

**NOTE: These are practice questions given for the request received from students. Students are strictly advised to read the text book and teaching resources shared in the day to day discussion.**

**Practice Questions of UNIT 1**

Question Number	Question	Possible Marks
✓ 1.	What is Internet? Explain the Nuts and bolts of Internet	10
2.	Explain the Service view of the Internet	10
3.	Discuss the structure of the network	10
✓ 4.	Demonstrate the working of Cable network or DSL-network or Ethernet	7 for each
✓ 5.	Write a note on Guided and Unguided media	10
6.	Differentiate the Routing and Forwarding with an example or explain Two key network-core functions	8
7.	Demonstrate the network of network Or Structure of Internet	8
✓ 8.	Explain the delay, throughput and loss	
✓ 9.	Explain OSI and TCP/IP network architecture	10 marks each
10. • • •	Write the functions of each layer of practically working model	10 marks for each layer
11. •	What is a Virus? Give examples of different computer viruses.	
✓ 12.	What is FDM and TDM? Compare them	

## Practice Questions of UNIT 2

Q. no	Question	Possible Marks
<del>1.</del> 1.	What are the types of network applications? Explain. Or Differentiate P2P and client server applications/architectures	7 to 10
<del>2.</del> 2.	Demonstrate the P2P or client-server architecture Or Explain how process in Application layer communicate with each other	7 to 10
<del>3.</del> 3.	Explain use of socket in application layer	4 to 6
<del>4.</del> 4.	Explain how the addressing is carried out in the application layer	4 to 6
<del>5.</del> 5.	Demonstrate the working of Web and HTTP in application layer Or working of HTTP	7 to 8
6.	Differentiate persistent and non-persistent HTTP	4 to 6
<del>7.</del> 7.	Working of persistent or Non-Persistent HTTP	7 to 8
<del>8.</del> 8.	Explain the HTTP message structure	4 to 6
<del>9.</del> 9.	Explain the meaning of HTTP message response status codes	4 to 6
<del>10.</del> 10.	Demonstrate the working of FTP with commands used in it	8 to 10
<del>11.</del> 11.	Step wise demonstrate the working of SMTP or POP3	7 to 10
12.	Explain the need of DNS in name resolution	4 to 6
<del>13.</del> 13.	Explain the hierarchical structure being followed by the DNS for name resolution Or Demonstrate the working of name resolution with an example for the same	6 to 8
<del>14.</del> 14.	Explain the DNS message header format	6 to 8
<del>15.</del> 15.	Compare the P2P and client server application using the file distribution as an example Or Explain working of Bit torrent	10

### **CN UNIT-3 practice Questions**

- ✓1. Explain Transport-layer multiplexing and demultiplexing with the neat diagram.
- ✓2. Explain Connectionless Multiplexing and Demultiplexing.
- ✓3. Explain Connection-Oriented Multiplexing and Demultiplexing.
4. Illustrate the scenario when Two clients, use the same destination port number (80) to communicate with the same Web server application.
- ✓5. Give the advantages of using UDP over TCP.
- ✓6. Explain UDP Segment Structure.
- ✓7. For the following three 16-bit words calculate the checksum.  
0110011001100000  
0101010101010101  
1000111100001100
- ✓8. Explain Go-Back-N (GBN) in detail.
- ✓9. Explain the types of events to which the GBN sender must respond.
- ✓10. Explain the receiver's action in GBN.
- ✓11. With a neat diagram explain the operation of GBN in detail.
- ✓12. Explain sender and receiver sequence number space in Selective Repeat protocol.
- ✓13. Explain events and corresponding actions of sender in Selective Repeat protocol.
- ✓14. Explain events and corresponding actions of receiver in Selective Repeat protocol.
15. With the help of neat diagram, explain the working of SR protocol.
- ✓16. Explain three way handshake in TCP.
17. Explain with a neat diagram how TCP send and receive buffers are useful.
- ✓18. Explain the TCP segment structure.
- ✓19. Explain how TCP estimates the round-trip time between sender and receiver.
- ✓20. Compare and contrast selective repeat and Go Back N protocol.
21. Explain the sequence of states visited by client during the communication using TCP
22. Explain the sequence of states visited by a server side TCP during the communication.

## UNIT 4 & 5 Practice Questions

- ✓ 1. Explain the following terms in detail:
  - a. Forwarding.
  - b. Routing.
- ✓ 2. Define best-effort service. And what are the possible services that the network layer provides?
- ✓ 3. What are the two approaches to packet-switching? Explain the three phases of the Virtual-Circuit network in detail with an example.
- ✓ 4. Illustrate with an example the working of the datagram network.
- ✓ 5. Differentiate the Virtual-Circuit network from the Datagram network.
- ✓ 6. Explain with the neat diagram the router architecture in detail.
7. List and explain the different switching techniques used in the router.
8. Discuss the head-of-line blocking. And explain how output port queuing is carried out by the router.
- ✓ 9. Explain the IP-v4 datagram format with a neat diagram.
- ✓ 10. Why are fragmentation and reassembly is necessary? What is MTU? Discuss how the fragmentation is achieved for a datagram of 4000 bytes that arrive at a router and must be forwarded to the link with an MTU of 1500 bytes.
- ✓ 11. Find the following:
  - a. First address
  - b. Last address
  - c. Number of addressesFor the addresses 211.17.180.0/24 (assume the MASK as 11111111 11111111 11111111 00000000)
- ✓ 12. Write short notes on the following.
  - ✓ a. NAT
  - ✓ b. ICMP
- ✓ 13. Discuss the IP-v6 datagram format in detail. How it is different from IP-v4?
- ✓ 14. Explain the Tunneling with an example.
15. List and define the different services provided by the Link layer.
16. What is an error? Differentiate between error detection and error correction.
17. Explain with an example the purpose of the 2D parity check. How many bits of error can be detected by the 2D parity?
- ✓ 18. Given the D=101110 with the given G= 1101,
  - a. Show the generation of the code-word at the sender site (using binary division).
  - b. Show the checking of the code-word at the receiver site in both ways i.e. without error and with error (Assume the error at the 4<sup>th</sup> bit of the code-word).
- ✓ 19. Explain the different channel partitioning protocols.
20. Explain the different random access protocols.
21. Explain the different taking-turns protocols.
22. What are ATM networks? Explain the different layers of the ATM network.
23. Explain the ATM cell header.
24. Discuss in detail the MPLS-enhanced forwarding with an example.