can be measured in terms of it's amplitude, frequency and phase.**
68. The spectrum of a signal is:
- a. the lowest frequency value subtracted from the highest .
 - b. **the range of frequencies in the signal.**
 - c. all of the frequencies from 0 to the highest frequency used.
 - d. the average of the highest frequency and the lowest.
 - e. the average of the lowest frequency used.
69. The bandwidth of a signal is:
- a. **the width of the spectrum.**
 - b. the average of the frequencies.
 - c. the range of frequencies in the signal.
 - d. the maximum amplitude of the signal.
 - e. the minimum amplitude in the signal.
70. Delay distortion is due to:
- a. wait times between keyboard entry and actual transmission of data.
 - b. **portions of the signal arriving at the destination at different times.**
 - c. varying levels of signal strength.
 - d. the difference between fiber and copper transmission properties.

- e. line attenuation.
71. In modern communication systems, data is sent from one point to another via:
- a. input data.
 - b. alternating current (A/C).
 - c. pressure changes.
 - d. electromagnetic signals.**
 - e. direct current (D/C).
72. One of the main differences between amplifiers and repeaters is that:
- a. amplifiers forward noise as well as data.**
 - b. amplifiers clean the signal and then forward it.
 - c. amplifiers increase the amount of attenuation.
 - d. amplifiers focus primarily on digital signals.
 - e. amplifiers focus primarily on analog signals.
73. An encoding scheme is used: [8.]
- a. in digital transmission to map binary digits to signal elements.
 - b. in analog transmission to clean up the quality of the transmission.
 - c. to help minimize errors.
 - d. A, B, and C.**
 - e. A and B only.
74. A carrier wave is modulated with 4 amplitudes and 4 phase changes. How many possible signal combinations are there?
- a. 4
 - b. 8
 - c. 16**
 - d. 32
 - e. 64
75. Standards are important when devices must communicate together. The four characteristics governed by these standards are:
- a. mechanical, electrical, functional, and procedural.**
 - b. electrical, physical, functional, and signaling.

- c. fundamental, mechanical, procedural, and protocol.
 - d. protocol, fundamental, physical, and signaling.
 - e. physical, virtual, electrical, and functional.
76. Which of the following is NOT a common component of an error control process?
- a. Error detection
 - b. Positive acknowledgement
 - c. Retransmission after timeout
 - d. Negative acknowledgment and retransmission
 - e. Damaged frame.**
77. The types of frames used in HDLC are:
- a. Exchanged information, information, and unnumbered.
 - b. Information, supervisory, and unnumbered.**
 - c. Information, supervisory, and control.
 - d. Information, supervisory, and exchange.
 - e. Supervisory, unnumbered, and set synchronous.
78. A multiplexing technique where multiple users use distinct carrier frequencies separated such that the modulated signals do not overlap is called:
- a. frequency division multiplexing.**
 - b. time division multiplexing.
 - c. separate channel multiplexing.
 - d. common channel multiplexing.
 - e. separate frequency multiplexing.
79. A multiplexing technique where multiple users use distinct time slots such that the transmitted bits are shared by all users is called: [16.]
- a. frequency division multiplexing.
 - b. time division multiplexing.**
 - c. separate channel multiplexing.
 - d. common channel multiplexing.
 - e. separate frequency multiplexing.
80. Present-day television, both broadcast and cable employ:
- a. frequency division multiplexing.**

- b. time division multiplexing.
 - c. separate channel multiplexing.
 - d. common channel multiplexing.
 - e. separate frequency multiplexing.
81. When considering encryption, _____ is an input value upon which the exact substitutions and transformations performed depend.
- a. plaintext
 - b. ciphertext
 - c. key**
 - d. encryption algorithm
 - e. decryption algorithm
82. When considering encryption, _____ performs various substitutions and transformations on the original message.
- a. plaintext
 - b. ciphertext
 - c. key
 - d. encryption algorithm**
 - e. decryption algorithm
83. When considering encryption, _____ is the message output.
- a. plaintext
 - b. ciphertext**
 - c. key
 - d. encryption algorithm
 - e. decryption algorithm
84. When considering encryption, _____ performs substitutions and transformations to regenerate the original message.
- a. plaintext
 - b. ciphertext
 - c. key
 - d. encryption algorithm
 - e. decryption algorithm**
85. When considering encryption, _____ is the original message or data used as input.

- a. **plaintext**
- b. ciphertext
- c. key
- d. encryption algorithm
- e. decryption algorithm

86. Fault management deals with

- a. Facilities needed to evaluate the behavior of managed objects and the effectiveness of communication
- b. Aspects essential to operate OSI network management correctly and to protect managed objects
- c. Facilities that enable charges to be established for the use of managed objects
- d. Facilities that exercise control over, identify, collect data from, and provide data to managed objects
- e. **Facilities that enable the detection, isolation, and correction of abnormal operation of the OSI environment**

87. Performance management deals with:

- a. **Facilities needed to evaluate the behavior of managed objects and the effectiveness of communication**
- b. Aspects essential to operate OSI network management correctly and to protect managed objects
- c. Facilities that enable charges to be established for the use of managed objects
- d. Facilities that exercise control over, identify, collect data from, and provide data to managed objects
- e. Facilities that enable the detection, isolation, and correction of abnormal operation of the OSI environment

88. Security management deals with:

- a. Facilities needed to evaluate the behavior of managed objects and the effectiveness of communication
- b. **Aspects essential to operate OSI network management correctly and to protect managed objects**
- c. Facilities that enable charges to be established for the use of managed objects
- d. Facilities that exercise control over, identify, collect data from, and provide data to managed objects
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89. Which of the following is not a network topology
- a Bus
 - b Star
 - c Logic**
 - d Ring
90. Thick & Thin Cables are
- a Twisted pair
 - b Coaxial cable**
 - c Fibre optic
 - d Microwave
91. Which layer is responsible for routing and addressing?
- a. Transport layer
 - b Network layer**
 - c Data link layer
 - d Physical layer
91. In the networking standards the IEEE 802.3 represent
- a Ethernet**
 - b Token bus
 - c Token ring
 - d Cableless
92. what is the standard for cheaper net or thin wire Ethernet
- a 10base5
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93. If a network segment needed to be extended beyond its capacity what interconnection device is used simply to boost and transmit the network signal on both identical segments
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95. Which interconnection device is used to connect similar networks?
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96. Which interconnection device works at the data link layer?
- a Gateway

- b Router
 - c Bridge**
 - d Repeater
97. Which interconnection device works at the Network layer?
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 - b Router**
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98. What technology can support WAN and LAN, operate at 155MPS and use cell relay packet switching
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