

1-Which of the answers listed below refers to the process of granting or denying access to resources?

- ☐ Authentication
- ☒ Authorization
- ☐ Accounting

2-Which of the following answers refer to the characteristic features of the 10.0.0.0 - 10.255.255.255 (10.0.0.0/8) IPv4 address space? (Select 2 answers)

- ☒ Class A range
- ☐ Public IP address range
- ☐ Class B range
- ☒ Non-routable (private) IP address range
- ☐ Class C range

3-Which of the following answers refers to an IPv4 address range used for loopback addresses?

- ☐ 0.0.0.0 – 0.255.255.255 (0.0.0.0/8)
- ☒ 127.0.0.0 – 127.255.255.255 (127.0.0.0/8)
- ☐ 169.254.0.0 – 169.254.255.255 (169.254.0.0/16)
- ☐ 240.0.0.0 – 255.255.255.254 (240.0.0.0/4)

4-In a network using subnets, the term "Default gateway" refers to a network device (e.g. router) that enables exchange of data between hosts residing in different subnets.

- ☒ True
- ☐ False

5-In IPv4 addressing, the leading octet of an IP address with a value of 1 through 126 denotes that the IP address within that range belongs to the:

- ☒ Class A address space
- ☐ Class B address space
- ☐ Class C address space
- ☐ Class D address space

6-Which of the answers listed below refers to an example of a valid subnet mask?

- ☐ 255.255.225.0
- ☐ 255.255.191.0
- ☐ 255.255.127.0
- ☐ 255.255.64.0
- ☒ None of the above is a valid subnet mask

7-In IPv4 addressing, the leading octet of an IP address with a value of 192 through 223 denotes that the IP address within that range belongs to the:

- ☐ Class A address space <sup>/26</sup>
- ☐ Class B address space
- ☒ Class C address space
- ☐ Class D address space

8-Which of the following answers lists the CIDR notation of the 255.255.255.224 subnet mask?

- ☐ /25
  - ☐ /26
  - ☒ /27
  - ☐ /28
- |                 |     |
|-----------------|-----|
| 255.255.255.192 | /26 |
| 255.255.255.128 | /25 |
| 255.255.255.0   | /24 |

9-Transmission Control Protocol (TCP) is an example of a connectionless protocol. Because TCP doesn't support three-way handshake while establishing a network connection, it is referred to as unreliable or best-effort protocol.

True ☒ false

10- User Datagram Protocol (UDP) is a connection-oriented protocol using a three-way handshake which is a set of initial steps required for establishing network connection. UDP supports retransmission of lost packets, flow control (managing the amount of data that is being sent), and sequencing (rearranging packets that arrived out of order).

True **false**

11-A type of protocol used in network management systems for monitoring network-attached devices is called:

- ☐ SMB
- ☐ NTP
- ☒ **SNMP**
- ☐ RDP

16-What is the name of a network protocol that secures web traffic via SSL/TLS encryption?

- ☐ SFTP
- ☒ **HTTPS**
- ☐ FTPS
- ☐ SNMP

12- Layer 5 of the OSI model is also referred to as:

- ☒ **Session layer**
- ☐ Application layer
- ☐ Transport layer
- ☐ Presentation layer

13- Which of the following UDP ports is assigned to the Domain Name System (DNS)?

- ☒ **53**
- ☐ 67
- ☐ 110
- ☐ 389

14-Which of the answers listed below refer to the components that can be found at the OSI network layer? (Select 3 answers)

- ☒ **Router**
- ☐ Network cabling
- ☒ **IP address**
- ☐ TCP/UDP protocols
- ☐ Switch
- ☒ **Packet**

15- TCP port 25 is used by:

- ☐ SNMP
- ☐ Telnet
- ☐ FTP
- ☒ SMTP

16-The term "Presentation layer" refers to:

- ☐ Layer 7 of the OSI model
- ☐ Layer 5 of the OSI model
- ☒ Layer 6 of the OSI model
- ☐ Layer 4 of the OSI model

17- character encoding, data compression and encryption/decryption take place at the:

- ☐ Application layer of the OSI model
- ☒ Presentation layer of the OSI model
- ☐ Session layer of the OSI model
- ☐ Transport layer of the OSI model

18-Which device improves network performance by dividing a given network segment into separate collision domains?

- ☐ Hub
- ☐ Repeater
- ☒ Switch
- ☐ Router

19- TCP port 80 is assigned to:

- ☒ Hypertext Transfer Protocol (HTTP)
- ☐ Hypertext Transfer Protocol over TLS/SSL (HTTPS)
- ☐ Internet Message Access Protocol (IMAP)
- ☐ Lightweight Directory Access Protocol (LDAP)

20- Which of the following ports is used by HTTPS?

- ☐ TCP port 80
- ☒ TCP port 443
- ☐ UDP port 53
- ☐ TCP port 143

21- solution that allows to control access to a shared transmission medium in 802.11 networks is known as:

- ☐ CWDm
- ☐ CSMA/CD
- ☐ CDMA
- ☒ CSMA/CA

22- What is the first valid host address that can be assigned to a node residing in the 10.119.136.143/20 network?

- ☐ 10.119.96.1
- ☒ 10.119.128.1
- ☐ 10.119.132.1
- ☐ 10.119.136.1

23- What is the network address for a 154.24.67.147/22 host?

- ☐ 154.24.48.0
- ☐ 154.24.60.0
- ☐ 154.24.62.0
- ☒ 154.24.64.0

24- Which of the following answers lists the broadcast address for the 192.168.50.155/20 network?

- ☐ 192.168.31.255
- ☐ 192.168.47.255
- ☒ 192.168.63.255

- ☐ 192.168.79.255

25-APIPA addresses are valid only for communications within a network segment that a given host is connected to. A host with APIPA-assigned address (i.e. an IP address in the range between 169.254.0.1 and 169.254.255.254) cannot connect to the Internet. The assignment of APIPA address typically indicates a problem related to:

- ☐ SNMP
- ☐ DNS
- ☐ SMTP
- ☒ DHCP

26-Which of the following IP APIPA?

- ☐ 169.200..0.1
- ☐ 169.255.0.1
- ☒ 169.254.0.1
- ☐ 169.250..0.1

27- network topology in which each node connects to a central switching device is called:

- ☐ Bus topology
- ☐ Ring topology
- ☒ Star topology
- ☐ Mesh topology
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28- A network topology in which each node has a direct physical connection to every other node is known as:

- ☐ Star
- ☐ Partial mesh
- ☐ Bus
- ☐ Full mesh
- ☒ Ring

29-Which of the following answers refers to a software or hardware that monitors network traffic and depending on the configuration settings applied to each data packet either blocks it or allows it to pass through?

- ☐ HIDS
- ☒ Firewall
- ☐ Packet filter
- ☐ Vulnerability scanner

30-Which of the following answers lists the number of connections in a full mesh network consisting of 10 nodes?

- ☐ 21
- ☐ 28
- ☐ 36
- ☒ 45