BCA / D-15
COMPUTER NETWORK
PAPER-BCA-354

Time Allowed: 3 Hours Maximum Marks: 80

Note: Attempt five questions in all, selecting at least one question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

Compulsory Question

1. Distinguish between following :
   (a) Connectionless and connection-oriented services.
   (b) Client/server and peer-to-peer network models.
   (c) Analog and digital communication.
   (d) Switching and multiplexing.
   (e) Bridge and gateway.
   (f) VLAN and wireless LAN.
   (g) Distance vector routing and link state routing.
   (h) Public-key and private-key.

UNIT-I

2. (a) What is computer network? Comment on the need and uses of computer networks.
   (b) Describe various network topologies along with their pros and cons.

3. (a) What do you mean by network architecture? Discuss various design issues for layers in network architecture.
   (b) Discuss various networking models in brief.

UNIT-II

4. (a) Explain the following terms using suitable examples;
   (i) Data rate (ii) Bandwidth (iii) Capacity (iv) Baud rate.

   (b) Discuss various ways to connect to Internet in detail.

5. Describe various types if guided and unguided transmission media in detail.

UNIT-III

6. (a) Discuss the concept of framing along with its techniques in data link detail.
   (b) Describe any one important sliding window protocol used in the data link layer for controlling flow.

7. Explain following in detail ;
   (a) Token ring.
   (b) FDDI.

UNIT-IV

8. How congestion is controlled using Traffic Shaping? Explain how choke packets are generated and how do they control congestion.

9. (a) What do you mean by encryption? Illustrate with the help of a suitable example.

   (b) What is the count-to-infinity problem associated with distance vector routing?