1985

April 2025

Time – Three hours
(Maximum Marks: 100)

[*N.B.* Answer all the questions, choosing any two subdivision from each question. Each subdivision carries 10 marks.]

1. (a) Write about the functions of layers in OSI model.

   (b) Discuss the types of network connections with neat sketches.

   (c) Write a note on the LAN, MAN and WAN networks.

   (d) Discuss about the components of data communication with neat sketch.

2. (a) Explain about the FDM and TDM multiplexing techniques.

   (b) Write a note on radio wave, microwave and infrared wave.

   (c) Discuss about circuit and packet switched networks.

   (d) Write a note on coaxial and fiber-optic cables.

3. (a) Discuss about error detection and error correction.

   (b) Explain the Stop-and-Wait protocol with flow diagram.

   (c) Write a note on the framing of data in data link layer.

   (d) Explain the Go-Back-N ARQ protocol and selective repeat ARQ protocol.

[Turn over.....

4. (a) Discuss the functions of IGMP and ARP protocol.

(b) Explain the dot-decimal notation of IPv4 address.

(c) Write a note on static and dynamic IP with their applications.

(d) (i) Explain the IPv6 datagram format. (7)

(ii) State the need for transition from IPv4 to IPv6. (3)

5. (a) Write a note on the data encryption and decryption.

(b) Explain the features and segment format of TCP.

(c) Discuss about the functions of FTP and HTTP protocols.

(d) (i) Write about connection-oriented and connectionless services. (7)

(ii) Define WWW. (3)
