1. Which layer of the OSI model is responsible for medium access control in wireless networks?
a) Data Link Layer
b) Network Layer
c) Physical Layer
d) Transport Layer

Answer: a) Data Link Layer
Explanation: The Data Link Layer of the OSI model deals with the access to the physical medium in wireless networks, including protocols such as CSMA/CA and CSMA/CD.

2. Which routing approach is commonly used in traditional wired networks?
a) Ad-hoc Routing
b) Reactive Routing
c) Proactive Routing
d) Geographic Routing

Answer: c) Proactive Routing
Explanation: Proactive routing, also known as table-driven routing, is commonly used in traditional wired networks. It involves maintaining consistent routing information regardless of network changes.

3. Which protocol is responsible for mobility management in the Mobile Network Layer?
a) TCP
b) IP
c) ICMP
d) Mobile IP

Answer: d) Mobile IP
Explanation: Mobile IP is a protocol used for mobility management in the Mobile Network Layer, allowing mobile devices to maintain continuous network connectivity despite changing points of attachment to the Internet.

4. What is the purpose of the Data Forwarding procedure in Mobile IP?
a) To manage congestion in the network
b) To forward data packets between a mobile node and its home agent
c) To encrypt data packets for secure transmission
d) To assign IP addresses to mobile devices dynamically

Answer: b) To forward data packets between a mobile node and its home agent
Explanation: The Data Forwarding procedure in Mobile IP involves the transmission of data packets between a mobile node and its home agent to ensure seamless communication while the mobile node moves across different networks.

5. Which TCP variant is known for its conservative approach to congestion control?
a) Reno
b) New-Reno
c) Tahoe
d) Vegas

Answer: c) Tahoe
Explanation: Tahoe TCP is known for its conservative approach to congestion control, implementing slow start and congestion avoidance mechanisms.

6. Which TCP variant introduces the concept of Fast Recovery?

a) Reno
b) New-Reno
c) Tahoe
d) Vegas

Answer: b) New-Reno
Explanation: New-Reno TCP introduces the concept of Fast Recovery, allowing for more efficient recovery from packet loss compared to the original Reno TCP.

7. Which TCP variant is designed specifically for mobile networks to adapt to changing network conditions?
a) Reno
b) New-Reno
c) Mobile TCP
d) Tahoe

Answer: c) Mobile TCP
Explanation: Mobile TCP is designed specifically for mobile networks, incorporating mechanisms to adapt to changing network conditions and minimize the impact of handovers and packet loss.

8. Which protocol is commonly used for applications that require low-latency communication and can tolerate some packet loss?
a) TCP
b) UDP
c) ICMP
d) IPsec

Answer: b) UDP
Explanation: UDP (User Datagram Protocol) is commonly used for applications that require low-latency communication and can tolerate some packet loss, such as real-time multimedia streaming and online gaming.

9. What is the primary function of the Congestion Window in TCP congestion control?
a) To determine the maximum segment size
b) To regulate the rate at which packets are sent
c) To manage the retransmission of lost packets
d) To encrypt data packets for secure transmission

Answer: b) To regulate the rate at which packets are sent
Explanation: The Congestion Window in TCP congestion control regulates the rate at which packets are sent, dynamically adjusting based on network conditions to avoid congestion and optimize throughput.

10. Which TCP variant is known for its use of explicit congestion notification (ECN)?
a) Reno
b) New-Reno
c) Tahoe
d) Vegas

Answer: d) Vegas
Explanation: Vegas TCP is known for its use of explicit congestion notification (ECN), allowing for more proactive congestion control by detecting congestion before packet loss occurs.