1) UDP and IP protocols provides
   (a) Connection less and connection less service
   (b) Connection oriented and connection oriented service
   (c) Connection oriented and connection less service
   (d) Connection less and connection oriented service

2) Which of the following statements is a true description of fiber Optic Cable.

   (a) Fiber optic cables transfer data in a mesh
   (b) Fiber optic cables transfer data in light form
   (c) Fiber optic cables are similar to coaxial cables
   (d) Fiber optic cable are similar to twisted pair cables

3) Fig 1 denotes a _____ and fig 2 denotes a _____

   Fig 1   Fig 2

TCP		TCP
IP		IP
802.3		PPP
Physical Layer		Physical Layer

   (a) LAN, WAN
   (b) WAN, LAN
   (c) LAN, LAN
   (d) WAN, WAN

4) Match the following Devices with the layers it belongs/functionalities?

Protocol	Functionalities
a) Get MAC Address for this IP Address	i) RARP
b) Get IP Address for this MAC Address	ii) ICMP
c) Get The Host Name for this IP	iii) ARP
d) Destination is unreachable	iv) DNS

   (a) a- i, b-iii, c-iv, d-ii
   (b) a- iii, b-i, c-iv, d-ii
   (c) a- i, b-iii, c-ii, d-iv
   (d) a- iii, b-i, c-ii, d-iv

5) Which of the following is FALSE for VLANs?
   (a) Segmented by port or MAC address
   (b) No routing is needed for connectivity
   (c) Span multiple switches
   (d) VLANS operates at layer 2

6) What does it mean if a protocol is stateless?
    (a) If a stateless protocol is used, it cannot be traced.
    (b) Server responds to a request, and then forgets about it
    (c) Client responds to server request and keeps track of the conversation.
    (d) If a protocol is stateless, it means it is unreliable

7) There is a host with IP address like 202.141.152.2. This belongs to which class of IP, what is the network address to which this belongs and assuming there are no sub networks associated with this what will be the broadcast address for the network it is attached with?
    (a) Class C, 202.141.0.0, 202.141.152.255
    (b) Class B, 202.141.0.0, 255.255.0.0
    (c) Class B, 127.0.0.0, 255.0.0.0
    (d) Class C, 202.141.152.0, 202.141.152.255

8) For which of the following is UDP unsuitable? Choose the most appropriate answer.
    (a) DNS
    (b) SNMP
    (c) RTP
    (d)SMTP

9) A subnet mask is used to
    (a) Identify different subnets within an intranet
    (b) Identify different subnets within an internet
    (c) Identify the number of bits to be used as the network portion in the IP address
    (d) Mask the IP address of a machine from hackers

10) When IP address of a host is known, to map IP address of the host with MAC address which protocol is used?
    (a) DHCP
    (b) RARP
    (c) ICMP
    (d) ARP

11) Error detection at the data link level is achieved by?
    (a) Bit stuffing
    (b) Cyclic redundancy codes
    (c) Hamming codes
    (d) Equalization

12) A hub connects 24 computers. In that A and B are two machines. A sends data to B. How many computers will receive that data?
    (a) Only B will receive
    (b) All 24 computers will receive
    (c) Only A and B will receive
    (d) All computers except A will receive

13) Which protocol immediately encapsulates an ICMP message?
>   **(a)IP**
>   (b) TCP
>   (c) UDP
>   (d) Link Layer Protocol(802.3,802.11 etc)

14) Which of the following network devices can also act as a packet filter?
>   (a) Switch
>   (b) HUB
>   (c) BRIDGE
>   **(d) Router**

15) Identify the FALSE statement
>   (a) Wireless LAN and Ethernet are broadcast medium
>   (b) WLAN provides less bandwidth compared to Gigabit Ethernet
>   **(c) Wireless LAN & Ethernet can not co-exist**
>   (d) WLAN & Ethernet can use IP as their network layer protocol

16) End-to-end connectivity is provided from host-to-host in:
>   (a) the network layer
>   **(b) the transport layer**
>   (c) the session layer
>   (d) it is a combined functionality of the network and the data link layers

17) Which of the following uniquely identifiers a TCP connection?
>   (a) Sender IP, Receiver IP
>   (b) Sender port, Receiver port
>   (c) Sender MAC & Sender IP, Receiver MAC & Receiver IP
>   **(d) Sender IP & Sender Port, Receiver IP & Receiver Port**

18) Which of the following layers are not part of TCP/IP when compared OSI model
>   (a) Session, Application
>   **(b) Session, Presentation**
>   (c) Application, Presentation
>   (d) Session, Transport

19) Which of the following is NOT the issue to be addressed at Physical layer (transmission media)
>   (a) How many volts should be used to represent 1 & 0 bits.
>   (b) Should the transmission be simultaneously in both directions?
>   (c) What should be the duration of the bit
>   **(d) What sliding window protocol to be used**

20) Correctly match the "Layer Name" with the "Name of the unit exchanged" at that Layer.

A) Physical layer	i) Packet
B) Data link layer	ii) TPDU
C) Network Layer	iii) Bit
D) Transport Layer	iv) Frame

(a) **A - iii, B - iv, C - i, D - ii**
(b) A- iii, B- i, C-ii, D-iv
(c) A- iii, B- iv, C- ii, D- i
(d) A-iv, B-iii, C-ii, D-I

21) Which of the following statement is TRUE regarding wireless networks?
   (a) **FHSS,DSSS,OFDM,HDSSS are part of Physical layer**
   (b) FHSS,DSSS,OFDM,HDSSS are part of MAC sub layer
   (c) FHSS,DSSS,OFDM,HDSSS are part of LLC sub layer
   (d) FHSS,DSSS,OFDM,HDSSS are part of Upper layers

22) Which TCP/IP layer attaches a header and trailer to the transmitting data?
   (a) Application Layer
   (b) Transport Layer
   (c) Network Layer
   (d) **Data Link Layer**

23) A router has the following (CIDR) entries in the routing table

Address/Mask	Next HOP
202.112.12.5/28	interface1
202.112.12.61/28	interface2
Default	interface3

If a packet comes with destination address 202.112.12.45 arrives at the router, on which interface it will be routed?

   (a) interface1
   (b) interface2
   (c) **interface3**
   (d) Packet will be dropped

24) Which of the following is the valid sequence in the three-way handshake for tcp connection establishment(SEQ= sequence number, ACK= acknowledge number & SYN = syn flag)
   (a) **SYN(SEQ=x), SYN(SEQ=y, ACK=x+1), (SEQ=x+1, ACK=y+1)**
   (b) SYN(SEQ=x), SYN(SEQ=x, ACK=x+1), (SEQ=x+1, ACK=x)
   (c) SYN(SEQ=y), SYN(SEQ=x, ACK=y), (SEQ=y+1, ACK=x+1)
   (d) SYN(SEQ=x), SYN(SEQ=y, ACK=x), (SEQ=x, ACK=y)

25) Which of the following IP Header fields changes from HOP to HOP during routing?
   i. Source IP Address
   ii. Destination IP Address
   iii. TTL (Time to Live)
   iv. Protocol

   (a) **iii only**
   (b) iv only
   (c) i, ii & iii only
   (d) All the above fields

26) You have a class C network address divided into 3 subnets, you will add 2 subnets in the next 2 years each subnet will have 25 hosts. What subnet mask should you use to create those subnets without wasting the IP addresses?
>   (a) 255.255.255.192
>   (b) 255.255.255.248
>   **(c) 255.255.255.224**
>   (d) none of the above

27) IPV4 address is __ bits, IPV6 is _____ bits

>   (a) 32 and 64
>   (b) 48 and 128
>   **(c) 32 and 128**
>   (d) 48 and 64

28) Match the following

>   i. UTP   1. RJ11
>   ii. Serial Interface   2. RJ45
>   iii.Telephone   3. V.35

>   (a) UTP-RJ11,Serial I/F – RJ45, Telephone – V.35
>   (b) UTP-V.35,Serial I/F – RJ45 Telephone – RJ11
>   **(c) UTP-RJ45,Serial I/F – V.35, Telephone – RJ11**
>   (d) UTP-RJ45,Serial I/F – RJ11, Telephone – V.35

29) TCP and IP protocols provides
>   (a) Connection less and connection less service
>   (b) Connection oriented and connection oriented service
>   **(c) Connection oriented and connection less service**
>   (d) Connection less and connection oriented service

30) As data moves from the lower to upper layers (ie Layer X to Layer X+1) in a TCP/IP network , headers are getting _____ but when data moves between the devices in the same layers (ie Layer X of Device A and Layer X of Device B) headers are getting _____

>   (a) Deleted, Added
>   **(b) Deleted, Modified**
>   (c) Added, Modified
>   (d) Modified, Added

31) Match the following
>   a) VLAN   i) 802.3
>   b) Ethernet   ii) 802.4
>   c) WLAN   iii)802.1q

d) Token Bus   iv) 802.5
e)Token Ring   v)802.11

(a) a-i, b-v, c-iii, d-ii, e-iv
(b) a-iii, b-i, c-v, d-iv, e-ii
(c) a-v, b-i, c-iii, d-ii, e-iv
(d)a-iii, b-i, c-v, d-ii, e-iv