Section 1

1. The structure or format of data is called
   a) Syntax
   b) Semantics
   c) Struct
   d) None of the mentioned.

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

3. Three or more devices share a link in _____ connection
   a) Unipoint
   b) Multipoint
   c) Point to point
   d) None of the mentioned

4. The number of layers in OSI Reference Model
   a) 5
   b) 7
   c) 6
   d) None of the mentioned

5. The physical layer concerns with
   a) bit-by-bit delivery
   p) process to process delivery
   c) application to application delivery
   d) none of the mentioned

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

7. 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

8. Wireless transmission can be done via
   a) radio waves
   b) microwaves
   c) infrared
   d) all of the mentioned
9. Which one of the following task is not done by data link layer?
   a) framing
   b) error control
   c) flow control
   d) channel coding
10. 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) none of the mentioned
11. 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) none of the mentioned
12. CRC stands for
    a) cyclic repeat check
    b) code repeat check
    c) code redundancy check
    d) None
13. Which one 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) None of the mentioned
14. The network layer concerns with
    a) bits
    b) frames
    c) packets
    d) none of the mentioned
15. The network layer protocol of internet is
    a) ethernet
    b) internet protocol

c) hypertext transfer protocol

d) none of the mentioned

16. Which one of the following is a transport layer protocol used in networking?

a) TCP

b) UDP

c) Both TCP and UDP

d) None of the mentioned

17. Transmission control protocol is

a) connection oriented protocol

b) uses a three way handshake to establish a connection

c) recievs data from application as a single stream

d) all of the mentioned

18. Transport layer protocols deals with

a) application to application communication

b) process to process communication

c) node to node communication

d) none of the mentioned

19. 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

20. Data communication system spanning states, countries, or the whole world is

a) LAN

b) WAN

c) MAN

d) None of the mentioned

Section II

1. The network layer protocol of internet is:

a) Ethernet

b) internet protocol

c) hypertext transfer protocol

d) none of the mentioned

2. Electronic mail uses which Application layer protocol?

a) SMTP   b) HTTP   c) FTP   d) SIP

3. In CRC there is no error if the remainder at the receiver is _____.

a) equal to the remainder at the sender

b) zero

c) nonzero

d) the quotient at the sender

4. The slowest transmission speeds are those of
   a) twisted-pair wire b) coaxial cable c) fiber-optic cable d) microwaves

5. A distributed network configuration in which all data/information pass through a central computer is
   a) bus network **b) star network** c) ring network d) Point-to-point network

6. Which of the following device is used to connect two systems, especially if the systems use different protocols?
   a) hub b) bridge **c) gateway** d) repeater

7. In full duplex data transmission, both the sender and the receiver
   a) cannot talk at once
   b) can receive and send data simultaneously
   c) can send or receive data one at a time
   d) can do one way data transmission only

8. Which of the following is not a disadvantage of wireless LAN?
   a) Slower data transmission
   b) higher error rate
   c) interference of transmissions from different computers
   c) All of the above

9. SMTP is used to deliver messages to
   a) user's terminal
   b) user's mailbox
   c) both (a) and (b)
   d) none of the mentioned

10. SMTP defines
    a) message transport
    b) message encryption
    c) message content
    d) none of the mentioned

11. An email client needs to know the _____ of its initial SMTP server.
    a) IP address
    b) MAC address
    c) url
    d) none of the mentioned

12. SMTP uses the TCP port
    a) 22 b) 23 c) 24 **d) 25**

13. 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

14. In cryptography, what is cipher?

 a) algorithm for performing encryption and decryption

 b) encrypted message

 c) both (a) and (b)

 d) none of the mentioned

15. 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

16. The physical layer is responsible for:

 a) line coding

 b) channel coding

 c) modulation

 d) all of the mentioned

17. Which transmission media has the highest transmission speed in a network?

 a) coaxial cable

 b) twisted pair cable

 c) optical fiber

 d) electrical cable

18. Which one of the following routing algorithm can be used for network layer design?

 a) shortest path algorithm

 b) distance vector routing

 c) link state routing

 d) all of the mentioned

19. The Data Link layer concerns with:

 a) bits

 b) frames

 c) packets

 d) none of the mentioned

20. 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

21. Application layer offers _____ service:

 a) End to end

 b) Process to process

c) Both of the mentioned

d) None of the mentioned

22. This is not a application layer protocol:

   a) HTTP b) SMTP C) FTP **d) TCP**

23. 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

24. 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

25. 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.

<center>**Section III**</center>

1. When displaying a web page, the application layer uses the _____

   a) HTTP protocol

   b) FTP protocol

   c) SMTP protocol

   d) TCP protocol

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.

3. 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

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

   a) broadcast network

   b) unicast network

c) multicast network

d) anycast network

5. 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

6. 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

7. 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

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

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. 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

11. Physical or logical arrangement of network is _____

    a) Topology

    b) Routing

    c) Networking

    d) Control

12. Data communication system within a building or campus is_____

    a) LAN

    b) WAN

c) MAN

d) PAN

13. The packet of information at the application layer is called _____

   a) Packet

   b) Message

   c) Segment

   d) Frame

14. Automatic repeat request error management mechanism is provided by

   _____

   a) application access control sublayer

   b) media access control sublayer

   c) network interface control sublayer

   d) logical link control sublayer

15. Header of a frame generally contains _____

   a) synchronization bytes

   b) addresses

   c) frame identifier

   d) all of the mentioned

16. What is a Firewall in Computer Network?

   a. The physical boundary of Network

   b. An operating System of Computer Network

   c. A system designed to prevent unauthorized access

      i. d). A web browsing Software

17. What is the use of Bridge in Network?

   a. to connect LANs

   b. to separate LANs

   c. to control Network Speed

   d. All of the above.

18. Router operates in which layer of OSI Reference Model?

   a. Layer 1 (Physical Layer)

   b. Layer 3 (Network Layer)

      i. c). Layer 4 (Transport Layer)

   c. Layer 7 (Application Layer)

19. Which of the following is an example of Personal Area Networking?

   a. Bluetooth

   b. WAN

   c. WLAN

   d. All of the above

20. Modulator and demodulator as combinely is known as

   a) Modulus   b) **Modem**   c) Mod switch   d) Mod access

21. To connect a computer with a device in the same room, you might be likely to use

a. **a) a coaxial cable** b) a dedicated line c) a ground station d) None of the above

Section IV

1). Internet-like networks within an enterprise.

a)Intranets b) Switching alternating c) Inter organizational networks d) None.

2). The communication mode that supports two-way traffic but only one direction at a time is

a)simplex b) duplex **c) half duplex** d)multiplex

3). Demodulation is a process of

a)converting analog to digital signals

b)converting digital to analog signals

c)multiplexing various signals into one high speed line signals

d)performing data description.

4). What frequency range is used for FM radio transmission?

a)Very Low Frequency : 3 kHz to 30. kHz

b)Low Frequency : 30 kHz to 300 kHz

c)High Frequency : 3 MHz to 30 MHz

d)Very High Frequency : 30 MHz to 300 MHz

5) The protocol data unit(PDU) for the application layer in the Internet stack is

A) Segment

B) Datagram

C) Message

D) Frame

6) Which of the following transport layer protocolss is used to support electronic mail?

A) SMTP

B) IP

C) TCP

D) UDP

7) What is the benefit of the Networking?

A). File Sharing

B). Easier access to Resources

C). Easier Backups

D). All of the Above

8) MAC Address is the example of

A). Transport Layer

B). Data Link Layer

C). Application Layer

D). Physical Layer

9) Which of the following is not the Networking Devices?
A. Gateways
B. Linux
C. Routers
D. Firewalls

10) What is the size of MAC Address?

A). 16-bits **B). 32-bits** C). 48-bits D). 64-bits

11) Which of the following can be Software?
A). Routers **B). Firewalls** C). Gateway D). Modems**.**

12) Layer-2 Switch is also called
A. Multiport Hub B. Multiport Switch **C. Multiport Bridge** D. Multiport NIC

13) What is the minimum header size of an IP packet?
A. 16 bytes   B. 10 bytes   **C. 20 bytes** D. 32 bytes

14) What does protocol defines?
A. Protocol defines what data is communicated.
B. Protocol defines how data is communicated.
C. Protocol defines when data is communicated.
D. All of above.

15) Repeater operates in which layer of the OSI model?
A. Physical layer B. Data link layer C. Network layer D. Transport layer

Section V

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

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

3). 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**
4). Communication channel is shared by all the machines on the network in _____ **a) broadcast network** b) unicast network c) multicast network d) anycast network
5). 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
6). 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
7). 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
8). 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
9). Which of these is not applicable for IP protocol? a) Connectionless **b) Offer reliable service** c) Offer unreliable service d) Does not offer error reporting
10). In classless addressing, there are no classes but addresses are still granted in _____ a) IPs **b) Blocks** c) Codes d) Sizes