

Roll No.

Total Pages : 2

BT-6/M-20

36020

COMPUTER NETWORK

Paper : IT-358

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *five* questions in all selecting at least *one* question from each unit. All questions carry equal marks.

UNIT-I

1. (a) Give an overview of the need and evolution of computer networks.
(b) Distinguish between a LAN, MAN and WAN.
2. (a) List the various network devices used for establishing LANs and WANs along with a description of the purpose of each.
(b) Describe the functions of the Network, Data link, and physical layers of OSI reference model.

UNIT-II

3. Sketch the TCP/IP model and give a brief description of its core protocols. How is IPv6 different from IPv4?
4. Answer the following questions in brief:
 - (a) How are bits represented for transmission on a physical media? What is frequency and amplitude modulation?

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- (b) Describe Manchester encoding and sketch the same for the bit stream 1100101110.
- (c) How is data transmitted in a wireless network?

UNIT-III

- 5. (a) Describe how flow control is done using sliding window protocols ?
- (b) Give an overview of any two media access control protocols.
- 6. (a) Describe a shortest path routing algorithm used in networks along with an illustration.
- (b) What is the advantage of hierarchical routing? Also describe how routing for mobile hosts is carried out?

UNIT-IV

- 7. Describe the design issues related with the session layer, presentation layer, and the application layer of the network architecture. What is the purpose of three way handshake?
- 8. Answer the following questions in brief:
 - (a) How is security management carried out using a firewall in a network?
 - (b) What do you mean by a client-server infrastructure?
 - (c) Why are proxy servers used in a network?