## UNIT-2

1. Explain the operation of the bit-oriented protocol HDLC with the required frames     12M

2. Explain the various error detection and correction Mechanisms used in computer network     12M

3. Discuss about    a) GO BACK NARQ     6M

                 b) Selective repeat ARQ     6M

4. Explain about the Elementary data link protocols?.     12M

5. a. Discuss stop and wait protocol     7M

   b. Explain about the Carrier Sense Multiple Access Protocols?     5M

6. Briefly discuss about data link layer design issues?     12M

7. Explain about the data Link Layer switching     12M

8. Explain MAC sub layer protocol and frame structure of IEEE 802.11.     12M

9. Describe sliding window protocol using Go back n.     12

10. Compare and distinguish in detail the concept of Virtual-Circuit and Data gram Networks.     12M

## UNIT-3

1. a.)State the major difference between distance vector routing and link state routing.     7M
   b) How these routing techniques work     5M

2. Explain about the Routing algorithms.     12M

3. Discuss about a) concept of leaky bucket algorithm?     7M
b) token bucket algorithm with neat diagram     5M

4. Explain in detail congestion control algorithms     12M

5. Explain CSMA/CD protocol     12M

6. Classify the functions of Bridges & Switches in brief.     12M

7. Explain the function of ARP & RARP     12M

8. a. Explain distance vector routing in detail.     7M

   b. Discuss about Inter-network Routing?     5M

9. Write a detail note on Internet protocols     12M

10. a) Explain about the Shortest Path Algorithm?  7M

  b) Explain packet switching in detail.  5M

## UNIT-4

1. a) Explain the duties of transport layer.  6M

  b) Write short notes on performance issues of transport layer  6M

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

  12M

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

  12M

4. Explain in detailed about the Transport Layer.  12M

5. Describe about   a) TCP connection management.  5M

  b) Avoidance of congestion in TCP  7M

6. Explain the function of TCP/IP protocol.  12M

7.  a) Explain about elements of transport protocols  7M

  b) Briefly explain the internet transport protocols  5M

8. a) Discuss TCP and its various operations  12M

  b) Write short notes on User Datagram Protocol (UDP).  12M

9. Explain the operation of TCP with neat sketch.  12M

10. Discuss the various timers used by TCP to perform its various operations.  12M

## UNIT-5

1. Explain how security is provided in interact operations in detail  12M

2. a) Explain the working of Electronic mail. How SMTP used in Email applications  6M

  b) List and discuss the types of DNS records.  6M

3. Discuss in detail about world wide web  12M

4. a) Explain the encryption and decryption methods.  6M

  b) Discuss Application layer in details  6M

5. Explain in detail about function and structure of e-mail protocol.  12M

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

  b) Explain briefly simple network management protocol  6M

7. Write short notes on IMAP and MIME with an example                               12M

8. a)Discuss the features of HTTP and also discuss how HTTP works.            6M

   b) Explain about Application layer and its services in detail?               6M

9. Describe the role of a DNS on a computer network with reference to its components.    12M

10. a) Write briefly about World wide web                                     6M
     b) Describe about High speed LANs                                      6M