Computer Network and Internet Protocol

(Jan 2024)

Assignment- Week 1

TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10   **Total mark: 10 X 1 = 10**

QUESTION 1:

"Router operates at the Transport Layer of OSI model". The statement is:
    a) True
    b) False

Correct Answer: (b)
Explanation: A router is a layer 3 device or deployed in network layer of the seven layer OSI model, and is responsible for forwarding data packets between computer networks

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QUESTION 2:

Which of the following two statement(s) is/are correct?
I. Physical layer converts digital data to analog signal and vice versa
II. Data link layer handles bit stuffing and checksums for error handling
    a) Only I is correct
    b) Only II is correct
    c) Both I and II are correct
    d) None of the statements are correct

Correct Answer: (c)
Explanation: In physical layer, digital data are converted to analog signal for transmission and then converted back to digital. In data link layer, bit stuffing and checksums are introduced so that error during transmission can be handled.

QUESTION 3:

Which one of the following technologies does a typical circuit switching protocol uses?
    a) Datagram packets
    b) Virtual circuit
    c) Time division
    d) None of the above

Correct Answer: (c)
Explanation: In circuit switching, transistors act as switches or crosspoints in the circuit between the sender and receiver. Time division switching works by slicing digitized speech information into a sequence of time intervals, or slots.

QUESTION 4:

Which of the following is/are example(s) of Application Layer protocols of OSI model?
a) File Transfer Protocol
b) User Datagram Protocol
c) Ethernet
d) Telnet

Correct Answer: (a) and (d)

Explanation: FTP, Telnet, are application layer protocol in OSI model whereas UDP is a transport layer and Ethernet is data link layer protocol.

QUESTION 5:

Which of the following is/are true for packet switching?
a) Packet switching is less reliable.
b) It is a store and forward technique.
c) Call setup is required in packet switching
d) None of the options

Correct Answer: (a), (b)

Explanation: Packet switching uses store and forward technique. Packet switching is less reliable – it can result in packet loss due to congestion on the network or errors in transmission.

QUESTION 6:

"Switches break up collision domain". The statement is:
a) True
b) False

Correct Answer: (a)

Explanation: Collision domain allows one device to send a packet on a network segment, forcing other devices on the same segment to pay attention to it. So, if other devices try to transmit during that period, it will lead to collision. Switches only "switches" frames from one port to another within the same network, so breaks up collision domain

QUESTION 7:

Which one of the following switching is not transparent (in terms of data traversal)?
a) Context switching
b) Packet switching
c) Both context and packet switching
d) None of the context and packet switching

Correct Answer: (b)
Explanation: Circuit switching is completely transparent as it follows a dedicated path. In contrast, the packet switching is not transparent one where each packet can follow a different path.

QUESTION 8:

What is the correct order of three phases in circuit switching?
   a) Transfer > Establish > Disconnect
   b) Establish > Disconnect > Transfer
   c) Establish > Transfer > Disconnect
   d) Transfer > Disconnect > Establish

Correct Answer: (c)
Explanation: In circuit switching, a dedicated communication link is formed between any two stations. The order of three phases is Establish > Transfer > Disconnect

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QUESTION 9:

What is socket address?
   a) Either IP address or port where application is running
   b) Combination of IP address and MAC address
   c) Combination of port and MAC address
   d) Combination of port and IP address

Correct Answer: (d)
Explanation: Socket address is the combination of port and IP address. Number socket is an internal terminal for transferring and receiving data/packets at a single node in a computer network

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QUESTION 10:

Which of the following protocol is responsible for translating, say, www.w3.org into its corresponding IP address?
   a) ARP
   b) DNS
   c) RARP
   d) None of these

Correct Answer: (b)
Explanation: DNS or Domain Name System protocol is responsible for translating the domain name to corresponding IP address