A- Computer Network Introduction

1. The IETF standards documents are called _____
a) RFC
b) RCF
c) ID
d) DFC

2. In the layer hierarchy as the data packet moves from the upper to the lower layers, headers are _____
a) Added
b) Removed
c) Rearranged
d) Modified

3. The structure or format of data is called _____
a) Syntax
b) Semantics
c) Struct
d) Formatting

4. Communication between a computer and a keyboard involves _____ transmission.
a) Automatic
b) Half-duplex
c) Full-duplex
d) Simplex

5. The first Network was called _____
a) CNNET
b) NSFNET
c) ASAPNET
d) ARPANET

6. A _____ is the physical path over which a message travels.
a) Path
b) Medium
c) Protocol
d) Route

7. Which organization has authority over interstate and international commerce in the communications field?
a) ITU-T
b) IEEE
c) FCC
d) ISOC

8. Which of this is not a network edge device?
a) PC
b) Smartphones
c) Servers
d) Switch

9. A _____ set of rules that governs data communication.
a) Protocols
b) Standards
c) RFCs
d) Servers
View Answer

10. Three or more devices share a link in _____ connection.
a) Unipoint
b) Multipoint
c) Point to point
d) Simplex

1. OSI stands for _____
a) open system interconnection
b) operating system interface
c) optical service implementation
d) open service Internet
View Answer

2. The number of layers in ISO OSI reference model is _____
a) 4
b) 5
c) 6
d) 7
View Answer

3. TCP/IP model does not have _____ layer but OSI model have this layer.
a) session layer
b) transport layer
c) application layer
d) network layer
View Answer

4. Which layer is used to link the network support layers and user support layers?
a) session layer
b) data link layer
c) transport layer

d) network layer

5. Which address is used on the internet for employing the TCP/IP protocols?
a) physical address and logical address
b) port address
c) specific address
d) all of the mentioned

6. TCP/IP model was developed _____ the OSI model.
a) prior to
b) after
c) simultaneous to
d) with no link to

7. Which layer is responsible for process to process delivery in a general network model?
a) network layer
b) transport layer
c) session layer
d) data link layer

8. Which address is used to identify a process on a host by the transport layer?
a) physical address
b) logical address
c) port address
d) specific address

9. Which layer provides the services to user?
a) application layer
b) session layer
c) presentation layer
d) physical layer

10. Transmission data rate is decided by _____
a) network layer
b) physical layer
c) data link layer
d) transport layer

1. Which of this is not a constituent of residential telephone line?
a) A high-speed downstream channel
b) A medium-speed downstream channel
c) A low-speed downstream channel
d) An ultra-high speed downstream channel
View Answer

2. DSL telcos provide which of the following services?
a) Wired phone access
b) ISP
c) Wired phone access and ISP
d) Network routing and ISP
View Answer

3. The function of DSLAM is to _____
a) Convert analog signals into digital signals
b) Convert digital signals into analog signals
c) Amplify digital signals
d) De-amplify digital signals
View Answer

4. Which of the following terms is not associated with DSL?
a) DSLAM
b) CO
c) Splitter
d) CMTS
View Answer

5. HFC contains _____
a) Fibre cable
b) Coaxial cable
c) A combination of Fibre cable and Coaxial cable
d) Twisted Pair Cable
View Answer

6. Which of the following statements is not applicable for cable internet access?
a) It is a shared broadcast medium
b) It includes HFCs
c) Cable modem connects home PC to Ethernet port
d) Analog signal is converted to digital signal in DSLAM
View Answer

7. Among the optical-distribution architectures that are essentially switched ethernet is _____

a) AON
b) PON
c) NON
d) MON
View Answer

8. StarBand provides _____
a) FTTH internet access
b) Cable access
c) Telephone access
d) Satellite access
View Answer

9. Home Internet Access is provided by _____
a) DSL
b) FTTP
c) Cable
d) All of the mentioned
View Answer

10. ONT is connected to splitter using _____
a) High speed fibre cable
b) HFC
c) Optical cable
d) Twisted pair cable
View Answer

11. Which of the following factors affect transmission rate in DSL?
a) The gauge of the twisted-pair line
b) Degree of electrical interfernece
c) Shadow fading
d) The gauge of the twisted-pair line and degree of electrical interference
View Answer

1. When collection of various computers seems a single coherent system to its client, then it is called _____
a) computer network
b) distributed system
c) networking system

d) mail system

View Answer

2. Two devices are in network if _____

a) a process in one device is able to exchange information with a process in another device

b) a process is running on both devices

c) PIDs of the processes running of different devices are same

d) a process is active and another is inactive

View Answer

3. Which of the following computer networks is built on the top of another network?

a) prior network

b) chief network

c) prime network

d) overlay network

View Answer

4. In computer network nodes are _____

a) the computer that originates the data

b) the computer that routes the data

c) the computer that terminates the data

d) all of the mentioned

View Answer

5. Communication channel is shared by all the machines on the network in _____

a) broadcast network

b) unicast network

c) multicast network

d) anycast network

View Answer

6. Bluetooth is an example of _____

a) personal area network

b) local area network

c) virtual private network

d) wide area network

View Answer

7. A _____ is a device that forwards packets between networks by processing the routing information included in the packet.
a) bridge
b) firewall
c) router
d) hub
View Answer

8. A list of protocols used by a system, one protocol per layer, is called _____
a) protocol architecture
b) protocol stack
c) protocol suite
d) protocol system
View Answer

9. Network congestion occurs _____
a) in case of traffic overloading
b) when a system terminates
c) when connection between two nodes terminates
d) in case of transfer failure
View Answer

10. Which of the following networks extends a private network across public networks?
a) local area network
b) virtual private network
c) enterprise private network
d) storage area network
View Answer

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B-OSI Model

1. Transport layer aggregates data from different applications into a single stream before passing it to _____
a) network layer

b) data link layer
c) application layer
d) physical layer
View Answer

2. Which of the following are transport layer protocols used in networking?
a) TCP and FTP
b) UDP and HTTP
c) TCP and UDP
d) HTTP and FTP
View Answer

3. User datagram protocol is called connectionless because _____
a) all UDP packets are treated independently by transport layer
b) it sends data as a stream of related packets
c) it is received in the same order as sent order
d) it sends data very quickly
View Answer

4. Transmission control protocol _____
a) is a connection-oriented protocol
b) uses a three way handshake to establish a connection
c) receives data from application as a single stream
d) all of the mentioned
View Answer

5. An endpoint of an inter-process communication flow across a computer network is called _____
a) socket
b) pipe
c) port
d) machine

6. Socket-style API for windows is called _____
a) wsock
b) winsock
c) wins
d) sockwi
View Answer

7. Which one of the following is a version of UDP with congestion control?
a) datagram congestion control protocol
b) stream control transmission protocol
c) structured stream transport

d) user congestion control protocol

8. A _____ is a TCP name for a transport service access point.
a) port
b) pipe
c) node
d) protocol

9. Transport layer protocols deals with _____
a) application to application communication
b) process to process communication
c) node to node communication
d) man to man communication

10. Which of the following is a transport layer protocol?
a) stream control transmission protocol
b) internet control message protocol
c) neighbor discovery protocol
d) dynamic host configuration protocol

1. The data link layer takes the packets from _____ and encapsulates them into frames for transmission.
a) network layer
b) physical layer
c) transport layer
d) application layer

2. Which of the following tasks is not done by data link layer?
a) framing
b) error control
c) flow control
d) channel coding

3. Which sublayer of the data link layer performs data link functions that depend upon the type of medium?
a) logical link control sublayer
b) media access control sublayer
c) network interface control sublayer
d) error control sublayer

4. Header of a frame generally contains _____

a) synchronization bytes

b) addresses

c) frame identifier

d) all of the mentioned

5. Automatic repeat request error management mechanism is provided by _____

a) logical link control sublayer

b) media access control sublayer

c) network interface control sublayer

d) application access control sublayer

6. When 2 or more bits in a data unit has been changed during the transmission, the error is called _____

a) random error

b) burst error

c) inverted error

d) double error

7. CRC stands for _____

a) cyclic redundancy check

b) code repeat check

c) code redundancy check

d) cyclic repeat check

8. Which of the following is a data link protocol?

a) ethernet

b) point to point protocol

c) hdlc

d) all of the mentioned

9. Which of the following is the multiple access protocol for channel access control?

a) CSMA/CD

b) CSMA/CA

c) Both CSMA/CD & CSMA/CA

d) HDLC

10. The technique of temporarily delaying outgoing acknowledgements so that they can be hooked onto the next outgoing data frame is called _____

a) piggybacking

b) cyclic redundancy check

c) fletcher's checksum

d) parity check

1. The network layer is concerned with _____ of data.
a) bits
b) frames
c) packets
d) bytes

2. Which one of the following is not a function of network layer?
a) routing
b) inter-networking
c) congestion control
d) error control

3. A 4 byte IP address consists of _____
a) only network address
b) only host address
c) network address & host address
d) network address & MAC address

4. In virtual circuit network each packet contains _____
a) full source and destination address
b) a short VC number
c) only source address
d) only destination address

5. Which of the following routing algorithms can be used for network layer design?
a) shortest path algorithm
b) distance vector routing
c) link state routing
d) all of the mentioned

6. Which of the following is not correct in relation to multi-destination routing?
a) is same as broadcast routing
b) contains the list of all destinations
c) data is not sent by packets
d) there are multiple receivers
View Answer

7. A subset of a network that includes all the routers but contains no loops is called _____

a) spanning tree
b) spider structure
c) spider tree
d) special tree

8. Which one of the following algorithm is not used for congestion control?
a) traffic aware routing
b) admission control
c) load shedding
d) routing information protocol

9. The network layer protocol for internet is _____
a) ethernet
b) internet protocol
c) hypertext transfer protocol
d) file transfer protocol

10. ICMP is primarily used for _____
a) error and diagnostic functions
b) addressing
c) forwarding
d) routing

1. The physical layer is concerned with _____
a) bit-by-bit delivery
b) process to process delivery
c) application to application delivery
d) port to port delivery

2. Which transmission media provides the highest transmission speed in a network?
a) coaxial cable
b) twisted pair cable
c) optical fiber
d) electrical cable

3. Bits can be sent over guided and unguided media as analog signal by _____
a) digital modulation

b) amplitude modulation

c) frequency modulation

d) phase modulation

4. The portion of physical layer that interfaces with the media access control sublayer is called _____

a) physical signalling sublayer

b) physical data sublayer

c) physical address sublayer

d) physical transport sublayer

5. The physical layer provides _____

a) mechanical specifications of electrical connectors and cables

b) electrical specification of transmission line signal level

c) specification for IR over optical fiber

d) all of the mentioned

6. In asynchronous serial communication the physical layer provides _____

a) start and stop signalling

b) flow control

c) both start & stop signalling and flow control

d) only start signalling

7. The physical layer is responsible for _____

a) line coding

b) channel coding

c) modulation

d) all of the mentioned

8. The physical layer translates logical communication requests from the _____ into hardware specific operations.

a) data link layer

b) network layer

c) trasnport layer

d) application layer

9. A single channel is shared by multiple signals by _____

a) analog modulation

b) digital modulation

c) multiplexing

d) phase modulation

10. Wireless transmission of signals can be done via _____
a) radio waves
b) microwaves
c) infrared
d) all of the mentioned

1. The receiver of the data controls the amount of data that are to be sent by the sender is referred to as _____
a) Flow control
b) Error control
c) Congestion control
d) Error detection
View Answer

2. Size of TCP segment header ranges between _____
a) 16 and 32 bytes
b) 16 and 32 bits
c) 20 and 60 bytes
d) 20 and 60 bits
View Answer

3. Connection establishment in TCP is done by which mechanism?
a) Flow control
b) Three-Way Handshaking
c) Forwarding
d) Synchronization

4. The server program tells its TCP that it is ready to accept a connection. This process is called _____

a) Active open

b) Active close

c) Passive close

d) Passive open

5. A client that wishes to connect to an open server tells its TCP that it needs to be connected to that particular server. The process is called _____

a) Active open

b) Active close

c) Passive close

d) Passive open

6. In Three-Way Handshaking process, the situation where both the TCP's issue an active open is _____
a) Mutual open
b) Mutual Close
c) Simultaneous open
d) Simultaneous close

7. A malicious attacker sends a large number of SYNC segments to a server, pretending that each of them is coming from a different client by faking the source IP address in the datagram. Which type of attack is being performed in this situation?
a) SYNC flooding attack
b) Active attack
c) Passive attack
d) Denial-of-service attack

8. SYNC flooding attack belongs to a type of security attack known as _____
a) SYNC flooding attack
b) Active attack
c) Passive attack
d) Denial-of-service attack

9. The sizes of source and destination port address in TCP header are _____ respectively.
a) 16-bits and 32-bits
b) 16-bits and 16-bits
c) 32-bits and 16-bits
d) 32-bits and 32-bits

10. What allows TCP to detect lost segments and in turn recover from that loss?
a) Sequence number
b) Acknowledgment number
c) Checksum
d) Both Sequence & Acknowledgment number

1. Which of the following is false with respect to TCP?
a) Connection-oriented
b) Process-to-process
c) Transport layer protocol
d) Unreliable
View Answer

Answer: d

Explanation: TCP is a transport layer protocol that provides reliable and ordered delivery of a stream of bytes between hosts communicating via an IP network.

2. In TCP, sending and receiving data is done as _____
a) Stream of bytes
b) Sequence of characters
c) Lines of data
d) Packets
View Answer

Answer: a

Explanation: TCP provides stream oriented delivery between hosts communicating via an IP network and there are no message boundaries. TCP can concatenate data from a number of send () commands into one stream of data and still transmit it reliably.

3. TCP process may not write and read data at the same speed. So we need _____ for storage.
a) Packets
b) Buffers
c) Segments
d) Stacks
View Answer

Answer: b

Explanation: A TCP receiver has a receive buffer that is used to store the unprocessed incoming packets in case the sender is sending packets faster than the processing rate of the received packets.

4. TCP groups a number of bytes together into a packet called _____

a) Packe

b) Buffer

c) Segment

d) Stack

5. Communication offered by TCP is _____

a) Full-duplex

b) Half-duplex

c) Semi-duplex

d) Byte by byte

6. To achieve reliable transport in TCP, _____ is used to check the safe and sound arrival of data.
a) Packet
b) Buffer
c) Segment
d) Acknowledgment
View Answer

7. In segment header, sequence number and acknowledgement number fields refer to _____
a) Byte number
b) Buffer number
c) Segment number
d) Acknowledgment
View Answer

8. Suppose a TCP connection is transferring a file of 1000 bytes. The first byte is numbered 10001. What is the sequence number of the segment if all data is sent in only one segment?
a) 10000
b) 10001
c) 12001
d) 11001

9. Bytes of data being transferred in each connection are numbered by TCP. These numbers start with a _____
a) Fixed number
b) Random sequence of 0's and 1's
c) One
d) Sequence of zero's and one's
View Answer

10. The value of acknowledgement field in a segment defines _____
a) sequence number of the byte received previously
b) total number of bytes to receive
c) sequence number of the next byte to be received
d) sequence of zeros and ones
View Answer

c. Security & Physical Layer

this set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Topology".

1. Physical or logical arrangement of network is _____
a) Topology
b) Routing
c) Networking
d) Control
View Answer

2. Which network topology requires a central controller or hub?
a) Star
b) Mesh
c) Ring
d) Bus
View Answer

3. _____ topology requires a multipoint connection.
 a) Star
 b) Mesh
 c) Ring
 d) Bus
View Answer

4. Data communication system spanning states, countries, or the whole world is _____
 a) LAN
 b) WAN
 c) MAN
 d) PAN
View Answer

5. Data communication system within a building or campus is_____
 a) LAN
 b) WAN
 c) MAN
 d) PAN
View Answer

6. WAN stands for _____
 a) World area network
 b) Wide area network
 c) Web area network
 d) Web access network
View Answer

7. In TDM, slots are further divided into _____
 a) Seconds
 b) Frames
 c) Packets
 d) Bits
View Answer

8. _____ is the multiplexing technique that shifts each signal to a different carrier frequency.
 a) FDM
 b) TDM
 c) Both FDM & TDM
 d) PDM
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Multiplexing".

1. The sharing of a medium and its link by two or more devices is called _____
 a) Fully duplexing
 b) Multiplexing
 c) Micropleixng
 d) Duplexing
View Answer

2. Multiplexing is used in _____
 a) Packet switching
 b) Circuit switching
 c) Data switching
 d) Packet & Circuit switching
View Answer

3. Which multiplexing technique used to transmit digital signals?
 a) FDM
 b) TDM
 c) WDM
 d) FDM & WDM
View Answer

4. If there are n signal sources of same data rate, then the TDM link has _____ slots.
 a) n
 b) n/2
 c) n*2
 d) 2^n
View Answer

5. If link transmits 4000frames per second, and each slot has 8 bits, the transmission rate of circuit this TDM is _____
 a) 32kbps
 b) 500bps
 c) 500kbps
 d) 32bps
View Answer

6. The state when dedicated signals are idle are called _____
 a) Death period
 b) Poison period
 c) Silent period
 d) Stop period
View Answer

7. Multiplexing provides _____
a) Efficiency
b) Privacy
c) Anti jamming
d) Both Efficiency & Privacy
View Answer

8. In TDM, the transmission rate of a multiplexed path is always _____ the sum of the transmission rates of the signal sources.
a) Greater than
b) Lesser than
c) Equal to
d) Equal to or greater than
View Answer

9. In TDM, slots are further divided into _____
a) Seconds
b) Frames
c) Packets
d) Bits
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Delays and Loss".

1. Which of the following delay is faced by the packet in travelling from one end system to another?
a) Propagation delay
b) Queuing delay
c) Transmission delay
d) All of the mentioned
View Answer

2. For a 10Mbps Ethernet link, if the length of the packet is 32bits, the transmission delay is _____ (in microseconds)
a) 3.2
b) 32
c) 0.32
d) 320
View Answer

3. The time required to examine the packet's header and determine where to direct the packet is part of _____
a) Processing delay
b) Queuing delay

c) Transmission delay
d) Propagation delay

4. Given L = number of bits in the packet, a = average rate and R = transmission rate. The Traffic intensity in the network is given by _____

a) La/R
b) LR/a
c) R/La
d) Ra/L

5. In the transfer of file between server and client, if the transmission rates along the path is 10Mbps, 20Mbps, 30Mbps, 40Mbps. The throughput is usually _____
a) 20Mbps
b) 10Mbps
c) 40Mbps
d) 50Mbps

6. If end to end delay is given by dend-end = N(dproc + dtrans + dprop) is a non congested network. The number of routers between source and destination is?
a) N/2
b) N
c) N-1
d) 2N

7. The total nodal delay is given by _____
a) dnodal = dproc – dqueue + dtrans + dprop
b) dnodal = dproc + dtrans – dqueue
c) dnodal = dproc + dqueue + dtrans + dprop
d) dnodal = dproc + dqueue – dtrans – dprop

8. In a network, If P is the only packet being transmitted and there was no earlier transmission, which of the following delays could be zero?
a) Propagation delay
b) Queuing delay
c) Transmission delay
d) Processing delay

9. Transmission delay does not depend on _____
a) Packet length
b) Distance between the routers
c) Transmission rate

d) Bandwidth of medium
View Answer

10. Propagation delay depends on _____
a) Packet length
b) Transmission rate
c) Distance between the routers
d) Speed of the CPU
View Answer

This set of Computer Networks Questions and Answers for Campus interviews focuses on "STP (Shielded Twisted Pair) Cables".

1. _____ allows LAN users to share computer programs and data.
a) Communication server
b) Print server
c) File server
d) Network
View Answer

2. With respect to physical media, STP cables stands for _____
a) Shielded Twisted Pair Cable
b) Spanning Tree Protocol Cable
c) Static Transport Protocol Cable
d) Shielded Two Power Cable
View Answer

3. A standalone program that has been modified to work on a LAN by including concurrency controls such as file and record locking is an example of _____
a) LAN intrinsic software
b) LAN aware software
c) Groupware
d) LAN ignorant software
View Answer

4. The _____ portion of LAN management software restricts access, records user activities and audit data, etc.
a) Configuration management
b) Security management
c) Performance management
d) Recovery management
View Answer

5. What is the max length of the Shielded twisted pair cable?
a) 100 ft

b) 200 ft
c) 100 m
d) 200 m
View Answer

6. What is the max data transfer rate of STP cables?
a) 10 Mbps
b) 100 Mbps
c) 1000 Mbps
d) 10000 Mbps
View Answer

7. Which connector does the STP cable use?
a) BNC
b) RJ-11
c) RJ-45
d) RJ-69
View Answer

8. What is the central device in star topology?
a) STP server
b) Hub/switch
c) PDC
d) Router
View Answer

9. What is the max data transfer rate for optical fiber cable?
a) 10 Mbps
b) 100 Mbps
c) 1000 Mbps
d) 10000 Mbps
View Answer

10. Which of the following architecture uses the CSMA/CD access method?
a) ARC net
b) Ethernet
c) Router
d) STP server
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Network Attacks".

1. The attacker using a network of compromised devices is known as _____
a) Internet

b) Botnet
c) Telnet
d) D-net
View Answer

2. Which of the following is a form of DoS attack?
a) Vulnerability attack
b) Bandwidth flooding
c) Connection flooding
d) All of the mentioned
View Answer

3. The DoS attack, in which the attacker establishes a large number of half-open or fully open TCP connections at the target host is _____
a) Vulnerability attack
b) Bandwidth flooding
c) Connection flooding
d) UDP flooding
View Answer

4. The DoS attack, in which the attacker sends deluge of packets to the targeted host is _____
a) Vulnerability attack
b) Bandwidth flooding
c) Connection flooding
d) UDP flooding
View Answer

5. Packet sniffers involve _____
a) Active receiver
b) Passive receiver
c) Legal receiver
d) Partially-active receiver
View Answer

6. Sniffers can be prevented by using _____
a) Wired environment
b) WiFi
c) Ethernet LAN
d) Switched network
View Answer

7. Firewalls are often configured to block _____
a) UDP traffic
b) TCP traffic
c) Sensitive traffic

d) Best-effort traffic
View Answer

8. In a network, If P is the only packet being transmitted and there was no earlier transmission, which of the following delays could be zero?
a) Propagation delay
b) Queuing delay
c) Transmission delay
d) Processing delay
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Physical Media".

1. Which of this is not a guided media?
a) Fiber optical cable
b) Coaxial cable
c) Wireless LAN
d) Copper wire
View Answer

2. UTP is commonly used in _____
a) DSL
b) FTTP
c) HTTP
d) None of the mentioned
View Answer

3. Coaxial cable consists of _____ concentric copper conductors.
a) 1
b) 2
c) 3
d) 4
View Answer

4. Fiber optics posses following properties _____
a) Immune electromagnetic interference
b) Very less signal attenuation
c) Very hard to tap
d) All of the mentioned
View Answer

5. If an Optical Carrier is represented as OC-n, generally the link speed equals(in Mbps) _____
a) n*39.8

b) n*51.8
c) 2n*51.8
d) None of the mentioned
View Answer

6. Terrestrial radio channels are broadly classifed into _____ groups.
a) 2
b) 3
c) 4
d) 1
View Answer

7. Radio channels are attractive medium because _____
a) Can penetrate walls
b) Connectivity can be given to mobile user
c) Can carry signals for long distance
d) All of the mentioned
View Answer

8. Geostationary satellites _____
a) Are placed at a fixed point above the earth
b) Rotate the earth about a fixed axis
c) Rotate the earth about a varying axis
d) All of the mentioned
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Packet Switching & Circuit Switching".

1. A local telephone network is an example of a _____ network.
a) Packet switched
b) Circuit switched
c) Bit switched
d) Line switched
View Answer

2. Most packet switches use this principle _____
a) Stop and wait
b) Store and forward
c) Store and wait
d) Stop and forward
View Answer

3. If there are N routers from source to destination, the total end to end delay in sending packet P(L-> number of bits in the packet R-> transmission rate) is equal to

_____
a) N
b) (N*L)/R
c) (2N*L)/R
d) L/R
View Answer

4. What are the Methods to move data through a network of links and switches?
a) Packet switching and Line switching
b) Circuit switching and Line switching
c) Line switching and bit switching
d) Packet switching and Circuit switching
View Answer

5. The required resources for communication between end systems are reserved for the duration of the session between end systems in _____ method.
a) Packet switching
b) Circuit switching
c) Line switching
d) Frequency switching
View Answer

6. As the resources are reserved between two communicating end systems in circuit switching, _____ is achieved.
a) authentication
b) guaranteed constant rate
c) reliability
d) store and forward
View Answer

7. In _____ systems, resources are allocated on demand.
a) packet switching
b) circuit switching
c) line switching
d) frequency switching
View Answer

8. Which of the following is not an application layer service?
a) Network virtual terminal
b) File transfer, access, and management
c) Mail service
d) Error control
View Answer

D.Application Layer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Application Layer – 1".

1. Which is not an application layer protocol?
 a) HTTP
 b) SMTP
 c) FTP
 d) TCP
 View Answer

2. The packet of information at the application layer is called _____
 a) Packet
 b) Message
 c) Segment
 d) Frame
 View Answer

3. Which one of the following is an architecture paradigms?
 a) Peer to peer
 b) Client-server
 c) HTTP
 d) Both Peer-to-Peer & Client-Server
 View Answer

4. Application developer has permission to decide the following on transport layer side
 a) Transport layer protocol
 b) Maximum buffer size
 c) Both Transport layer protocol and Maximum buffer size
 d) None of the mentioned
 View Answer

5. Application layer offers _____ service.
 a) End to end
 b) Process to process
 c) Both End to end and Process to process
 d) None of the mentioned
 View Answer

6. E-mail is _____
 a) Loss-tolerant application
 b) Bandwidth-sensitive application
 c) Elastic application
 d) None of the mentioned
 View Answer

7. Pick the odd one out.
a) File transfer
b) File download
c) E-mail
d) Interactive games

8. Which of the following is an application layer service?
a) Network virtual terminal
b) File transfer, access, and management
c) Mail service
d) All of the mentioned

9. To deliver a message to the correct application program running on a host, the
_____ address must be consulted.
a) IP
b) MAC
c) Port
d) None of the mentioned

10. Which is a time-sensitive service?
a) File transfer
b) File download
c) E-mail
d) Internet telephony

11. Transport services available to applications in one or another form _____
a) Reliable data transfer
b) Timing
c) Security
d) All of the mentioned

12. Electronic mail uses which Application layer protocol**?**
a) SMTP
b) HTTP
c) FTP
d) SIP

**This set of Computer Networks Multiple Choice Questions & Answers (MCQs)
focuses on "Application Layer – 2".**

1. The _____ translates internet domain and host names to IP address.

 a) domain name system

b) routing information protocol

c) network time protocol

d) internet relay chat

View Answer

2. Which one of the following allows a user at one site to establish a connection to another site and then pass keystrokes from local host to remote host?

 a) HTTP

 b) FTP

 c) Telnet

 d) TCP

View Answer

3. Application layer protocol defines _____

 a) types of messages exchanged

 b) message format, syntax and semantics

 c) rules for when and how processes send and respond to messages

 d) all of the mentioned

View Answer

4. Which one of the following protocol delivers/stores mail to reciever server?

 a) simple mail transfer protocol

 b) post office protocol

 c) internet mail access protocol

 d) hypertext transfer protocol

View Answer

5. The ASCII encoding of binary data is called

 a) base 64 encoding

 b) base 32 encoding

 c) base 16 encoding

 d) base 8 encoding

View Answer

6. Which one of the following is an internet standard protocol for managing devices on IP network?

 a) dynamic host configuration protocol

 b) simple network management protocol

 c) internet message access protocol

 d) media gateway protocol

View Answer

7. Which one of the following is not an application layer protocol?

 a) media gateway protocol

 b) dynamic host configuration protocol

c) resource reservation protocol
d) session initiation protocol
View Answer

8. Which protocol is a signaling communication protocol used for controlling multimedia communication sessions?
a) session initiation protocol
b) session modelling protocol
c) session maintenance protocol
d) resource reservation protocol
View Answer

9. Which one of the following is not correct?
a) Application layer protocols are used by both source and destination devices during a communication session
b) HTTP is a session layer protocol
c) TCP is an application layer protocol
d) All of the mentioned
View Answer

10. When displaying a web page, the application layer uses the _____
a) HTTP protocol
b) FTP protocol
c) SMTP protocol
d) TCP protocol
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "HTTP".

1. The number of objects in a Web page which consists of 4 jpeg images and HTML text is _____
a) 4
b) 1
c) 5
d) 7
View Answer

2. The default connection type used by HTTP is _____
a) Persistent
b) Non-persistent
c) Can be either persistent or non-persistent depending on connection request
d) None of the mentioned
View Answer

3. The time taken by a packet to travel from client to server and then back to the client is called _____
 a) STT
 b) RTT
 c) PTT
 d) JTT
 View Answer

4. The HTTP request message is sent in _____ part of three-way handshake.
 a) First
 b) Second
 c) Third
 d) Fourth
 View Answer

5. In the process of fetching a web page from a server the HTTP request/response takes _____ RTTs.
 a) 2
 b) 1
 c) 4
 d) 3
 View Answer

6. The first line of HTTP request message is called _____
 a) Request line
 b) Header line
 c) Status line
 d) Entity line
 View Answer

7. The values GET, POST, HEAD etc are specified in _____ of HTTP message
 a) Request line
 b) Header line
 c) Status line
 d) Entity body
 View Answer

8. The _____ method when used in the method field, leaves entity body empty.
 a) POST
 b) SEND
 c) GET
 d) PUT
 View Answer

9. The HTTP response message leaves out the requested object when _____ method is used
 a) GET

b) POST
c) HEAD
d) PUT
View Answer

10. Find the oddly matched HTTP status codes
a) 200 OK
b) 400 Bad Request
c) 301 Moved permanently
d) 304 Not Found
View Answer

11. Which of the following is not correct?
a) Web cache doesnt has its own disk space
b) Web cache can act both like server and client
c) Web cache might reduce the response time
d) Web cache contains copies of recently requested objects
View Answer

12. The conditional GET mechanism
a) Imposes conditions on the objects to be requested
b) Limits the number of response from a server
c) Helps to keep a cache upto date
d) None of the mentioned
View Answer

13. Which of the following is present in both an HTTP request line and a status line?
a) HTTP version number
b) URL
c) Method
d) None of the mentioned
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "HTTP & FTP".

1. Multiple objects can be sent over a TCP connection between client and server in a persistent HTTP connection.
a) True
b) False
View Answer

2. HTTP is _____ protocol.
a) application layer
b) transport layer

c) network layer
d) data link layer

3. In the network HTTP resources are located by
a) uniform resource identifier
b) unique resource locator
c) unique resource identifier
d) union resource locator

4. HTTP client requests by establishing a _____ connection to a particular port on the server.
a) user datagram protocol
b) transmission control protocol
c) border gateway protocol
d) domain host control protocol

5. In HTTP pipelining _____
a) multiple HTTP requests are sent on a single TCP connection without waiting for the corresponding responses
b) multiple HTTP requests can not be sent on a single TCP connection
c) multiple HTTP requests are sent in a queue on a single TCP connection
d) multiple HTTP requests are sent at random on a single TCP connection

6. FTP server listens for connection on port number _____
a) 20
b) 21
c) 22
d) 23

7. In FTP protocol, client contacts server using ____ as the transport protocol.
a) transmission control protocol
b) user datagram protocol
c) datagram congestion control protocol
d) stream control transmission protocol

8. In Active mode FTP, the client initiates both the control and data connections.
a) True
b) False

9. The File Transfer Protocol is built on _____
 a) data centric architecture
 b) service oriented architecture
 c) client server architecture
 d) connection oriented architecture

10. In File Transfer Protocol, data transfer cannot be done in _____
 a) stream mode
 b) block mode
 c) compressed mode
 d) message mode

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses

1. Expansion of FTP is _____
a) Fine Transfer Protocol
b) File Transfer Protocol
c) First Transfer Protocol
d) Fast Transfer Protocol

2. FTP is built on _____ architecture.
a) Client-server
b) P2P
c) Data centric
d) Service oriented

3. FTP uses _____ parallel TCP connections to transfer a file.
a) 1
b) 2
c) 3
d) 4

4. Identify the incorrect statement regarding FTP.
a) FTP stands for File Transfer Protocol
b) FTP uses two parallel TCP connections
c) FTP sends its control information in-band
d) FTP sends exactly one file over the data connection

5. If 5 files are transferred from server A to client B in the same session. The number of TCP connections between A and B is _____
a) 5
b) 10
c) 2
d) 6
6. FTP server _____

a) Maintains state information

b) Is stateless

c) Has single TCP connection for a file transfer

d) Has UDP connection for file transfer

7. The commands, from client to server, and replies, from server to client, are sent across the control connection in _____ bit ASCII format.

a) 8

b) 7

c) 3

d) 5

8. Find the FTP reply whose message is wrongly matched.
a) 331 – Username OK, password required
b) 425 – Can't open data connection
c) 452 – Error writing file
d) 452 – Can't open data connection

9. The data transfer mode of FTP, in which all the fragmenting has to be done by TCP is _____
a) Stream mode
b) Block mode
c) Compressed mode
d) Message mode

10. The password is sent to the server using _____ command.
a) PASSWD

b) PASS
c) PASSWORD
d) PWORD

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "SMTP – 1".

1. When the mail server sends mail to other mail servers it becomes _____
 a) SMTP server
 b) SMTP client
 c) Peer
 d) Master
 View Answer

2. If you have to send multimedia data over SMTP it has to be encoded into _____
 a) Binary
 b) Signal
 c) ASCII
 d) Hash
 View Answer

3. Expansion of SMTP is _____
 a) Simple Mail Transfer Protocol
 b) Simple Message Transfer Protocol
 c) Simple Mail Transmission Protocol
 d) Simple Message Transmission Protocol
 View Answer

4. In SMTP, the command to write receiver's mail address is written with the command _____
 a) SEND TO
 b) RCPT TO
 c) MAIL TO
 d) RCVR TO
 View Answer

5. The underlying Transport layer protocol used by SMTP is _____
 a) TCP
 b) UDP
 c) Either TCP or UDP
 d) IMAP
 View Answer

6. Choose the statement which is wrong incase of SMTP?
 a) It requires message to be in 7bit ASCII format

b) It is a pull protocol
c) It transfers files from one mail server to another mail server
d) SMTP is responsible for the transmission of the mail through the internet
View Answer

7. Internet mail places each object in _____
a) Separate messages for each object
b) One message
c) Varies with number of objects
d) Multiple messages for each object
View Answer

8. Typically the TCP port used by SMTP is _____
a) 25
b) 35
c) 50
d) 15
View Answer

9. A session may include _____
a) Zero or more SMTP transactions
b) Exactly one SMTP transactions
c) Always more than one SMTP transactions
d) Number of SMTP transactions cant be determined
View Answer

10. Which of the following is an example of user agents for e-mail?
a) Microsoft Outlook
b) Facebook
c) Google
d) Tumblr
View Answer

11. When the sender and the receiver of an email are on different systems, we need only _____
a) One MTA
b) Two UAs
c) Two UAs and one MTA
d) Two UAs and two MTAs
View Answer

12. User agent does not support this _____
a) Composing messages
b) Reading messages
c) Replying messages
d) Routing messages
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "SMTP – 2".

1. Simple mail transfer protocol (SMTP) utilizes _____ as the transport layer protocol for electronic mail transfer.
 a) TCP
 b) UDP
 c) DCCP
 d) SCTP
 View Answer

2. SMTP connections secured by SSL are known as _____
 a) SMTPS
 b) SSMTP
 c) SNMP
 d) STARTTLS
 View Answer

3. SMTP uses which of the following TCP port?
 a) 22
 b) 23
 c) 21
 d) 25
 View Answer

4. Which one of the following protocol is used to receive mail messages?
 a) SMTP
 b) Post Office Protocol (POP)
 c) Internet Message Access Protocol (IMAP)
 d) FTP
 View Answer

5. What is on-demand mail relay (ODMR)?
 a) protocol for SMTP security
 b) an SMTP extension
 c) protocol for web pages
 d) protocol for faster mail transfer
 View Answer

6. An email client needs to know the _____ of its initial SMTP server.
 a) IP address
 b) MAC address
 c) URL
 d) Name
 View Answer

7. An SMTP session may not include _____
a) zero SMTP transaction
b) one SMTP transaction
c) more than one SMTP transaction
d) one HTTP transaction
View Answer

8. SMTP defines _____
a) message transport
b) message encryption
c) message content
d) message password
View Answer

9. Which one of the following is an SMTP server configured in such a way that anyone on the internet can send e-mail through it?
a) open mail relay
b) wide mail reception
c) open mail reception
d) short mail reception
View Answer

10. SMTP is not used to deliver messages to _____
a) user's terminal
b) user's mailbox
c) user's word processor
d) user's email client
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "DNS".

1. The entire hostname has a maximum of _____
a) 255 characters
b) 127 characters
c) 63 characters
d) 31 characters
View Answer

2. A DNS client is called _____
a) DNS updater
b) DNS resolver
c) DNS handler
d) none of the mentioned
View Answer

3. Servers handle requests for other domains _____
 a) directly
 b) by contacting remote DNS server
 c) it is not possible
 d) none of the mentioned
 View Answer

4. DNS database contains _____
 a) name server records
 b) hostname-to-address records
 c) hostname aliases
 d) all of the mentioned
 View Answer

5. If a server has no clue about where to find the address for a hostname then _____
 a) server asks to the root server
 b) server asks to its adjcent server
 c) request is not processed
 d) none of the mentioned
 View Answer

6. Which one of the following allows client to update their DNS entry as their IP address change?
 a) dynamic DNS
 b) mail transfer agent
 c) authoritative name server
 d) none of the mentioned
 View Answer

7. Wildcard domain names start with label _____
 a) @
 b) *
 c) &
 d) #
 View Answer

8. The right to use a domain name is delegated by domain name registers which are accredited by _____
 a) internet architecture board
 b) internet society
 c) internet research task force
 d) internet corporation for assigned names and numbers
 View Answer

9. The domain name system is maintained by _____
 a) distributed database system
 b) a single server

c) a single computer
d) none of the mentioned
View Answer

10. Which one of the following is not true?
a) multiple hostnames may correspond to a single IP address
b) a single hostname may correspond to many IP addresses
c) a single hostname may correspond to a single IP address
d) none of the mentioned
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "SSH".

1. Secure shell (SSH) network protocol is used for _____
a) secure data communication
b) remote command-line login
c) remote command execution
d) all of the mentioned
View Answer

2. SSH can be used in only _____
a) unix-like operating systems
b) windows
c) both unix-like and windows systems
d) none of the mentioned
View Answer

3. SSH uses _____ to authenticate the remote computer.
a) public-key cryptography
b) private-key cryptography
c) any of public-key or private-key
d) both public-key & private-key
View Answer

4. Which standard TCP port is assigned for contacting SSH servers?
a) port 21
b) port 22
c) port 23
d) port 24
View Answer

5. Which one of the following protocol can be used for login to a shell on a remote host except SSH?
a) telnet

b) rlogin
c) both telnet and rlogin
d) none of the mentioned
View Answer

6. Which one of the following is a file transfer protocol using SSH?
a) SCP
b) SFTP
c) Rsync
d) All of the mentioned
View Answer

7. SSH-2 does not contain _____
a) transport layer
b) user authentication layer
c) physical layer
d) connection layer
View Answer

8. Which one of the following feature was present in SSH protocol, version 1?
a) password changing
b) periodic replacement of session keys
c) support for public-key certificates
d) none of the mentioned
View Answer

9. SCP protocol is evolved from _____ over SSH.
a) RCP protocol
b) DHCP protocol
c) MGCP protocol
d) GCP protocol
View Answer

10. Which one of the following authentication method is used by SSH?
a) public-key
b) host based
c) password
d) all of the mentioned
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "DHCP".

1. DHCP (dynamic host configuration protocol) provides _____ to the client.
a) IP address

b) MAC address

c) Url

d) None of the mentioned

2. DHCP is used for _____

a) IPv6

b) IPv4

c) Both IPv6 and IPv4

d) None of the mentioned

3. The DHCP server _____

a) maintains a database of available IP addresses

b) maintains the information about client configuration parameters

c) grants a IP address when receives a request from a client

d) all of the mentioned

4. IP assigned for a client by DHCP server is

a) for a limited period

b) for an unlimited period

c) not time dependent

d) none of the mentioned

5. DHCP uses UDP port _____ for sending data to the server.

a) 66

b) 67

c) 68

d) 69

6. The DHCP server can provide the _____ of the IP addresses.

a) dynamic allocation

b) automatic allocation

c) static allocation

d) all of the mentioned

7. DHCP client and servers on the same subnet communicate via _____

a) UDP broadcast

b) UDP unicast

c) TCP broadcast

d) TCP unicast

8. After obtaining the IP address, to prevent the IP conflict the client may use _____

a) internet relay chat

b) broader gateway protocol

c) address resolution protocol

d) none of the mentioned

9. What is DHCP snooping?

a) techniques applied to ensure the security of an existing DHCP infrastructure

b) encryption of the DHCP server requests

c) algorithm for DHCP

d) none of the mentioned

View Answer

10. If DHCP snooping is configured on a LAN switch, then clients having specific _____ can access the network.

a) MAC address

b) IP address

c) Both MAC address and IP address

d) None of the mentioned

View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "IPSecurity".

1. IPSec is designed to provide security at the _____

a) Transport layer

b) Network layer

c) Application layer

d) Session layer

View Answer

2. In tunnel mode, IPSec protects the _____

a) Entire IP packet

b) IP header

c) IP payload

d) IP trailer

View Answer

3. Which component is included in IP security?

a) Authentication Header (AH)

b) Encapsulating Security Payload (ESP)

c) Internet key Exchange (IKE)

d) All of the mentioned

View Answer

4. WPA2 is used for security in _____

a) Ethernet

b) Bluetooth

c) Wi-Fi

d) Email

View Answer

5. An attempt to make a computer resource unavailable to its intended users is called _____

a) Denial-of-service attack

b) Virus attack

c) Worms attack

d) Botnet process

View Answer

6. Extensible authentication protocol is authentication framework frequently used in
_____

a) Wired personal area network

b) Wireless networks

c) Wired local area network

d) Wired metropolitan area network

View Answer

7. Pretty good privacy (PGP) is used in _____

a) Browser security

b) Email security

c) FTP security

d) WiFi security

View Answer

8. PGP encrypts data by using a block cipher called _____

a) International data encryption algorithm

b) Private data encryption algorithm

c) Internet data encryption algorithm

d) Local data encryption algorithm

View Answer

9. When a DNS server accepts and uses incorrect information from a host that has no
authority giving that information, then it is called _____

a) DNS lookup

b) DNS hijacking

c) DNS spoofing

d) DNS authorizing

View Answer

**This set of Computer Networks Interview Questions and Answers focuses on
"Virtual Private Networks".**

1. A _____ is an extension of an enterprise's private intranet across a public
network such as the internet, creating a secure private connection.

a) VNP

b) VPN

c) VSN

d) VSPN

View Answer

2. When were VPNs introduced into the commercial world?

a) Early 80's

b) Late 80's

c) Early 90's
d) Late 90's
View Answer

3. What protocol is NOT used in the operation of a VPN?
a) PPTP
b) IPsec
c) YMUM
d) L2TP
View Answer

4. Which of the following statements is NOT true concerning VPNs?
a) Financially rewarding compared to leased lines
b) Allows remote workers to access corporate data
c) Allows LAN-to-LAN connectivity over public networks
d) Is the backbone of the Internet
View Answer

5. Traffic in a VPN is NOT _____
a) Invisible from public networks
b) Logically separated from other traffic
c) Accessible from unauthorized public networks
d) Restricted to a single protocol in IPsec
View Answer

6. VPNs are financially speaking _____
a) Always more expensive than leased lines
b) Always cheaper than leased lines
c) Usually cheaper than leased lines
d) Usually more expensive than leased lines
View Answer

7. Which layer 3 protocols can be transmitted over an L2TP VPN?
a) Only IP
b) Only IPX
c) Only ICMP
d) IP and IPX
View Answer

8. ESP (Encapsulating Security Protocol) is defined in which of the following standards?
a) IPsec
b) PPTP
c) PPP
d) L2TP
View Answer

9. L2F was developed by which company?
a) Microsoft
b) Cisco
c) Blizzard Entertainment
d) IETF
View Answer

10. Which layer of the OSI reference model does PPTP work at?
a) Layer 1
b) Layer 2
c) Layer 3
d) Layer 4
View Answer

11. Which layer of the OSI reference model does IPsec work at?
a) Layer 1
b) Layer 2
c) Layer 3
d) Layer 4
View Answer

This set of Computer Networks Questions and Answers for Freshers focuses on "SMI".

1. Storage management comprises of _____
a) SAN Management
b) Data protection
c) Disk operation
d) All of the mentioned
View Answer

2. Which of the following is not a storage device?
a) Switch
b) RAID Arrays
c) Tape drives
d) Hub
View Answer

3. Which protocols are used for Storage management?
a) SNMP
b) LDAP
c) POP3
d) MIB
View Answer

4. Identify the difficulty a SAN administrator does not incur while dealing with diverse vendors.
a) Proprietary management interfaces
b) Multiple applications to manage storage in the data center
c) No single view
d) Single view
View Answer

5. How do Storage administrators ensure secure access to storage devices?
a) By using Zoning
b) By putting a physical lock on the storage device
c) By keeping devices shutdown when not in use

d) By keeping devices when used

6. Effective Storage management does not include _____
 a) security
 b) backups
 c) reporting
 d) connection

7. Among the following, identify which task is not involved in Storage Capacity management?
 a) Identifying storage systems are approaching full capacity
 b) Monitoring trends for each resource
 c) Tracking Total capacity, total used, total available
 d) Preventing unauthorized access to the storage

8. Effect of open standards like SMI(s) is _____
 a) standardization drives software interoperability and interchange ability
 b) breaks the old-style dependence on proprietary methods, trade secrets, and single providers
 c) builds a strong foundation on which others can quickly build and innovate
 d) all of the mentioned

9. Task of Distributed Management Task Force is not _____
 a) to promote interoperability among the management solution providers
 b) to act as an interface between the various budding technologies and provide solution to manage various environments
 c) to track the operation of the different management solution providers
 d) to manage the facility by itself if one of the management solution providers fail

10. SMI-S Standard uses which of the following?
 a) Java RMI
 b) CIM-XML/HTTP
 c) CORBA
 d) .NET

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "SNMP".

1. The application-level protocol in which a few manager stations control a set of agents is called _____
 a) HTML
 b) TCP
 c) SNMP

d) SNMP/IP

2. Full duplex mode increases the capacity of each domain by _____

a) 10 to 20 mbps
b) 20 to 30 mbps
c) 30 to 40 mbps
d) 40 to 50 mbps

3. Configuration management can be divided into which two subsystems?

a) Reconfiguration and documentation
b) Management and configuration
c) Documentation and dialing up
d) Configuration and dialing up

4. To use a Simple Network Management System, we need _____
a) Servers
b) IP
c) Protocols
d) Rules

5. The main difference between SNMPv3 and SNMPv2 is _____
a) Management
b) Integration
c) Classification
d) Enhanced security

6. In Network Management System, the division that is responsible for controlling access to network based on a predefined policy is called _____
a) Fault Management
b) Secured Management
c) Active Management
d) Security Management

7. BER stands for _____

a) Basic Encoding Rules
b) Basic Encoding Resolver
c) Basic Encoding Rotator
d) Basic Encoding Router

8. Control of the users' access to network resources through charges is the main responsibility of _____
a) Reactive Fault Management
b) Reconfigured Fault Management
c) Accounting Management
d) Security Management

9. SNMP is the framework for managing devices in an internet using the _____
 a) TCP/IP protocol
b) UDP
c) SMTP
d) None
View Answer

10. Structure of Management Information (SMI), is the guideline of _____
a) HTTP
b) SNMP
c) URL
d) MIB
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Telnet – 1".

1. The application layer protocol used by a Telnet application is _____
 a) Telnet
b) FTP
c) HTTP
d) SMTP
View Answer

2. Which amongst the following statements is correct for "character at a time" mode?
 a) Character processing is done on the local system under the control of the remote system
 b) Most text typed is immediately sent to the remote host for processing
c) All text is echoed locally, only completed lines are sent to the remote host
 d) All text is processed locally, and only confirmed lines are sent to the remote host
View Answer

3. _____ allows you to connect and login to a remote computer
 a) Telnet
b) FTP
c) HTTP
d) SMTP
View Answer

4. What is the correct syntax to be written in the web browser to initiate a Telnet connection to www.sanfoundry.com?
 a) telnet//www.sanfoundry.com
 b) telnet:www.sanfoundry.com
 c) telnet://www.sanfoundry.com
 d) telnet www.sanfoundry.com
View Answer

5. Telnet is used for _____
 a) Television on net

b) Network of Telephones
c) Remote Login
d) Teleshopping site
View Answer

6. Which one of the following is not correct?
a) telnet is a general purpose client-server program
b) telnet lets user access an application on a remote computer
c) telnet can also be used for file transfer
d) telnet can be used for remote login
View Answer

7. Which operating mode of telnet is full duplex?
a) default mode
b) server mode
c) line mode
d) character mode
View Answer

8. If we want that a character be interpreted by the client instead of server _____
a) interpret as command (IAC) escape character has to be used
b) control functions has to be disabled
c) it is not possible
d) cli character has to be used
View Answer

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "Telnet – 2".

1. Telnet protocol is used to establish a connection to _____
a) TCP port number 21
b) TCP port number 22
c) TCP port number 23
d) TCP port number 25
View Answer

2. Which one of the following is not true?
a) telnet defines a network virtual terminal (NVT) standard
b) client programs interact with NVT
c) server translates NVT operations
d) client can transfer files using to remote server using NVT
View Answer

3. All telnet operations are sent as _____
a) 4 bits
b) 8 bits
c) 16 bits
d) 32 bits
View Answer

4. AbsoluteTelnet is a telnet client for _____ Operating system.

a) windows

b) linux

c) mac

d) ubuntu

View Answer

5. The decimal code of Interpret as Command (IAC) character is _____

a) 252

b) 253

c) 254

d) 255

View Answer

6. Which of the following is true for character mode operation of telnet implementation?

a) each character typed is sent by the client to the server

b) each character typed is discarded by the server

c) each character typed is aggregated into a word and then sent to the server

d) each character type is aggregated into a line and then sent to the server

View Answer

7. In which mode of telnet, the client echoes the character on the screen but does not send it until a whole line is completed**?**

a) default mode

b) character mode

c) server mode

d) command mode

View Answer

8. Which one of the following is not correct?

a) telnet is a general purpose client-server program

b) telnet lets user access an application on a remote computer

c) telnet can also be used for file transfer

d) telnet can be used for remote login

View Answer

E-Transport layer

1. Which mode of IPsec should you use to assure the security and confidentiality of data within the same LAN?

a) AH transport mode

b) ESP transport mode

c) ESP tunnel mode

d) AH tunnel mode

2. Which two types of encryption protocols can be used to secure the authentication of

computers using IPsec?

a) Kerberos V5

b) SHA

c) MD5

d) Both SHA and MD5

3. Which two types of IPsec can be used to secure communications between two LANs?

a) AH tunnel mode

b) ESP tunnel mode

c) Both AH tunnel mode and ESP tunnel mode

d) ESP transport mode

4. _____ provides authentication at the IP level.

a) AH

b) ESP

c) PGP

d) SSL

5. IPsec defines two protocols: _____ and _____

a) AH; SSL

b) PGP; ESP

c) AH; ESP

d) PGP; SSL

6. IP Security operates in which layer of the OSI model?

a) Network

b) Transport

c) Application

d) Physical

7. ESP does not provide _____

a) source authentication

b) data integrity

c) privacy

d) error control

8. In computer security _____ means that computer system assets can be modified only by authorized parities.

a) confidentiality

b) integrity

c) availability

d) authenticity

9. In computer security _____ means that the information in a computer system only be accessible for reading by authorized parities.

a) confidentiality

b) integrity

c) availability

d) authenticity

10. Which of the following organizations is primarily concerned with military encryption systems?

a) NSA
b) NIST
c) IEEE
d) ITU

1. Which of the following is false with respect to UDP?
a) Connection-oriented
b) Unreliable
c) Transport layer protocol
d) Low overhead

2. Return value of the UDP port "Chargen" is _____
a) String of characters
b) String of integers
c) Array of characters with integers
d) Array of zero's and one's

3. Beyond IP, UDP provides additional services such as _____
a) Routing and switching
b) Sending and receiving of packets
c) Multiplexing and demultiplexing
d) Demultiplexing and error checking

4. What is the main advantage of UDP?
a) More overload
b) Reliable
c) Low overhead
d) Fast

5. Port number used by Network Time Protocol (NTP) with UDP is _____
a) 161
b) 123
c) 162
d) 124

6. What is the header size of a UDP packet?
a) 8 bytes
b) 8 bits
c) 16 bytes
d) 124 bytes

7. The port number is "ephemeral port number", if the source host is _____
a) NTP
b) Echo

c) Server

d) Client

8. "Total length" field in UDP packet header is the length of _____

a) Only UDP header

b) Only data

c) Only checksum

d) UDP header plus data

9. Which is the correct expression for the length of UDP datagram?

a) UDP length = IP length – IP header's length

b) UDP length = UDP length – UDP header's length

c) UDP length = IP length + IP header's length

d) UDP length = UDP length + UDP header's length

10. The _____ field is used to detect errors over the entire user datagram.

a) udp header

b) checksum

c) source port

d) destination port

F- Frame Relay

1. Two broad categories of congestion control are

a) Open-loop and Closed-loop

b) Open-control and Closed-control

c) Active control and Passive control

d) Active loop and Passive loop

View Answer

2. In open-loop control, policies are applied to _____

a) Remove after congestion occurs

b) Remove after sometime

c) Prevent before congestion occurs

d) Prevent before sending packets

View Answer

3. Retransmission of packets must not be done when _____

a) Packet is lost

b) Packet is corrupted

c) Packet is needed

d) Packet is error-free

View Answer

4. In Go-Back-N window, when the timer of the packet times out, several packets have to be resent even some may have arrived safe. Whereas in Selective Repeat window, the sender resends _____

a) Packet which are not lost

b) Only those packets which are lost or corrupted

c) Packet from starting

d) All the packets

5. Discarding policy is mainly done by _____

a) Sender

b) Receiver

c) Router

d) Switch

6. Closed-Loop control mechanisms try to _____

a) Remove after congestion occurs

b) Remove after sometime

c) Prevent before congestion occurs

d) Prevent before sending packets

7. The technique in which a congested node stops receiving data from the immediate upstream node or nodes is called as _____

a) Admission policy

b) Backpressure

c) Forward signaling

d) Backward signaling

8. Backpressure technique can be applied only to _____

a) Congestion networks

b) Closed circuit networks

c) Open circuit networks

d) Virtual circuit networks

9. The packet sent by a node to the source to inform it of congestion is called _____

a) Explicit

b) Discard

c) Choke

d) Backpressure

10. In the slow-start algorithm, the size of the congestion window increases _____ until it reaches a threshold.

a) exponentially

b) additively

c) multiplicatively

d) suddenly

11. In the congestion avoidance algorithm, the size of the congestion window increases _____ until congestion is detected.

a) exponentially
b) additively
c) multiplicatively
d) suddenly

1. Which of the following is not a characteristic of Virtual Circuit Network?

a) There are setup and teardown phases in addition to the data transfer phase

b) Resources can be allocated during setup phase or on demand

c) All packets follow the same path established during the connection

d) Virtual circuit network is implemented in application layer

2. The address that is unique in the scope of the network or internationally if the network is part of an international network is called as _____

a) Global address

b) Network address

c) Physical address

d) IP address

View Answer

3. The Identifier that is used for data transfer in virtual circuit network is called _____

a) Global address

b) Virtual circuit identifier

c) Network identifier

d) IP identifier

View Answer

4. Which of the following is not a phase of virtual circuit network?

a) Setup phase

b) Data transfer phase

c) Termination phase

d) Teardown phase

5. Steps required in setup process are _____

a) Setup request and acknowledgement

b) Setup request and setup response

c) Setup request and setup termination

d) Setup and termination steps

6. During teardown phase, the source, after sending all the frames to destination, sends a _____ to notify termination.

a) teardown response

b) teardown request

c) termination request

d) termination response

7. Delay of the resource allocated during setup phase during data transfer is _____

a) constant

b) increases for each packet

c) same for each packet

d) different for e

8. Delay of the resource allocated on demand during data transfer is _____

a) constant

b) increases for each packet

c) same for each packet

d) different for each packet

9. In virtual circuit network, the number of delay times for setup and teardown respectively are _____

a) 1 and 1

b) 1 and 2

c) 2 and 1

d) 2 and 2

10. In data transfer phase, how many columns does the table contain?

a) 1

b) 2

c) 3

d) 4

1. Frame Relay is cheaper than other _____

a) LANs

b) WANs

c) MANs

d) Multipoint Networks

2. Frame Relay networks offer an option called _____

a) Voice Over For Relay

b) Voice Over Fine Relay

c) Voice On Frame Relay

d) Voice Over Frame Relay

3. There are _____ total features of Frame Relay.

a) Five

b) Seven

c) Nine

d) Ten

4. Frame Relay does not provide flow or error control, they must be provided by the _____

a) Lower Level Protocol

b) Highest Level Protocol

c) Upper Level Protocol

d) Lowest Level Protocol

5. Frame Relay deploys physical layer carriers such as _____

a) ADMs

b) UPSR

c) BLSR

d) SONET

6. Frame relay provides error detection at the _____

a) physical layer

b) data link layer

c) network layer

d) transport layer

7. Virtual circuit identifier in frame relay is called _____

a) data link connection identifier

b) frame relay identifier

c) cell relay identifier

d) circuit connection identifier

8. Frame relay has only _____
a) physical layer
b) data link layer
c) physical layer and data link layer
d) network layer and data link layer
9. In frame relay networks, extended address is used _____
a) to increase the range of data link connection identifiers
b) for error detection
c) for encryption
d) for error recovery
10. What is FRAD in frame relay network?
a) FRAD assembles and disassembles the frames coming from other protocols
b) FRAD is used for modulation and demodulation
c) FRAD is used for error detection
d) FRAD is used for error recovery

1. ATM and frame relay are _____

a) virtual circuit networks

b) datagram networks

c) virtual private networks

d) virtual public networks

2. ATM uses _____

a) asynchronous frequency division multiplexing

b) asynchronous time division multiplexing

c) asynchronous space division multiplexing

d) asynchronous amplitude division multiplexing

3. ATM standard defines _____ layers.

a) 2

b) 3

c) 4

d) 5

4. ATM can be used for _____

a) local area network

b) wide area network

c) campus area network

d) networks covering any range

5. An ATM cell has the payload field of _____

a) 32 bytes

b) 48 bytes

c) 64 bytes

d) 128 bytes

6. Frame relay has error detection at the _____

a) physical layer

b) data link layer

c) network layer

d) transport layer

7. Virtual circuit identifier in frame relay is called _____

a) data link connection identifier

b) frame relay identifier

c) cell relay identifier

d) circuit connection identifier

8. Frame relay has _____

a) only physical layer

b) only data link layer

c) only network layer

d) both physical and data link layer

9. In frame relay networks, extended address is used _____

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c) for encryption

d) for error recovery

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d) FRAD is used for error recovery

G- TCP/IP Protocol Suite

1. A piece of icon or image on a web page associated with another webpage is called
_____
a) url
b) hyperlink
c) plugin
d) extension

2. Dynamic web page _____
a) is same every time whenever it displays
b) generates on demand by a program or a request from browser
c) both is same every time whenever it displays and generates on demand by a program
or a request from browser
d) is different always in a predefined order

3. What is a web browser?
a) a program that can display a web page
b) a program used to view html documents
c) it enables user to access the resources of internet
d) all of the mentioned

4. Common gateway interface is used to _____
a) generate executable files from web content by web server
b) generate web pages
c) stream videos
d) download media files

5. URL stands for _____
a) unique reference label
b) uniform reference label
c) uniform resource locator
d) unique resource locator

6. A web cookie is a small piece of data that is _____
a) sent from a website and stored in user's web browser while a user is browsing a website
b) sent from user and stored in the server while a user is browsing a website
c) sent from root server to all servers
d) sent from the root server to other root servers

7. Which one of the following is not used to generate dynamic web pages?
a) PHP
b) ASP.NET
c) JSP
d) CSS

8. An alternative to JavaScript on windows platform is _____
a) VBScript
b) ASP.NET
c) JSP
d) PHP

9. What is a document object model (DOM)?
a) convention for representing and interacting with objects in html documents
b) application programming interface
c) hierarchy of objects in ASP.NET
d) scripting language

10. AJAX stands for _____
a) asynchronous javascript and xml
b) advanced JSP and xml
c) asynchronous JSP and xml
d) advanced javascript and xml

11. Which of the following is not applicable for IP?
a) Error reporting

b) Handle addressing conventions
c) Datagram format
d) Packet handling conventions

12. Which of the following field in IPv4 datagram is not related to fragmentation?
a) Flags
b) Offset
c) TOS
d) Identifier

13. The TTL field has value 10. How many routers (max) can process this datagram?
a) 11
b) 5
c) 10
d) 1

14. If the value in protocol field is 17, the transport layer protocol used is
_____
a) TCP
b) UDP
c) ICMP
d) IGMP

15. The data field cannot carry which of the following?
a) TCP segment
b) UDP segment
c) ICMP messages
d) SMTP messages

16. What should be the flag value to indicate the last fragment?
a) 0
b) 1
c) TTl value
d) Protocol field value

17. Which of these is not applicable for IP protocol?
a) is connectionless
b) offer reliable service
c) offer unreliable service
d) does not offer error reporting

18. Which of the following demerits does Fragmentation have?
a) complicates routers
b) open to DOS attack
c) overlapping of fragments.
d) all of the mentioned

19. Which field helps to check rearrangement of the fragments?
a) offset
b) flag
c) ttl
d) identifier

1. Which of these is not applicable for IP protocol?
a) Connectionless
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b) Flag
c) TTL
d) Identifier

4. In classless addressing, there are no classes but addresses are still granted in _____
a) IPs
b) Blocks
c) Codes
d) Sizes

5. In IPv4 Addresses, classful addressing is replaced with _____
a) Classless Addressing
b) Classful Addressing
c) Classful Advertising
d) Classless Advertising

6. First address in a block is used as network address that represents the _____
a) Class Network
b) Entity
c) Organization
d) Codes

7. In classful addressing, a large part of available addresses are _____
a) Organized
b) Blocked
c) Wasted
d) Communicated

8. Network addresses are a very important concept of _____
a) Routing
b) Mask
c) IP Addressing
d) Classless Addressing

9. Which of this is not a class of IP address?
a) Class E
b) Class C
c) Class D
d) Class F

1. The size of an IP address in IPv6 is _____
a) 4 bytes
b) 128 bits
c) 8 bytes
d) 100 bits

2. The header length of an IPv6 datagram is _____
a) 10bytes
b) 25bytes
c) 30bytes
d) 40bytes

3. In the IPv6 header, the traffic class field is similar to which field in the IPv4 header?
a) Fragmentation field
b) Fast-switching
c) ToS field
d) Option field

4. IPv6 does not use _____ type of address.
a) broadcast
b) multicast
c) anycast
d) unicast

5. Which among the following features is present in IPv6 but not in IPv4?
a) Fragmentation
b) Header checksum
c) Options
d) Anycast address

6. The _____ field determines the lifetime of IPv6 datagram
a) Hop limit
b) TTL
c) Next header
d) Type of traffic

7. Dual-stack approach refers to _____
a) implementing Ipv4 with 2 stacks
b) implementing Ipv6 with 2 stacks
c) node has both IPv4 and IPv6 support
d) implementing a MAC address with 2 stacks

8. Suppose two IPv6 nodes want to interoperate using IPv6 datagrams, but they are connected to each other by intervening IPv4 routers. The best solution here is _____
a) Use dual-stack approach
b) Tunneling
c) No solution
d) Replace the system

9. Teredo is an automatic tunneling technique. In each client the obfuscated IPv4 address is represented by bits _____
a) 96 to 127
b) 0 to 63
c) 80 to 95
d) 64 to 79

1. Dual-stack approach refers to _____
a) Implementing Ipv4 with 2 stacks
b) Implementing Ipv6 with 2 stacks
c) Node has both IPv4 and IPv6 support
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a) 96 to 127
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c) 80 to 95
d) 64 to 79

4. A link local address of local addresses is used in an _____
a) Isolated router
b) Isolated mask
c) Isolated subnet
d) Isolated net

5. In subcategories of reserved address in IPv6, address that is used by a host to test itself without going into network is called _____
a) Unspecified address
b) Loopback address
c) Compatible address
d) Mapped address

6. A few leftmost bits in each address of IPv6 address define its category is called _____
a) Prefix type
b) Postfix type
c) Reserved type
d) Local type

7. In IPv6 addresses, addresses that start with eight 0s are called _____
a) Unicast addresses
b) Multicast addresses
c) Any cast addresses
d) Reserved addresses

8. Which statement(s) about IPv6 addresses are true?
a) Leading zeros are required
b) Two colons (::) are used to represent successive hexadecimal fields of zeros
c) Two colons (::) are used to separate fields
d) A single interface cannot have multiple IPv6 addresses of different types

9. When was IPv6 launched?
a) June 2, 2012
b) June 4, 2012
c) June 5, 2012
d) June 6, 2012

1. Which layer is responsible for process-to-process delivery?
a) Physical layer
b) Network layer
c) Transport layer
d) Application layer
2. In process-to-process delivery, two processes communicate in which of the following methods?
a) Client/Server
b) Source/Destination
c) Message Transfer
d) Peer to Peer
3. Multiple processes on destinations at transport layer are identified by _____
a) Mac address
b) Port number
c) Host number
d) Host address
4. Range of port numbers in Internet model is _____
a) 0 and 32,765(8-bit)
b) 0 and 32,765(16-bit)
c) 0 and 65,535(32-bit)
d) 0 and 65,535(16-bit)
5. According to Internet Assigned Numbers Authority (IANA), which of the following ranges is not a part of port number ranges?
a) Well-known ports
b) Registered ports
c) Dynamic ports
d) Static ports
6. The combination of an IP address and port number is called as _____
a) Socket address
b) Port address
c) MAC address
d) Host address
7. Which of the following is false with respect to Connectionless service of transport layer protocol?
a) Packets are not numbered
b) Packets are not delayed
c) No acknowledgement
d) Packet may arrive out of sequence
8. Correct order in the process of Connection-Oriented services is _____

i. Data transfer

ii. Connection release

iii. Connection establishment

a) i-ii-iii

b) iii-ii-i

c) ii-i-iii

d) iii-i-ii

9. In transport layer, Multiplexing is done at _____

a) Channel

b) Receiver site

c) Sender site

d) Packet

10. The process of error checking and dropping of the header, delivering messages to appropriate process based on port number is called as _____

a) Delivery of packets

b) Error correction

c) Multiplexing

d) Demultiplexing

1. Internet Control Message Protocol (ICMP) has been designed to compensate _____

a) Error-reporting

b) Error-correction

c) Host and management queries

d) All of the mentioned

2. Header size of the ICMP message is _____

a) 8-bytes

b) 8-bits

c) 16-bytes

d) 16-bits

3. During error reporting, ICMP always reports error messages to _____

a) Destination

b) Source

c) Next router

d) Previous router

4. Which of these is not a type of error-reporting message?

a) Destination unreachable

b) Source quench

c) Router error

d) Time exceeded

5. ICMP error message will not be generated for a datagram having a special address such as _____

a) 127.0.0.0

b) 12.1.2

c) 11.1

d) 127

6. When a router cannot route a datagram or host cannot deliver a datagram, the datagram is discarded and the router or the host sends a _____ message back to the source host that initiated the datagram.

a) Destination unreachable

b) Source quench

c) Router error

d) Time exceeded

7. The source-quench message in ICMP was designed to add a kind of _____ to the IP.

a) error control

b) flow control

c) router control

d) switch control

8. In case of time exceeded error, when the datagram visits a router, the value of time to live field is _____

a) Remains constant

b) Decremented by 2

c) Incremented by 1

d) Decremented by 1

9. Two machines can use the timestamp request and timestamp replay messages to determine the _____ needed for an IP datagram to travel between them.

a) Half-trip time

b) Round-trip time

c) Travel time for the next router

d) Time to reach the destination/source

10. During debugging, we can use the _____ program to find if a host is alive and responding.

a) traceroute

b) shell

c) ping

d) java

11. In windows _____ can be used to trace the route of the packet from the source to the destination.

a) traceroute

b) tracert

c) ping

d) locater

12. In a simple echo-request message, the value of the sum is 01010000 01011100. Then, value of checksum is _____

a) 10101111 10100011

b) 01010000 01011100

c) 10101111 01011100

d) 01010000 10100011

1. The main reason for transition from IPv4 to IPv6 is _____

a) Huge number of systems on the internet

b) Very low number of system on the internet

c) Providing standard address

d) To provide faster internet

2. Which of the following is not a transition strategy?

a) Dual stack

b) Tunneling

c) Conversion

d) Header translation

3. To determine which version to use when sending a packet to a destination, the source host queries which of the following?

a) Dual stack

b) Domain Name Server

c) Header information

d) Transport layer

4. The strategy used when two computers using IPv6 want to communicate with each other and the packet must pass through a region that uses IPv4 is _____

a) Dual stack

b) Header translation

c) Conversion

d) Tunneling

5. The correct format of packet in tunnel that uses IPv4 region is _____

i. IPv6 header

ii. Payload

iii. IPv4 header

a) iii-i-ii

b) iii-ii-i

c) i-ii-iii

d) i-iii-ii

6. _____ is necessary when the sender wants to use IPv6, but the receiver does not understand IPv6.

a) Dual stack

b) Header translation

c) Conversion

d) Tunneling

7. Header translation uses _____ to translate an IPv6 address to an IPv4 address.

a) IP address

b) Physical address

c) Mapped address

d) MAC address

8. Which of the following is not a step in the Header translation procedure?

a) The IPv6 mapped address is changed to an IPv4 address by extracting the rightmost 32bits

b) The value of the IPv6 priority field is discarded

c) The type of service field in IPv4 is set to zero

d) The IPv6 flow label is considered

1. Which of the following is not applicable for IP?
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b) Handle addressing conventions
c) Datagram format
d) Packet handling

2. Which of the following field in IPv4 datagram is not related to fragmentation?
a) Flags
b) Offset
c) TOS
d) Identifier

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b) UDP
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d) IGMP

5. Which field helps to check rearrangement of the fragments?
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b) flag
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d) identifier

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d) 40bytes

8. In an IPv6 header, the traffic class field is similar to which field in the IPv4 header?

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b) Fast switching

c) TOS field

d) Option field

9. IPv6 does not use _____ type of address.

a) Broadcast

b) Multicast

c) Any cast

d) Unicast

10. Which are the features present in IPv4 but not in IPv6?

a) Fragmentation

b) Header checksum

c) Options

d) Anycast address

1. Which of the following is the broadcast address for a Class B network ID using the default subnetmask?

a) 172.16.10.255

b) 255.255.255.255

c) 172.16.255.255

d) 172.255.255.255

2. You have an IP address of 172.16.13.5 with a 255.255.255.128 subnet mask. What is your class of address, subnet address, and broadcast address?

a) Class A, Subnet 172.16.13.0, Broadcast address 172.16.13.127

b) Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.127

c) Class B, Subnet 172.16.13.0, Broadcast address 172.16.13.255

d) Class B, Subnet 172.16.0.0, Broadcast address 172.16.255.255

3. If you wanted to have 12 subnets with a Class C network ID, which subnet mask would you use?

a) 255.255.255.252

b) 255.255.255.255

c) 255.255.255.240

d) 255.255.255.248

4. The combination of _____ and _____ is often termed the local address of the local portion of the IP address.

a) Network number and host number

b) Network number and subnet number

c) Subnet number and host number

d) Host number

5. _____ implies that all subnets obtained from the same subnet mask.
a) Static subnetting
b) Dynamic subnetting
c) Variable length subnetting
d) Dynamic length subnetting

6. State whether true or false.
i) A connection oriented protocol can only use unicast addresses.
ii) The any cast service is included in IPV6.
a) True, True
b) True, False
c) False, True
d) False, False
View Answer

7. _____ is a high performance fiber optic token ring LAN running at 100 Mbps over distances upto 1000 stations connected.
a) FDDI
b) FDDT
c) FDDR
d) FOTR
8. Which of the following are Gigabit Ethernets?
a) 1000 BASE-SX
b) 1000 BASE-LX
c) 1000 BASE-CX
d) All of the mentioned
9. _____ is a collective term for a number of Ethernet Standards that carry traffic at the nominal rate of 1000 Mbit/s against the original Ethernet speed of 10 Mbit/s.
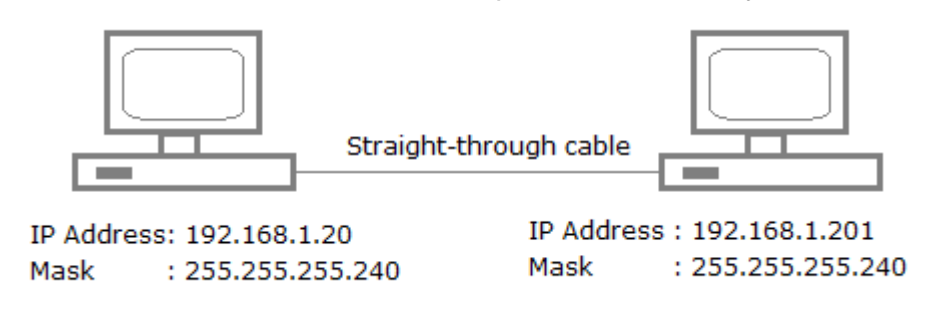a) Ethernet
b) Fast Ethernet
c) Gigabit Ethernet
d) Gigabyte Ethernet

10. _____ is another kind of fiber optic network with an active star for switching.
a) S/NET
b) SW/NET
c) NET/SW
d) FS/NET

1. A network administrator is connecting hosts A and B directly through their Ethernet interfaces, as shown in the illustration. Ping attempts between the hosts are

unsuccessful. What can be done to provide connectivity between the hosts?

Straight-through cable

IP Address: 192.168.1.20
Mask   : 255.255.255.240

IP Address : 192.168.1.201
Mask   : 255.255.255.240

i. A crossover cable should be used in place of the straight-through cable.

ii. A rollover cable should be used in place of the straight-through cable.

iii. The subnet masks should be set to 255.255.255.192.

iv. A default gateway needs to be set on each host.

v. The subnet masks should be set to 255.255.255.0.

a) i only
b) ii only
c) iii and iv only
d) i and v only
View Answer

2. Your router has the following IP address on Ethernet0: 172.16.2.1/23. Which of the following can be valid host IDs on the LAN interface attached to the router?

i. 172.16.1.100

ii. 172.16.1.198

iii. 172.16.2.255

iv. 172.16.3.0

a) i only
b) ii and iii only
c) iii and iv only

d) ii only

3. Which two statements describe the IP address 10.16.3.65/23?

i. The subnet address is 10.16.3.0 255.255.254.0.

ii. The lowest host address in the subnet is 10.16.2.1 255.255.254.0.

iii. The last valid host address in the subnet is 10.16.2.254 255.255.254.0.

iv. The broadcast address of the subnet is 10.16.3.255 255.255.254.0.

a) i and iii
b) ii and iv
c) i, ii and iv
d) ii, iii and iv

4. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?
a) 14
b) 15
c) 16
d) 30

5. You need to subnet a network into 5 subnets, each with at least 16 hosts. Which classful subnet mask would you use?
a) 255.255.255.192
b) 255.255.255.224
c) 255.255.255.240
d) 255.255.255.248

6. You have a network that needs 29 subnets while maximizing the number of host addresses available on each subnet. How many bits must you borrow from the host field to provide the correct subnet mask?
a) 2
b) 3
c) 4
d) 5

7. If an Ethernet port on a router were assigned an IP address of 172.16.112.1/25, what would be the valid subnet address of this host?
a) 172.16.112.0
b) 172.16.0.0
c) 172.16.96.0
d) 172.16.255.0

8. You have an interface on a router with the IP address of 192.168.192.10/29. Including

the router interface, how many hosts can have IP addresses on the LAN attached to the router interface?

a) 6
b) 8
c) 30
d) 32

9. What is the subnet id of a host with an IP address 172.16.66.0/21?
a) 172.16.36.0
b) 172.16.48.0
c) 172.16.64.0
d) 172.16.0.0

10. The network address of 172.16.0.0/19 provides how many subnets and hosts?
a) 7 subnets, 30 hosts each
b) 8 subnets, 8,190 hosts each
c) 8 subnets, 2,046 hosts each
d) 7 subnets, 2,046 hosts each

H- Networking

IP routing part:

1. Which type of Ethernet framing is used for TCP/IP and DEC net?
 a) Ethernet 802.3
 b) Ethernet 802.2
 c) Ethernet II
 d) Ethernet SNAP

2. Consider a situation in which you are a system administrator on a NetWare network, you are running NetWare 4.11 and you cannot communicate with your router. What is the likely problem?

 a) NetWare 4.11 defaults to 802.2 encapsulation
 b) NetWare 4.11 defaults to 802.3 encapsulation
 c) Cisco routers only work with NetWare 3.11
 d) NetWare 3.11 defaults to 802.2 encapsulation

3. NetWare IPX addressing uses a network number and a node number. Which statement is not true?
 a) The network address is administratively assigned and can be up to 16 hexadecimal digits long
 b) The node address is always administratively assigned
 c) The node address is usually the MAC address
 d) If the MAC address is used as the node address, then IPX eliminates the use of ARP

4. Which NetWare protocol works on layer 3–network layer—of the OSI model?
 a) IPX
 b) NCP
 c) SPX
 d) NetBIOS

5. Which NetWare protocol provides link-state routing?
 a) NLSP
 b) RIP
 c) SAP
 d) NCP

6. As a system administrator, you want to debug IGRP but are worried that the "debug IP IGRP transaction" command will flood the console. What is the command that you should use?
 a) Debug IP IGRP event
 b) Debug IP IGRP-events
 c) Debug IP IGRP summary
 d) Debug IP IGRP events

7. What does the following series of commands "Router IGRP 71 network" accomplish?
 10.0.0.0 router IGRP 109 network 172.68.7.0
 a) It isolates networks 10.0.0.0 and 172.68.7.0
 b) It loads IGRP for networks 109 and 71
 c) It disables RIP
 d) It disables all routing protocols

8. The "IPX delay number" command will allow an administrator to change the default settings. What are the default settings?
 a) For LAN interfaces, one tick; for WAN interfaces, six ticks

b) For LAN interfaces, six ticks; for WAN interfaces, one tick

c) For LAN interfaces, zero ticks; for WAN interfaces, five ticks

d) For LAN interfaces, five ticks; for WAN interfaces, zero Ticks

9. As a system administrator, you need to set up one Ethernet interface on the Cisco router to allow for both sap and Novell-ether encapsulations. Which set of commands will accomplish this?

a) Interface Ethernet 0.1 IPX encapsulation Novell-ether IPX network 9e interface Ethernet 0.2 IPX network 6c

b) Interface Ethernet 0 IPX encapsulation Novell-ether IPX network 9e interface Ethernet 0 IPX encapsulation sap IPX network 6c

c) Interface Ethernet 0.1 IPX encapsulation Novell-ether interface Ethernet 0.2 IPX encapsulation sap

d) Interface Ethernet 0.1ipx encapsulation Novell-ether IPX network 9e interface Ethernet 0.2 IPX encapsulation sap IPX network 6c

10. What does the "IPX maximum-paths 2" command accomplish?

a) It enables load sharing on 2 paths if the paths are equal metric paths

b) It sets up routing to go to network 2

c) It is the default for Cisco IPX load sharing

d) It enables load sharing on 2 paths if the paths are unequal metric paths

11. You want to enable both arpa and snap encapsulation on one router interface. How do you do this?

a) The interface can handle multiple encapsulation types with no extra configuration

b) Assign two network numbers, one for each encapsulation type

c) Enable Novell-ether to run multiple encapsulation types

d) Both arpa and snap are enabled by default so you don't have to configure anything

12. By default, Cisco routers forward GNS SAPs to remote networks.

a) False

b) True

13. To prevent Service Advertisements (SAPs) from flooding a network, Cisco routers do not forward them. How are services advertised to other networks?

a) Each router builds its own SAP table and forwards that every 60 seconds

b) Each router assigns a service number and broadcasts that

c) SAPs aren't necessary with Cisco routers

d) Cisco routers filter out all SAPs

14. Novell's implementation of RIP updates routing tables every _____ seconds.

a) 60

b) 90

c) 10

d) 30

15. In Novell's use of RIP, there are two metrics used to make routing decisions. Select the correct metrics.
 a) Ticks & Hops
 b) Hops & Loops
 c) Loops & Counts
 d) Counts & Ticks

RIP v1 part:

1. Which routing protocol has a maximum network diameter (hop count) of 15?
 a) RIPv1
 b) RIPv2
 c) EIGRP
 d) Both RIPv1 and RIPv2

2. How often does a RIPv1 router broadcast its routing table by default?
 a) Every 30 seconds
 b) Every 60 seconds
 c) Every 90 seconds
 d) RIPv1 does not broadcast periodically

3. Which command displays RIP routing updates?
 a) Show IP route
 b) Debug IP rip
 c) Show protocols
 d) Debug IP route

4. Two connected routers are configured with RIP routing. What will be the result when a router receives a routing update that contains a higher-cost path to a network already in its routing table?
 a) The updated information will be added to the existing routing table Debug IP rip
 b) The update will be ignored and no further action will occur Debug IP route
 c) The updated information will replace the existing routing table entry
 d) The existing routing table entry will be deleted from the routing table and all routers will exchange routing updates to reach convergence

5. You type debug IP rip on your router console and see that 172.16.10.0 is being advertised to you with a metric of 16. What does this mean?
 a) The route is 16 hops away Debug IP rip
 b) The route has a delay of 16 microseconds Debug IP route
 c) The route is inaccessible
 d) The route is queued at 16 messages a second

6. Default administrative distance of a static route is _____
 a) 0
 b) 90

c) 100
d) 1

7. Which protocol gives a full route table update every 30 seconds?
a) IEGRP
b) RIP
c) ICMP
d) IP

8. _____ is the default administrative distance of RIP.
a) 0
b) 90
c) 120
d) 130

9. Which statement is true regarding classless routing protocol?
a) The use of discontinuous networks is not allowed
b) Use of variable length subnet masks is permitted
c) RIPv1 is a classless routing protocol
d) IGRP supports classes routing within the same autonomous system

10. Where should we use default routing?
a) On stub networks- which have only one exit path out of the network
b) Which have more than one exit path out of the network
c) Minimum five exit paths out of the network
d) Maximum five exit paths out of the network

RIP v2 part:

1. Which statement is true regarding classless routing protocols?
a) The use of discontinuous networks is not allowed
b) The use of variable length subnet masks is permitted
c) RIPv1 is a classless routing protocol
d) RIPv2 supports classless routing

2. What is route poisoning?
a) It sends back the protocol received from a router as a poison pill, which stops the regular updates. The use of variable length subnet masks is permitted
b) It is information received from a router that can't be sent back to the originating router.RIPv2 supports classless routing
c) It prevents regular update messages from reinstating a route that has just come up
d) It describes when a router sets the metric for a downed link to infinity

3. Which of the following is true regarding RIPv2?
a) It has a lower administrative distance than RIPv1
b) It converges faster than RIPv1

c) It has the same timers as RIPv1
d) It is harder to configure than RIPv1

4. Which of the situations might not require multiple routing protocols in a network?
 a) When a new Layer 2-only switch is added to the network
 b) When you are migrating from one routing protocol to another
 c) When you are using routers from multiple vendors
 d) When there are host-based routers from multiple vendors

5. Which two routing protocols can be redistributed into OSPF by a Cisco router?
 a) IP EIGRP and AppleTalk EIGRP
 b) AppleTalk EIGRP and RIPv2
 c) RIPv2 and IP EIGRP
 d) IPX RIP & AppleTalk EIGRP

6. Which is a reason for avoiding doing route redistribution on two routers between the same two routing domains?
 a) Higher cost of two routers
 b) Routing feedback
 c) Cisco IOS incompatibility
 d) Not possible to use two routers

7. What does administrative distance rank?
 a) Metrics
 b) Sources of routing information
 c) Router reliability
 d) Best paths

8. Which protocol maintains neighbor adjacencies?
 a) RIPv2 and EIGRP
 b) IGRP and EIGRP
 c) RIPv2
 d) EIGRP

9. Which routing protocol implements the diffusing update algorithm?
 a) IS-IS
 b) IGRP
 c) EIGRP
 d) OSPF

Cryptography part:

1. In cryptography, what is cipher?
 a) algorithm for performing encryption and decryption
 b) encrypted message
 c) both algorithm for performing encryption and decryption and encrypted message

d) decrypted message

2. In asymmetric key cryptography, the private key is kept by _____
a) sender
b) receiver
c) sender and receiver
d) all the connected devices to the network

3. Which one of the following algorithm is not used in asymmetric-key cryptography?
a) rsa algorithm
b) diffie-hellman algorithm
c) electronic code book algorithm
d) dsa algorithm

4. In cryptography, the order of the letters in a message is rearranged by _____
a) transpositional ciphers
b) substitution ciphers
c) both transpositional ciphers and substitution ciphers
d) quadratic ciphers

5. What is data encryption standard (DES)?
a) block cipher
b) stream cipher
c) bit cipher
d) byte cipher

6. Cryptanalysis is used _____
a) to find some insecurity in a cryptographic scheme
b) to increase the speed
c) to encrypt the data
d) to make new ciphers

7. Which one of the following is a cryptographic protocol used to secure HTTP connection?
a) stream control transmission protocol (SCTP)
b) transport layer security (TLS)
c) explicit congestion notification (ECN)
d) resource reservation protocol

8. Voice privacy in GSM cellular telephone protocol is provided by _____
a) A5/2 cipher
b) b5/4 cipher
c) b5/6 cipher
d) b5/8 cipher

9. ElGamal encryption system is _____

a) symmetric key encryption algorithm

b) asymmetric key encryption algorithm

c) not an encryption algorithm

d) block cipher method

10. Cryptographic hash function takes an arbitrary block of data and returns _____

a) fixed size bit string

b) variable size bit string

c) both fixed size bit string and variable size bit string

d) variable sized byte string

Ports part:

1. Multiple objects can be sent over a TCP connection between client and server in a persistent HTTP connection.

a) True

b) False

2. HTTP is _____ protocol.

a) application layer

b) transport layer

c) network layer

d) data link layer

3. In the network HTTP resources are located by _____

a) Uniform resource identifier

b) Unique resource locator

c) Unique resource identifier

d) Union resource locator

4. HTTP client requests by establishing a _____ connection to a particular port on the server.

a) User datagram protocol

b) Transmission control protocol

c) Border gateway protocol

d) Domain host control protocol

5. In HTTP pipelining _____

a) multiple HTTP requests are sent on a single TCP connection without waiting for the corresponding responses

b) multiple HTTP requests cannot be sent on a single TCP connection

c) multiple HTTP requests are sent in a queue on a single TCP connection

d) multiple HTTP requests are sent at random on a single TCP connection

6. FTP server listens for connection on which port number?

a) 20

b) 21
c) 22
d) 23

7. In FTP protocol, a client contacts a server using _____ as the transport protocol.
 a) Transmission control protocol
 b) User datagram protocol
 c) Datagram congestion control protocol
 d) Stream control transmission protocol

8. In Active mode FTP, the client initiates both the control and data connections.
 a) True
 b) False

9. The File Transfer Protocol is built on _____
 a) data centric architecture
 b) service oriented architecture
 c) client server architecture
 d) connection oriented architecture

10. In File Transfer Protocol, data transfer cannot be done in _____
 a) stream mode
 b) block mode
 c) compressed mode
 d) message mode

Socket Programming part:

1. Which methods are commonly used in Server Socket class?
 a) Public Output Stream get Output Stream ()
 b) Public Socket accept ()
 c) Public synchronized void close ()
 d) Public void connect ()

2. Which constructor of Datagram Socket class is used to create a datagram socket and binds it with the given Port Number?
 a) Datagram Socket(int port)
 b) Datagram Socket(int port, Int Address address)
 c) Datagram Socket()
 d) Datagram Socket(int address)

3. The client in socket programming must know which information?
 a) IP address of Server
 b) Port number
 c) Both IP address of Server & Port number
 d) Only its own IP address

4. The URL Connection class can be used to read and write data to the specified resource that is referred by the URL.
 a) True
 b) False

5. Datagram is basically just a piece of information but there is no guarantee of its content, arrival or arrival time.
 a) True
 b) False

6. TCP, FTP, Telnet, SMTP, POP etc. are examples of _____
 a) Socket
 b) IP Address
 c) Protocol
 d) MAC Address

7. What does the java.net.InetAddress class represent?
 a) Socket
 b) IP Address
 c) Protocol
 d) MAC Address

8. The flush () method of Print Stream class flushes any un-cleared buffers in the memory.
 a) True
 b) False

9. Which classes are used for connection-less socket programming?
 a) Datagram Socket
 b) Datagram Packet
 c) Both Datagram Socket & Datagram Packet
 d) Server Socket

10. In Inet Address class, which method returns the host name of the IP Address?
 a) Public String get Hostname()
 b) Public String getHostAddress()
 c) Public static InetAddress get Localhost()
 d) Public getByName()

Cookies part:

1. Cookies were originally designed for _____
 a) Client side programming

b) Server side programming

c) Both Client side programming and Server side programming

d) Socket programming

2. The Cookie manipulation is done using which property?

a) cookie

b) cookies

c) manipulate

d) manipulate cookie

3. Which of the following explains Cookies nature?

a) Non Volatile

b) Volatile

c) Intransient

d) Transient

4. Which attribute is used to extend the lifetime of a cookie?

a) Higher-age

b) Increase-age

c) Max-age

d) Lifetime

5. Which of the following defines the Cookie visibility?

a) Document Path

b) LocalStorage

c) SessionStorage

d) All of the mentioned

6. Which of the following can be used to configure the scope of the Cookie visibility?

a) Path

b) Domain

c) Both Path and Domain

d) Server

7. How can you set a Cookie visibility scope to local Storage?

a) /

b) %

c) *

d) #

8. Which of the following is a Boolean cookie attribute?

a) Bool

b) Secure

c) Lookup

d) Domain

9. Which of the following function is used as a consequence of not including semicolons, Commas or whitespace in the Cookie value?

a) EncodeURIComponent()
b) EncodeURI()
c) EncodeComponent()
d) Encode()

10. What is the constraint on the data per cookie?
a) 2 KB
b) 1 KB
c) 4 KB
d) 3 KB

Web caching part:
1. What does REST stand for?
a) Represent State Transfer
b) Representational State Transfer
c) Representing State Transfer
d) Representation State Transfer

2. Which of the following protocol is used by Restful web services as a medium of communication between client and server?
a) HTTP
b) FTP
c) Gopher
d) TELNET

3. Which of the following is not a good practice to create a standard URI for a web service?
a) Maintain Backward Compatibility
b) Use HTTP Verb
c) Using spaces for long resource names
d) Use lowercase letters

. 4.Which of the following HTTP methods should be idempotent in nature?
a) OPTIONS
b) DELETE
c) POST
d) HEAD

5. Which of the following directive of Cache Control Header of HTTP response indicates that resource is cachable by only client and server?
a) Public
b) Private
c) Nocache/nostore
d) Maxage

6. Which of the following HTTP Status code means CREATED, when a resource is successful created using POST or PUT request?

a) 200

b) 201

c) 204

d) 3047. Which of the following annotation of JAX RS API is used to annotate a method used to create resource?

a) @Path

b) @GET

c) @PUT

d) @POST

8. Which of the following annotation of JAX RS API binds the parameter passed to method to a HTTP matrix parameter in path?

a) @PathParam

b) @QueryParam

c) @MatrixParam

d) @HeaderParam

9. In REST architecture, a REST Server simply provides access to resources and REST client accesses and presents the resources.

a) False

b) True

10. POST operation should be idempotent.

a) True

b) False

Packet Forwarding and Routing:

1. The term that is used to place packet in its route to its destination is called
_____

a) Delayed

b) Urgent

c) Forwarding

d) Delivering

2. A second technique to reduce routing table and simplify searching process is called
_____

a) Network-Specific Method

b) Network-Specific Motion

c) Network-Specific Maintaining

d) Network-Specific Membership

3. Next-Hop Method is used to reduce contents of a _____

a) Revolving table

b) Rotating Table

c) Routing Table

d) Re-allocate table

4. Several techniques can make size of routing table manageable and also handle
issues such as _____

a) Maturity

b) Error reporting

c) Tunneling

d) Security

5. Host-specific routing is used for purposes such as checking route or providing _____

a) Network Measures

b) Security Measures

c) Routing Measures

d) Delivery Measures

6. In Unicast routing, if instability is between three nodes, stability cannot be _____

a) Stable

b) Reversed

c) Guaranteed

d) Forward

7. In Unicast Routing, Dijkstra algorithm creates a shortest path tree from a _____

a) Graph

b) Tree

c) Network

d) Link

8. In Multicast Routing Protocol, flooding is used to broadcast packets but it creates
_____

a) Gaps

b) Loops

c) Holes
d) Links

9. RPF stands for _____
a) Reverse Path Forwarding
b) Reverse Path Failure
c) Reverse Packet Forwarding
d) Reverse Protocol Failure
10. LSP stands for _____
a) Link Stable Packet
b) Link State Packet
c) Link State Protocol
d) Link State Path

Security in the Internet:

1. IPSec is designed to provide security at the _____
a) transport layer
b) network layer
c) application layer
d) session layer
View Answer

2. In tunnel mode, IPSec protects the _____
a) Entire IP packet
b) IP header
c) IP payload
d) IP trailer
View Answer

3. Network layer firewall works as a _____
a) frame filter
b) packet filter
c) signal filter
d) content filter
View Answer

4. Network layer firewall has two sub-categories called _____
a) stateful firewall and stateless firewall

b) bit oriented firewall and byte oriented firewall
c) frame firewall and packet firewall
d) network firewall and data firewall
View Answer

5. WPA2 is used for security in _____
a) ethernet
b) bluetooth
c) wi-fi
d) e-mail
View Answer

6. An attempt to make a computer resource unavailable to its intended users is called _____
a) denial-of-service attack
b) virus attack
c) worms attack
d) botnet process
View Answer

7. Extensible authentication protocol is authentication framework frequently used in _____
a) wired personal area network
b) wireless networks
c) wired local area network
d) wired metropolitan area network
View Answer

8. Pretty good privacy (PGP) is used in _____
a) browser security
b) email security
c) FTP security
d) wifi security
View Answer

9. PGP encrypts data by using a block cipher called _____
a) international data encryption algorithm
b) private data encryption algorithm
c) internet data encryption algorithm
d) local data encryption algorithm
View Answer

10. When a DNS server accepts and uses incorrect information from a host that has no authority giving that information, then it is called _____
a) DNS lookup

b) DNS hijacking
c) DNS spoofing
d) DNS authorizing

I- Network Layer

OSPF part:
1. Open Shortest Path First (OSPF) is also called as _____
a) Link state protocol
b) Error-correction protocol
c) Routing information protocol
d) Border gateway protocol

2. The computation of the shortest path in OSPF is usually done by _____
a) Bellman-ford algorithm
b) Routing information protocol
c) Dijkstra's algorithm
d) Distance vector routing

3. Which of the following is false with respect to the features of OSPF?
a) Support for fixed-length subnetting by including the subnet mask in the routing message
b) More flexible link cost than can range from 1 to 65535
c) Use of designated router
d) Distribution of traffic over multiple paths that have equal cost to the destination

4. In OSPF, which protocol is used to discover neighbour routers automatically?
a) Link state protocol
b) Error-correction protocol
c) Routing information protocol
d) Hello protocol

5. Which of the following is not a type of OSPF packet?
a) Hello
b) Link-state request
c) Link-state response
d) Link-state ACK

6. What is the correct order of the operations of OSPF?
i – Hello packets
ii – Propagation of link-state information and building of routing tables
iii – Establishing adjacencies and synchronization of database
a) i-ii-iii
b) i-iii-ii

c) iii-ii-i
d) ii-i-iii

7. In OSPF header, which field is used to detect errors in the packet?
a) Type
b) Area ID
c) Authentication type
d) Checksum

8. In OSPF database descriptor packet, if there are more database descriptor packets in the flow, 'M' field is set to _____
a) 1
b) 0
c) more
d) -1

9. In OSPF database descriptor packet, which field is used to indicate that the router is master?
a) M
b) MS
c) I
d) Options

10. In OSPF database descriptor packet, which field is used to detect a missing packet?
a) LSA header
b) MS
c) Database descriptor sequence number
d) Options

OSPF configuration part:
1. An OSPF router receives an LSA, the router checks its sequence number, and this number matches the sequence number of the LSA that the receiving router already has. What does the receiving router do with the LSA?
a) Ignores the LSA
b) Adds it to the database
c) Sends newer LSU update to source router
d) Floods the LSA to the other routers

2. An OSPF router receives an LSA. The router checks its sequence number and finds that this number is higher than the sequence number it already has. Which two tasks does the router perform with the LSA?
a) Ignores the LSA
b) Adds it to the database
c) Sends newer LSU update to source router
d) Floods the LSA to the other routers

3. An OSPF router receives an LSA. The router checks its sequence number and finds that this number is lower than the sequence number it already has. What does the router do with the LSA?

a) ignores the LSA
b) adds it to the database
c) sends newer LSU update to source router
d) floods the LSA to the other routers

4. Each LSA has its own age timer. By default, how long does an LSA wait before requiring an update?

a) 30 seconds
b) 1 minute
c) 30 minutes
d) 1 hour

5. Distance vector protocols use the concept of split horizon, but link-state routing protocols, such as OSPF, do not.

a) True
b) False

6. The outcome of Dijkstra's calculation is used to populate the _____

a) Topology table
b) Routing table
c) Neighbor table
d) Adjacency table

7. What is the IP protocol number for OSPF packets?

a) 89
b) 86
c) 20
d) 76

8. Which packet is NOT an OSPF packet type?

a) LSU
b) LSR
c) DBD
d) Query

9. Which multicast address does the OSPF Hello protocol use?

a) 224.0.0.5
b) 224.0.0.6
c) 224.0.0.7
d) 224.0.0.8

10. The Hello protocol sends periodic updates to ensure that a neighbor relationship is maintained between adjacent routers.

a) True
b) False

11. DBD packets are involved during which two states?
a) Exstart and exchange
b) Loading and Two-way
c) Init and Full
d) Down and Loading

12. At which interval does OSPF refresh LSAs?
a) 10 seconds
b) 30 seconds
c) 30 minutes
d) 1 hour

13. Which field is NOT a field within an OSPF packet header?
a) Packet length
b) Router ID
c) Authentication type
d) Maxage time

14. Which two commands are required for basic OSPF configuration?
a) "[Network mask] area [area-id]" and "Router ospf [process-id]"
b) "[Wildcard-mask] area [area-id]" and "[Network mask] area [area-id]"
c) Only "Router ospf [process-id]"
d) "[Wildcard-mask] area [area-id]" and "Router ospf [process-id]"

15. Which OSPF show command describes a list of OSPF adjacencies?
a) Show ip ospf interface
b) Show ip ospf
c) Show ip route
d) Show ip ospf neighbor

Diagram networks part:

1. Datagram switching is done at which layer of OSI model?
 a) Network layer
 b) Physical layer
 c) Application layer

d) Transport layer

2. Packets in datagram switching are referred to as _____
 a) Switches
 b) Segments

c) Datagrams
d) Data-packets

3. Datagram networks mainly refers to _____
a) Connection oriented networks
b) Connection less networks
c) Telephone networks
d) Internetwork

4. Datagrams are routed to their destinations with the help of _____
a) Switch table
b) Segments table
c) Datagram table
d) Routing table

5. The main contents of the routing table in datagram networks are _____
a) Source and Destination address
b) Destination address and Output port
c) Source address and Output port
d) Input port and Output port

6. Which of the following remains same in the header of the packet in a datagram network during the entire journey of the packet?
a) Destination address
b) Source address
c) Checksum
d) Padding

7. Which of the following is true with respect to the delay in datagram networks?
a) Delay is greater than in a virtual circuit network
b) Each packet may experience a wait at a switch
c) Delay is not uniform for the packets of a message
d) All of the mentioned

8. During datagram switching, the packets are placed in _____ to wait until the given transmission line becomes available.
a) Stack
b) Queue
c) Hash

d) Routing table

9. The probability of the error in a transmitted block _____ with the length of the block
a) Remains same
b) Decreases

c) Increases

d) Is not proportional

10. Which of the following is false with respect to the datagram networks?
a) Number of flows of packets are not limited
b) Packets may not be in order at the destination
c) Path is not reserved
d) Delay is the same for all packets in a flow

Firewalls part:

1. Network layer firewall works as a _____
a) Frame filter
b) Packet filter
c) Content filter
d) Virus filter

2. Network layer firewall has two sub-categories as _____
a) State full firewall and stateless firewall
b) Bit oriented firewall and byte oriented firewall
c) Frame firewall and packet firewall
d) Network layer firewall and session layer firewall

3. A firewall is installed at the point where the secure internal network and untrusted external network meet which is also known as _____
a) Chock point
b) Meeting point
c) Firewall point
d) Secure point

4. Which of the following is / are the types of firewall?
a) Packet Filtering Firewall
b) Dual Homed Gateway Firewall
c) Screen Host Firewall
d) Dual Host Firewall

5. A proxy firewall filters at _____
a) Physical layer
b) Data link layer
c) Network layer
d) Application layer

6. A packet filter firewall filters at _____

a) Physical layer
b) Data link layer
c) Network layer or Transport layer
d) Application layer

7. What is one advantage of setting up a DMZ with two firewalls?
a) You can control where traffic goes in three networks
b) You can do stateful packet filtering
c) You can do load balancing
d) Improved network performance

8. What tells a firewall how to reassemble a data stream that has been divided into packets?
a) The source routing feature
b) The number in the header's identification field
c) The destination IP address
d) The header checksum field in the packet header

9. A stateful firewall maintains a _____ which is a list of active connections.
a) Routing table
b) Bridging table
c) State table
d) Connection table

10. A firewall needs to be _____ so that it can grow proportionally with the network that it protects.
a) Robust
b) Expansive
c) Fast
d) Scalable

Network management part:

1. Complex networks today are made up of hundreds and sometimes thousands of _____
a) Documents
b) Components
c) Servers
d) Entities

2. Performance management is closely related to _____
a) Proactive Fault Management
b) Fault management
c) Reactive Fault Management
d) Preventive Fault Management

3. Configuration management can be divided into two subsystems: reconfiguration and _____

a) Documentation
b) Information
c) Servers
d) Entity

4. In Network Management System, the term that is responsible for controlling access to network based on predefined policy is called _____
a) Fault Management
b) Secured Management
c) Active Management
d) Security Management

5. Control of users' access to network resources through charges is the main responsibility of _____
a) Reactive Fault Management
b) Reconfigured Fault Management
c) Accounting Management
d) Security Management

6. The physical connection between an end point and a switch or between two switches is _____
a) Transmission path
b) Virtual path
c) Virtual circuit
d) Transmission circuit

7. Which of the following networks supports pipelining effect?
a) Circuit-switched networks
b) Message-switched networks
c) Packet-switched networks
d) Stream-switched networks

8. In Network Management System, maps track each piece of hardware and its connection to the _____
a) IP Server
b) Domain
c) Network

d) Data

9. MIB is a collection of groups of objects that can be managed by _____
a) SMTP
b) UDP
c) SNMP

d) TCP/IP

10. A network management system can be divided into _____
a) three categories
b) five broad categories
c) seven broad categories
d) ten broad categories

Network Utilities part:

1. Ping can _____
a) Measure round-trip time
b) Report packet loss
c) Report latency
d) All of the mentioned

2. Ping sweep is a part of _____
a) Traceroute
b) Nmap
c) Route
d) Ipconfig

3. ICMP is used in _____
a) Ping
b) Traceroute
c) Ifconfig
d) Both Ping & Traceroute

4. _____ command is used to manipulate TCP/IP routing table.
a) route
b) Ipconfig
c) Ifconfig
d) Traceroute

5. If you want to find the number of routers between a source and destination, the utility to be used is _____
a) route
b) Ipconfig
c) Ifconfig
d) Traceroute

6. Which of the following is not related to ipconfig in Microsoft Windows?
a) Display all current TCP/IP network configuration values
b) Modify DHCP settings
c) Modify DNS settings
d) Trace the routers in the path to destination

7. _____ allows checking if a domain is available for registration.
a) Domain Check
b) Domain Dossier
c) Domain Lookup
d) Domain registers

8. Choose the wrong statement from the following.
a) Nslookup is used to query a DNS server for DNS data
b) Ping is used to check connectivity
c) Pathping combines the functionality of ping with that of route
d) Ifconfig can configure TCP/IP network interface parameters

Ethernet part:

1. Ethernet frame consists of _____
a) MAC address
b) IP address
c) Default mask
d) Network address

2. What is start frame delimeter (SFD) in ethernet frame?
a) 10101010
b) 10101011
c) 00000000
d) 11111111

3. MAC address is of _____
a) 24 bits
b) 36 bits
c) 42 bits
d) 48 bits

4. What is autonegotiation?
a) a procedure by which two connected devices choose common transmission parameters
b) a security algorithm
c) a routing algorithm
d) encryption algorithm

5. Ethernet in metropolitan area network (MAN) can be used as _____
a) pure ethernet
b) ethernet over SDH
c) ethernet over MPLS
d) all of the mentioned

6. A point-to-point protocol over ethernet is a network protocol for _____
 a) encapsulating PPP frames inside ethernet frames
 b) encapsulating ehternet framse inside PPP frames
 c) for security of ethernet frames
 d) for security of PPP frames

7. High speed ethernet works on _____
 a) coaxial cable
 b) twisted pair cable
 c) optical fiber
 d) unshielded twisted pair cable

8. The maximum size of payload field in ethernet frame is _____
 a) 1000 bytes
 b) 1200 bytes
 c) 1300 bytes
 d) 1500 bytes

9. What is interframe gap?
 a) idle time between frames
 b) idle time between frame bits
 c) idle time between packets
 d) idle time between networks

10. An ethernet frame that is less than the IEEE 802.3 minimum length of 64 octets is called _____
 a) short frame
 b) runt frame
 c) mini frame
 d) man frame

K- Wireless LAN's, Electronic Mail and File Transfer

1. What is the access point (AP) in a wireless LAN?
a) device that allows wireless devices to connect to a wired network

b) wireless devices itself

c) both device that allows wireless devices to connect to a wired network and wireless devices itself

d) all the nodes in the network

2. In wireless ad-hoc network _____

a) access point is not required

b) access point is must

c) nodes are not required

d) all nodes are access points

3. Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?

a) CDMA

b) CSMA/CA

c) ALOHA

d) CSMA/CD

4. In wireless distribution system _____

a) multiple access point are inter-connected with each other

b) there is no access point

c) only one access point exists

d) access points are not required

5. A wireless network interface controller can work in _____

a) infrastructure mode

b) ad-hoc mode

c) both infrastructure mode and ad-hoc mode

d) WDS mode

6. In wireless network an extended service set is a set of _____

a) connected basic service sets

b) all stations

c) all access points

d) connected access points

7. Mostly _____ is used in wireless LAN.

a) time division multiplexing

b) orthogonal frequency division multiplexing

c) space division multiplexing

d) channel division multiplexing

8. Which one of the following event is not possible in wireless LAN?

a) collision detection

b) acknowledgement of data frames

c) multi-mode data transmission

d) connection to wired networks

9. What is Wired Equivalent Privacy (WEP)?

a) security algorithm for ethernet

b) security algorithm for wireless networks

c) security algorithm for usb communication

d) security algorithm for emails

10. What is WPA?

a) wi-fi protected access

b) wired protected access

c) wired process access

d) wi-fi process access

1. An interconnected collection of piconet is called _____

a) scatternet

b) micronet

c) mininet

d) multinet

2. In a piconet, there can be up to _____ parked nodes in the network.

a) 63

b) 127

c) 255

d) 511

3. Bluetooth is the wireless technology for _____

a) local area network

b) personal area network

c) metropolitan area network

d) wide area network

4. Bluetooth uses _____

a) frequency hopping spread spectrum

b) orthogonal frequency division multiplexing

c) time division multiplexing

d) channel division multiplexing

5. Unauthorised access of information from a wireless device through a bluetooth connection is called _____

a) bluemaking

b) bluesnarfing

c) bluestring

d) bluescoping

6. What is A2DP (advanced audio distribution profile)?

a) a bluetooth profile for streaming audio

b) a bluetooth profile for streaming video

c) a bluetooth profile for security

d) a bluetooth profile for file management

7. In a piconet, one master device _____

a) can not be slave

b) can be slave in another piconet

c) can be slave in the same piconet

d) can be master in another piconet

8. Bluetooth transceiver devices operate in _____ band.

a) 2.4 GHz ISM

b) 2.5 GHz ISM

c) 2.6 GHz ISM

d) 2.7 GHz ISM

9. Bluetooth supports _____
a) point-to-point connections
b) point-to-multipoint connection
c) both point-to-point connections and point-to-multipoint connection
d) multipoint to point connection
10. A scatternet can have maximum _____
a) 10 piconets
b) 20 piconets
c) 30 piconets
d) 40 piconets

1. What is internet?
a) a single network
b) a vast collection of different networks
c) interconnection of local area networks
d) interconnection of wide area networks

2. To join the internet, the computer has to be connected to a _____
a) internet architecture board
b) internet society
c) internet service provider
d) different computer
3. Internet access by transmitting digital data over the wires of a local telephone network is provided by _____
a) leased line
b) digital subscriber line
c) digital signal line
d) digital leased line
4. ISP exchanges internet traffic between their networks by _____
a) internet exchange point
b) subscriber end point
c) isp end point
d) internet end point
5. Which of the following protocols is used in the internet?
a) HTTP
b) DHCP
c) DNS
d) DNS, HTTP and DNS
6. The size of an IP address in IPv6 is _____
a) 32 bits
b) 64 bits
c) 128 bits
d) 265 bits

7. Internet works on _____

a) packet switching

b) circuit switching

c) both packet switching and circuit switching

d) data switching

8. Which one of the following is not an application layer protocol used in internet?

a) remote procedure call

b) internet relay chat

c) resource reservation protocol

d) local procedure call

9. Which protocol assigns IP address to the client connected in the internet?

a) DHCP

b) IP

c) RPC

d) RSVP

10. Which one of the following is not used in media access control?

a) ethernet

b) digital subscriber line

c) fiber distributed data interface

d) packet switching

1. WiMAX stands for _____

a) wireless maximum communication

b) worldwide interoperability for microwave access

c) worldwide international standard for microwave access

d) wireless internet maximum communication

2. WiMAX provides _____

a) simplex communication

b) half duplex communication

c) full duplex communication

d) no communication

3. WiMAX uses the _____

a) orthogonal frequency division multiplexing

b) time division multiplexing

c) space division multiplexing

d) channel division multiplexing

4. Which of the following modulation schemes is supported by WiMAX?

a) binary phase shift keying modulation

b) quadrature phase shift keying modulation

c) quadrature amplitude modulation

d) all of the mentioned

5. WiMAX MAC layer provides an interface between _____

a) higher transport layers and physical layer

b) application layer and network layer

c) data link layer and network layer

d) session layer and application layer

6. For encryption, WiMAX supports _____

a) advanced encryption standard

b) triple data encryption standard

c) advanced encryption standard and triple data encryption standard

d) double data encryption standard

7. WiMAX provides _____

a) VoIP services

b) IPTV services

c) Both VoIP and IPTV services

d) no IPTV services

8. Devices that provide the connectivity to a WiMAX network are known as _____

a) subscriber stations

b) base stations

c) gateway

d) switch stations

9. WiMAX is mostly used for _____

a) local area network

b) metropolitan area network

c) personal area network

d) wide area network

10. Which of the following frequencies is not used in WiMAX for communication?

a) 2.3 GHz

b) 2.4 GHz

c) 2.5 GHz

d) 3.5 GHz

1. SONET stands for _____

a) synchronous optical network

b) synchronous operational network

c) stream optical network

d) shell operational network

2. In SONET, STS-1 level of electrical signalling has the data rate of _____

a) 51.84 Mbps

b) 155.52 Mbps

c) 2488.320 Mbps

d) 622.080 Mbps

3. The path layer of SONET is responsible for the movement of a signal _____

a) from its optical source to its optical destination

b) across a physical line

c) across a physical section

d) back to its optical source

4. The photonic layer of the SONET is similar to the _____ of OSI model.

a) network layer

b) data link layer

c) physical layer

d) transport layer

5. In SONET, each synchronous transfer signal STS-n is composed of _____

a) 2000 frames

b) 4000 frames

c) 8000 frames

d) 16000 frames

6. Which one of the following is not true about SONET?

a) frames of lower rate can be synchronously time-division multiplexed into a higher-rate frame

b) multiplexing is synchronous TDM

c) all clocks in the network are locked to a master clock

d) STS-1 provides the data rate of 622.080Mbps

7. A linear SONET network can be _____

a) point-to-point

b) multi-point

c) both point-to-point and multi-point

d) single point

8. Automatic protection switching in linear network is defined at the _____

a) line layer

b) section layer

c) photonic layer

d) path layer

9. A unidirectional path switching ring is a network with _____

a) one ring

b) two rings

c) three rings

d) four rings

10. What is SDH?

a) sdh is similar standard to SONET developed by ITU-T

b) synchronous digital hierarchy

c) sdh stands for synchronous digital hierarchy and is a similar standard to SONET developed by ITU-T

d) none of the mentioned

1. Real-time transport protocol (RTP) is mostly used in _____

a) streaming media

b) video teleconference

c) television services

d) all of the mentioned

2. RTP is used to _____
a) carry the media stream
b) monitor transmission statistics of streams
c) monitor quality of service of streams
d) secure the stream
3. RTP provides the facility of jitter _____
a) media stream
b) expansion
c) media modification
d) security
4. Which protocol provides the synchronization between media streams?
a) RTP
b) RTCP
c) RPC
d) RTCT
5. An RTP session is established for _____
a) each media stream
b) all media streams
c) some predefined number of media streams
d) no media stream
6. RTP can use _____
a) unprevileleged UDP ports
b) stream control transmission protocol
c) datagram congestion control protocol
d) all of the mentioned
7. Which one of the following multimedia formats can not be supported by RTP?
a) MPEG-4
b) MJPEG
c) MPEG
d) TXT
8. An RTP header has a minimum size of _____
a) 12 bytes
b) 16 bytes
c) 24 bytes
d) 32 bytes
9. Which one of the following is not correct?
a) RTCP provides canonical end-point identifiers to all session participants
b) RTCP reports are expected to be sent by all participants
c) RTCP itself does not provide any flow encryption or authentication methods
d) RTCP handles the actual data delivery
10. Which protocol defines a profile of RTP that provides cryptographic services for the transfer of payload data?

a) SRTP
b) RTCP
c) RCP
d) RTCT

1. An RPC (remote procedure call) is initiated by the _____
a) server
b) client
c) client after the sever
d) a third party
2. In RPC, while a server is processing the call, the client is blocked _____
a) unless the client sends an asynchronous request to the server
b) unless the call processing is complete
c) for the complete duration of the connection
d) unless the server is disconnected
3. A remote procedure call is _____
a) inter-process communication
b) a single process
c) a single thread
d) a single stream

4. RPC allows a computer program to cause a subroutine to execute in _____
a) its own address space
b) another address space
c) both its own address space and another address space
d) applications address space
5. RPC works between two processes. These processes must be _____
a) on the same computer
b) on different computers connected with a network
c) on the same computer and also on different computers connected with a network
d) on none of the computers
6. A remote procedure is uniquely identified by _____
a) program number
b) version number
c) procedure number
d) all of the mentioned
7. An RPC application requires _____
a) specific protocol for client server communication
b) a client program
c) a server program
d) all of the mentioned
8. RPC is used to _____

a) establish a server on remote machine that can respond to queries

b) retrieve information by calling a query

c) establish a server on remote machine that can respond to queries and retrieve information by calling a query

d) to secure the client

9. RPC is a _____

a) synchronous operation

b) asynchronous operation

c) time independent operation

d) channel specific operation

10. The local operating system on the server machine passes the incoming packets to the _____

a) server stub

b) client stub

c) client operating system

d) client process

L- Wireless LAN's, Electronic Mail and File Transfer

1. Which of the following is an advantage of anomaly detection?

a) Rules are easy to define

b) Custom protocols can be easily analyzed

c) The engine can scale as the rule set grows

d) Malicious activity that falls within normal usage patterns is detected

View Answer

2. A false positive can be defined as _____

a) An alert that indicates nefarious activity on a system that, upon further inspection, turns out to represent legitimate network traffic or behavior

b) An alert that indicates nefarious activity on a system that is not running on the network

c) The lack of an alert for nefarious activity

d) Both An alert that indicates nefarious activity on a system that, upon further inspection, turns out to represent legitimate network traffic or behavior and An alert that indicates nefarious activity on a system that is not running on the network

3. One of the most obvious places to put an IDS sensor is near the firewall. Where exactly in relation to the firewall is the most productive placement?

a) Inside the firewall

b) Outside the firewall

c) Both inside and outside the firewall

d) Neither inside the firewall nor outside the firewall.

4. What is the purpose of a shadow honeypot?

a) To flag attacks against known vulnerabilities

b) To help reduce false positives in a signature-based IDS

c) To randomly check suspicious traffic identified by an anomaly detection system

d) To enhance the accuracy of a traditional honeypot

5. At which two traffic layers do most commercial IDSes generate signatures?

a) Application layer and Network layer

b) Network layer and Session Layer

c) Transport layer and Application layer

d) Transport layer and Network layer

6. IDS follows a two-step process consisting of a passive component and an active component. Which of the following is part of the active component?

a) Inspection of password files to detect inadvisable passwords

b) Mechanisms put in place to reenact known methods of attack and record system responses

c) Inspection of system to detect policy violations

d) Inspection of configuration files to detect inadvisable settings

7. When discussing IDS/IPS, what is a signature?

a) An electronic signature used to authenticate the identity of a user on the network

b) Attack-definition file

c) It refers to "normal," baseline network behavior

d) It is used to authorize the users on a network

8. "Semantics-aware" signatures automatically generated by Nemean are based on traffic at which two layers?

a) Application layer and Transport layer

b) Network layer and Application layer

c) Session layer and Transport layer

d) Application layer and Session layer

9. Which of the following is used to provide a baseline measure for comparison of IDSes?

a) Crossover error rate

b) False negative rate

c) False positive rate

d) Bit error rate

10. Which of the following is true of signature-based IDSes?

a) They alert administrators to deviations from "normal" traffic behavior

b) They identify previously unknown attacks

c) The technology is mature and reliable enough to use on production networks

d) They scan network traffic or packets to identify matches with attack-definition files

1. EIGRP is a routing protocol design by Cisco.

a) True

b) False

2. EIGRP metric is _____

a) K-values

b) Bandwidth only

c) Hop Count

d) Delay only

View Answer

3. EIGRP can support _____

a) VLSM/subnetting

b) Auto summary

c) Unequal cast load balancing

d) All of the mentioned

4. EIGRP sends a hello message after every _____ seconds.
a) 5 seconds (LAN), 60 seconds (WAN)
b) 5 seconds (LAN), 5 seconds (WAN)
c) 15s
d) 180s
5. Administrative distance for internal EIGRP is _____
a) 90
b) 170
c) 110
d) 91
6. The EIGRP metric values include:

a) Delay
b) Bandwidth
c) MTU
d) All of the mentioned
View Answer

7. For default gateway, which of following commands will you use on a Cisco router?
a) IP default network
b) IP default gateway
c) IP default route
d) Default network
View Answer

8. Administrative distance for external EIGRP route is _____
a) 90
b) 170
c) 110
d) 100
9. EIGRP uses the _____ algorithm for finding shortest path.
a) SPF
b) DUAL
c) Linkstat
d) Djikstra's
10. In EIGRP best path is known as the successor, where as backup path is known as _____
a) Feasible successor
b) Back-up route
c) Default route
d) There is no backup route in EIGRP

1. Both HDLC and PPP are Data link layer protocols.
a) True
b) False
2. Which protocol does the PPP protocol provide for handling the capabilities of the connection/link on the network?
a) LCP
b) NCP
c) Both LCP and NCP
d) TCP
3. The PPP protocol _____

a) Is designed for simple links which transport packets between two peers

b) Is one of the protocols for making an Internet connection over a phone line

c) Is designed for simple links which transport packets between two peers and making an Internet connection over a phone line

d) Is used for sharing bandwidth

4. PPP provides the _____ layer in the TCP/IP suite.

a) Link

b) Network

c) Transport

d) Application

5. PPP consists of _____ components

a) Three (encapsulating, the Domain Name system)

b) Three (encapsulating, a link control protocol, NCP)

c) Two (a link control protocol, Simple Network Control protocol)

d) One (Simple Network Control protocol)

6. The PPP encapsulation _____
a) Provides for multiplexing of different network-layer protocols
b) Requires framing to indicate the beginning and end of the encapsulation
c) Establishing, configuring and testing the data-link connection
d) Provides interface for handling the capabilities of the connection/link on the network
7. A Link Control Protocol (LCP) is used for _____
a) Establishing, configuring and testing the data-link connection
b) Establishing and configuring different network-layer protocols
c) Testing the different network-layer protocols
d) Provides for multiplexing of different network-layer protocols
8. A family of network control protocols (NCPs) _____
a) Are a series of independently defined protocols that provide a dynamic
b) Are a series of independently-defined protocols that encapsulate
c) Are a series of independently defined protocols that provide transparent
d) The same as NFS
9. Choose the correct statement from the following.
a) PPP can terminate the link at any time

b) PPP can terminate the link only during the link establishment phase

c) PPP can terminate the link during the authentication phase

d) PPP can terminate the link during the callback control phase

10. The link necessarily begins and ends with this phase. During the _____ phase, the LCP automata will be in INITIAL or STARTING states.

a) Link-termination phase

b) Link establishment phase

c) Authentication phase

d) Link dead phase