

## QUESTION BANK

### UNIT-1

1. a. Compare Connection oriented and connectionless service.  
b. Explain the functions and protocols and services of each layer?
2. What are the major components of an optical communication system?
3. a) Explain about the Guided transmission Medias in computer networks?  
b) Briefly explain about the public switched telephone networks
4. Write about network software & hardware
5. Discuss about a) Computer applications  
b) Features of LAN, MAN, WAN
6. With a neat diagram describe in detail about the Network architecture.
7. Explain in detail about a) Data Link Layer and Network Layer  
b) Physical Layer
8. Distinguish between point to point links and multi point links. Give relevant diagrams
9. Discuss various types of networks topologies in computer network.
10. Explain the ISO-OSI model of computer network with a neat diagram
11. Explain in detail about TCP/IP protocol suite with neat diagram?
12. Explain the two approaches of packet switching and circuit switching techniques.
13. Interpret the major functions performed by the layers of the ISO – OSI model.

## **UNIT-2**

1. Explain the operation of the bit-oriented protocol HDLC with the required frames
2. Explain the various error detection and correction Mechanisms used in computer network
3. Discuss about a) GO BACK NARQ, b) Selective repeat ARQ
4. Explain about the Elementary data link protocols.
5. a. Discuss stop and wait protocol, b. Explain about the Carrier Sense Multiple Access Protocols?
6. Briefly discuss about data link layer design issues?
7. Explain about the data Link Layer switching
8. Explain MAC sub layer protocol and frame structure of IEEE 802.11.
9. Describe sliding window protocol using Go back n.
10. Compare and distinguish in detail the concept of Virtual-Circuit and Data gram Networks.

## **UNIT-3**

1. a.)State the major difference between distance vector routing and link state routing.  
b) How these routing techniques work
2. Explain about the Routing algorithms.
3. Discuss about a) concept of leaky bucket algorithm?  
b) token bucket algorithm with neat diagram
4. Explain in detail congestion control algorithms
5. Explain CSMA/CD protocol
6. Classify the functions of Bridges & Switches in brief.
7. Explain the function of ARP & RARP
8. a. Explain distance vector routing in detail.  
b. Discuss about Inter-network Routing?
9. Write a detail note on Internet protocols

10. a) Explain about the Shortest Path Algorithm?

b) Explain packet switching in detail.

#### **UNIT-4**

1. a) Explain the duties of transport layer.

b) Write short notes on performance issues of transport layer

2. Show the different approaches in Packet Switching. Explain them in detail.

3. Enumerate the mechanism of three way handshake protocol for TCP

4. Explain in detailed about the Transport Layer.

5. Describe about a) TCP connection management.

b) Avoidance of congestion in TCP

6. Explain the function of TCP/IP protocol.

7. a) Explain about elements of transport protocols

b) Briefly explain the internet transport protocols

8. a) Discuss TCP and its various operations

b) Write short notes on User Datagram Protocol (UDP).

9. Explain the operation of TCP with neat sketch.

10. Discuss the various timers used by TCP to perform its various operations.

#### **UNIT-5**

1. Explain how security is provided in interact operations in detail

2. a) Explain the working of Electronic mail. How SMTP used in Email applications

b) List and discuss the types of DNS records.

3. Discuss in detail about world wide web

4. a) Explain the encryption and decryption methods.

b) Discuss Application layer in details

5. Explain in detail about function and structure of e-mail protocol.

6. a) Discuss the File transfer Protocol (FTP)with a neat diagram.

b) Explain briefly simple network management protocol

7. Write short notes on IMAP and MIME with an example
8. a) Discuss the features of HTTP and also discuss how HTTP works.  
b) Explain about Application layer and its services in detail?
9. Describe the role of a DNS on a computer network with reference to its components.
10. a) Write briefly about World wide web  
b) Describe about High speed LANs