1. Which layer of the OSI model is responsible for ensuring that all packets sent are received by the destination station by dealing with end-to-end issues?

|  |  |  |
| --- | --- | --- |
|  | a. | physical Layer |
|  | b. | presentation Layer |
|  | c. | application Layer |
|  | d. | transport Layer |
|  | e. | session Layer |

D

1. Which layer of the OSI model is responsible for ensuring that the destination station does not receive more packets that it can process at any given time?

|  |  |  |
| --- | --- | --- |
|  | a. | physical Layer |
|  | b. | presentation Layer |
|  | c. | transport Layer |
|  | d. | session Layer |
|  | e. | application Layer |
| B |  |  |

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_, or the algorithms or business rules programmed into the application, can be simple or complex depending on the application.

|  |  |  |
| --- | --- | --- |
|  | a. | application logic |
|  | b. | presentation logic |
|  | c. | data storage |
|  | d. | data access logic |
|  | e. | application access storage |
| A |  |  |

1. Which of the following standards bodies is an organization of the United Nations:

|  |  |  |
| --- | --- | --- |
|  | a. | Exchange Carriers Association (ECA) |
|  | b. | Institute of Electrical and Electronics Engineers (IEEE). |
|  | c. | Internet Engineering Task Force (IETF) |
|  | d. | International Telecommunication Union (ITU) |
|  | e. | International Organization for Standardization (ISO) |
|  | D |  |

1. From the alternatives below, select the protocol that is most likely to be implemented at the data link layer of the Internet or OSI model.

|  |  |  |
| --- | --- | --- |
|  | a. | IP |
|  | b. | FTP |
|  | c. | Ethernet |
|  | d. | TCP |
|  | e. | HTTP |
| C |  |  |

1. In the Internet model, the application layer corresponds to the \_\_\_\_\_\_\_\_, layer(s) s of the OSI model.

|  |  |  |
| --- | --- | --- |
|  | a. | session, presentation and application |
|  | b. | application and presentation |
|  | c. | data link and network |
|  | d. | application layer |
|  | e. | network, transport and presentation |

A

1. Client-server architectures:

|  |  |  |
| --- | --- | --- |
|  | a. | can use middleware to provide a standard way of communicating between software from more than one vendor |
|  | b. | assign the responsibility for the presentation logic to the server |
|  | c. | cannot connect computers that use different hardware |
|  | d. | were the earliest type of network architectures |
|  | e. | are one of the least used network architectures today |

A

1. One disadvantage of the \_\_\_\_\_\_\_\_\_\_\_\_ architecture is that places the greatest load on a network when compared to other architectures.

|  |  |  |
| --- | --- | --- |
|  | a. | two-tier |
|  | b. | one-tier |
|  | c. | n-tier |
|  | d. | layered |

C

1. In a three tier architecture, the software on the client computer is responsible for\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
|  | a. | presentation logic |
|  | b. | data access logic |
|  | c. | data storage |
|  | d. | application logic |
|  | e. | application storage |

A

1. Which one of the following statements is true?

|  |  |  |
| --- | --- | --- |
|  | a. | The web was first conceived in 1998 by sir Tim Berners-Lee. |
|  | b. | P2P networks are very resilient to the failure of any one computer. |
|  | c. | The infrastructure costs of client-server architecture is greater than that of Host-based architecture. |
|  | d. | Host-based architecture is the most scalable architecture. |

B

1. Select the alternative that identifies the kind of multiplexer which divides a fiber optic circuit horizontally into different light frequencies that are transmitted simultaneously across many channels.

|  |  |  |
| --- | --- | --- |
|  | a. | frequency division multiplexer |
|  | b. | statistical time division multiplexer |
|  | c. | statistical frequency division multiplexer |
|  | d. | time division multiplexer |
|  | e. | wave division multiplexer |

E

1. If the highest frequency of a circuit is 10 kHz and the lowest frequency is 900 Hz, the bandwidth available for this circuit is:

|  |  |  |
| --- | --- | --- |
|  | a. | 890 KHz |
|  | b. | 9100 Hz |
|  | c. | 8900 HZ |
|  | d. | 890 Hz |
|  | e. | 9Khz |

B

1. Select all terms that correctly identify hardware or software that is used to transform analog voice signals to digital signals and digital signals to analog signals.

|  |  |  |
| --- | --- | --- |
|  | a. | voice converter |
|  | b. | demodulator |
|  | c. | multiplexer |
|  | d. | codec |

D

1. When sending three bits at a time using frequency modulation, the number of different frequency levels that would be needed would be \_\_\_\_\_\_\_.

|  |  |  |
| --- | --- | --- |
|  | a. | 3 |
|  | b. | 2 |
|  | c. | 6 |
|  | d. | 4 |
|  | e. | 8 |

E

15. A coding scheme that uses 8 bits to represent each character is capable of representing \_\_\_\_\_\_\_\_\_ different characters.

|  |  |  |
| --- | --- | --- |
|  | a. | 16 |
|  | b. | 256 |
|  | c. | 8 |
|  | d. | 128 |
|  | e. | 512 |

B

1. How many bits per sample are required to sample an incoming signal 3,000 times per second using 128 different amplitude levels?

|  |  |  |
| --- | --- | --- |
|  | a. | 384,000 |
|  | b. | 14 |
|  | c. | 3,000 |
|  | d. | 128 |
|  | e. | 7 |
|  | f. | None of the other answers is correct |
|  | g. | 6 |

E

1. Which of the following media can best withstand harsh environmental conditions?

|  |  |  |
| --- | --- | --- |
|  | a. | fiber optic cable |
|  | b. | shielded twisted pair |
|  | c. | unshielded twisted pair |
|  | d. | coaxial cable |
|  | e. | Cat 5 twisted pair |

A

18.If each sample uses 16 bits, and the number of samples taken each second is 2,000, then what is the transmission speed of the circuit?

|  |  |  |
| --- | --- | --- |
|  | a. | 16 Kbps |
|  | b. | 125 Kbps |
|  | c. | 125 bps |
|  | d. | None of the other answers are correct |
|  | e. | 8,000 bps |

D

19.Select the correct statement regarding the following 48-bit MAC address represented in binary:  
  
10101010 01100001 11111001 11001110 00001000 01101001

|  |  |  |
| --- | --- | --- |
|  | a. | This MAC address in enhanced hexadecimal notation is 170.97.249.206. |
|  | b. | None of the other answers are correct. |
|  | c. | This MAC address in enhanced hexadecimal notation is 69:08:CE:F9:61:AA. |
|  | d. | This MAC address in enhanced hexadecimal notation is AA:61:F9:CE:08:69. |
|  | e. | This MAC address in enhanced hexadecimal notation is 170.97.249.206.8.105. |

E

20.Select the true statement regarding the following IPv4 address represented in dotted decimal notation:  
  
88.127.197.145

|  |  |  |
| --- | --- | --- |
|  | a. | None of the other answers are correct. |
|  | b. | This IPv4 address represented in binary is 58.7F.C5.91. |
|  | c. | This IPv4 address represented in binary is 10001000 110111 11001111 1100101. |
|  | d. | This IPv4 address represented in binary is 10010001 11000101 01111111 01011000. |
|  | e. | This IPv4 address in represented in binary is 01011000 01111111 10010001 11000101. |

E