What is the purpose of the TCP header's Sequence Number field?

a) To indicate the total number of packets in the transmission.

**b) To identify the order of the data segments within a stream.**

c) To specify the destination port for the message.

d) To indicate the maximum allowed window size.

Which field in the TCP header is responsible for ensuring the integrity of the TCP message?

a) Acknowledgment Number

**b) Checksum**

c) Source Port

d) Destination Port

What does the TCP header's Urgent Pointer field indicate?

**a) The sequence number of the last byte in an urgent data segment.**

b) The maximum segment size for the TCP connection.

c) The initial sequence number for the connection.

d) The window size for flow control.

Which of the following statements about the TCP header's Acknowledgment (ACK) flag is true?

a) It indicates the end of a TCP connection.

**b) It acknowledges the successful receipt of data.**

c) It is always set to 1 in every TCP segment.

d) It is used to request retransmission of lost data.

What is the purpose of the TCP header's Window Size field?

a) To specify the size of the TCP header in bytes.

b) To indicate the total number of packets sent in a connection.

c) To define the maximum allowed data segment size.

**d) To manage flow control and indicate the receiver's available buffer space.**

Which of the following statements about the UDP header is true?

a) It includes a 32-bit checksum field.

b) It provides error checking and retransmission of lost packets.

c) It can guarantee the delivery and order of packets.

**d) It is a lightweight protocol with minimal overhead.**

What is the purpose of the UDP header's Length field?

**a) To specify the maximum payload size of a UDP packet.**

b) To indicate the total number of packets in the transmission.

c) To identify the destination port for the message.

d) To manage flow control in UDP communication.

UDP is often used for which type of applications?

**a) Real-time video streaming and online gaming.**

b) Email and file transfer protocols.

c) Secure and encrypted data transmission.

d) Web browsing and HTTP communication.

In Quality of Service (QoS) techniques, packets wait in a buffer (queue) until the node is ready to process them in

**a)FIFO**

b)LIFO

c)FILO

d)NOT

A mechanism to control the amount and the rate of the traffic sent to the network is called

a)traffic congestion

b)traffic flow

c)traffic control

**d)traffic shaping**

A leaky bucket algorithm shapes bursty traffic into fixed-rate traffic by averaging the

a)average rate

b)traffic rate

**c)data rate**

d)traffic shaping

The \_\_\_\_\_ defines the maximum data rate of the traffic

**a)peak data rate**

b)maximum burst size

c)effective bandwidth

d)NOT

In \_\_\_\_ congestion control, policies are applied to prevent congestion before it happens.

**a)open loop**

b)closed loop

c)both a and b

d)NOT

In \_\_\_\_\_ congestion control, mechanisms are used to alleviate congestion after it happens

a)open loop

**b)closed loop**

c)both a and b

d)NOT

The packet sent by a node to the source to inform it of congestion is called \_\_\_\_\_\_\_

a) Explicit

b) Discard

**c) Choke**

d) Backpressure

Suppose you are browsing the world wide web using a web browser and trying to access the web servers. What is the underlying protocol and port number that are being used?

a)UDP,80

**b)TCP,80**

c)TCP,25

d)UDP,25

In symmetric-key cryptography, the key locks and unlocks the box is

1. Shared
2. **Same**
3. Private
4. Public

Which of the following is not a physical layer vulnerability?

1. Physical damage or destruction of data and hardware
2. Keystroke and other input logging
3. Physical theft of data and hardware
4. **Unauthorized network access**

An asymmetric-key (or public-key) cipher uses

1. **2 Key**
2. 4 Key
3. 3 Key
4. 1 Key

The \_\_\_\_\_\_\_\_ is the message after transformation

1. Plaintext
2. Secret-text
3. **Ciphertext**
4. None of the above

File Transfer Protocol (FTP), uses the well-known port 21 is used for the control connection and port 20 for the

A) data rate

**B) data connection**

C) data protocol

D) data congestion

Example of command-driven user agents are

A) mail

B) pine

C) elm

**D) all of them**

 When the sender and the receiver of an e-mail are on the same system, we need only two

A) IP

B) domain

C) servers

**D) user agents**

An Email can have fields like a number, a sender, size of the message and

A) optional subject field

B) flag field

C) mode field

**D) both a and b**

Which of the following devices translates hostnames into IP addresses?

a.**DNS Server**

b.Hub

c.DHCP Server

d.Firewall

What does a DNS client called?

a.DNS handler

b.**DNS resolver**

c.DNS updater

d.None of the above

Servers handle requests for other domains

a.directly

b.**by contacting remote DNS server**

c.it is not possible

d.none of the mentioned

DNS database contains

a.name server records

b.hostname-to-address records

c.hostname aliases

d.**all of the mentioned**

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

Suppose you are browsing the world wide web using a web browser and trying to access the web servers. What is the underlying protocol and port number that are being used?

a)UDP,80

**b)TCP,80**

c)TCP,25

d)UDP,25

Consider the class based addressing of IP version 4 addresses. How many number of networks are allowed in IPv4 Class B addresses

a)128

b)2097152

**c)16384**

d)NOT

The service of closed loop congestion control technique is ………………

a)when to accept new traffic

b)when to discard the packets

**c)monitor the system to detect when and where congestion occurs and removes it**

d)which packets to discard

FTP uses the services of

a)UDP

**b)TCP**

c)SMTP

d)NOT

Network Security provides authentication and access control for resources.

**a) TRUE**

b) False

Which HTTP method is used to request data from a server?

a)PUT

b)POST

**c)GET**

d)DELETE

In FTP, the password is sent to the server using \_\_\_\_\_\_\_\_\_\_ command

a)PASSWD

**b)PASS**

c)PWORD

d)PASSWORD

In FTP, how many TCP connections are needed to transfer a file?

**a)2**

b)1

c)3

d)4

A port address in UDP is \_\_\_\_ bits long

a)8

**b)16**

c)32

d)64