**Total number of flag bits in a TCP header is [x2]**  
(a) 4  
(b) 6  
(c) 3  
(d) 8  
**→ Answer: (b) 6**

1. **If subnet mask is 255.255.192.0, then how many subnets are available? [x2]**  
   *(ii)* (a) 2  
   (b) 18  
   (c) 4  
   (d) 24  
   **→ Answer: (c) 4**
2. **The topology with highest reliability is [x2]**  
   *(iii)* (a) Bus topology  
   (b) Star topology  
   (c) Ring topology  
   (d) Mesh topology  
   **→ Answer: (d) Mesh topology**
3. **In OSI model, dialogue control and token management are responsibilities of?**  
   *(iv)* (a) Session Layer  
   (b) Network Layer  
   (c) Transport Layer  
   (d) Data Link Layer  
   **→ Answer: (a) Session Layer**
4. **Segmentation is done in**  
   *(v)* (a) Physical layer  
   (b) Data Link layer  
   (c) Network layer  
   (d) Transport layer  
   **→ Answer: (d) Transport layer**
5. **Which device forwards data to all devices regardless of intended recipient? [x2]**  
   *(vi)* (a) DNS Server  
   (b) Switch  
   (c) Hub  
   (d) Gateway  
   **→ Answer: (c) Hub**
6. **Total number of links required to connect n devices in Mesh topology [x3]**  
   *(vii)* (a) 2n  
   (b) n(n+1)/2  
   (c) n(n−1)/2  
   (d) None of the above  
   **→ Answer: (c) n(n−1)/2**
7. **Which device connects different network segments and manages traffic?**  
   *(viii)* (a) Bridge  
   (b) Hub  
   (c) Gateway  
   (d) Repeater  
   **→ Answer: (a) Bridge**

**Which one is connectionless? [x2]***)* (a) TCP  
(b) UDP  
(c) Both TCP and UDP  
(d) Neither TCP nor UDP  
**→ Answer: (b) UDP**

1. **Address space of IPv4 is**  
   *(x)* (a) 1  
   (b) 128  
   (c) Infinite  
   (d) 2³²  
   **→ Answer: (d) 2³²**
2. **ICMP is primarily used for**  
   *(xi)* (a) Error and diagnostic functions  
   (b) Addressing  
   (c) Forwarding  
   (d) None of the mentioned  
   **→ Answer: (a) Error and diagnostic functions**
3. **Which layer is responsible for port-to-port delivery? [x3]**  
   *(xii)* (a) Transport layer  
   (b) Data Link layer  
   (c) Physical layer  
   (d) Network layer  
   **→ Answer: (a) Transport layer**
4. **Host to host connectivity is provided by**  
   (a) Network Layer  
   (b) Session Layer  
   (c) Data Link Layer  
   (d) Transport Layer  
   **→ Answer: (d) Transport Layer**
5. **The information to be communicated in a data communication system is called**  
   (a) Protocol  
   (b) Message  
   (c) Medium  
   (d) Transmission  
   **→ Answer: (b) Message**
6. **IPv4 has \_\_\_\_\_\_\_ bit addresses.**  
   (a) 16  
   (b) 128  
   (c) 64  
   (d) 32  
   **→ Answer: (d) 32**
7. **Which is a bit-oriented protocol?**  
   (a) Stop-and-Wait  
   (b) HDLC  
   (c) Sliding Window  
   (d) Go-Back-N  
   **→ Answer: (b) HDLC**
8. **Which of the following is an application layer service? [x2]**  
   (a) Remote Login  
   (b) File Transfer  
   (c) Mail Service  
   (d) All of these  
   **→ Answer: (d) All of these**
9. **In asymmetric key cryptography, the private key is kept by**  
   (a) Sender  
   (b) Receiver  
   (c) Sender and Receiver  
   (d) All connected devices  
   **→ Answer: (b) Receiver**
10. **A firewall is [x2]**  
    (a) Protects computer network, restricts traffic  
    (b) A form of virus  
    (c) A screen saver  
    (d) None of these  
    **→ Answer: (a) Protects computer network, restricts traffic**
11. **Which protocol does Ping use? [x2]**  
    (a) TCP  
    (b) ARP  
    (c) ICMP  
    (d) BootP  
    **→ Answer: (c) ICMP**
12. **Which detection method can detect a single-bit error?**  
    (a) Simple parity check  
    (b) 2-D parity check  
    (c) CRC  
    (d) All of these  
    **→ Answer: (d) All of these**
13. **Which class of IP address provides a maximum of only 254 hosts? [x2]**  
    (a) Class A  
    (b) Class B  
    (c) Class C  
    (d) Class D  
    **→ Answer: (c) Class C**
14. **Which of the following is an interior routing protocol? [x2]**  
    (a) RIP  
    (b) OSPF  
    (c) BGP  
    (d) Both a and b  
    **→ Answer: (d) Both a and b**
15. **Hamming code is a method of**  
    (a) Error detection  
    (b) Error correction  
    (c) Error encapsulation  
    (d) Both (a) and (b)  
    **→ Answer: (d) Both (a) and (b)**
16. **All packets follow same path in**  
    (a) Datagram packet switching  
    (b) Virtual circuit packet switching  
    (c) Message switching  
    (d) None of these  
    **→ Answer: (b) Virtual circuit packet switching**
17. **Link Control Protocol and Network Control Protocol is a feature of**  
    (a) Peer-to-Peer protocol  
    (b) Point-to-Point protocol  
    (c) MAC protocol  
    (d) HDLC protocol  
    **→ Answer: (b) Point-to-Point protocol**
18. **Length of address field in IPv6 is**  
    (a) 64 bits  
    (b) 128 bits  
    (c) 48 bits  
    (d) 256 bits  
    **→ Answer: (b) 128 bits**
19. **Length of address field in IPv4 is**  
    (a) 32 bits  
    (b) 48 bits  
    (c) 64 bits  
    (d) 256 bits  
    **→ Answer: (a) 32 bits**
20. **Class of IP address 172.16.52.63 is**  
    (a) A  
    (b) B  
    (c) C  
    (d) D  
    **→ Answer: (b) B**
21. **Simplex, half-duplex and full-duplex are defined in**  
    (a) Network Topology  
    (b) Line Configuration  
    (c) Network Categories  
    (d) Transmission Modes  
    **→ Answer: (b) Line Configuration**
22. **Which layer offers mail services and directory services?**  
    (a) Session  
    (b) Data link  
    (c) Transport  
    (d) Application  
    **→ Answer: (d) Application**
23. **Which of the following statement is true:**  
    (a) IP datagram is payload for TCP segment  
    (b) TCP segment has no payload  
    (c) TCP segment is payload for IP datagram  
    (d) Neither of the above  
    **→ Answer: (c) TCP segment is payload for IP datagram**