

COMPUTER NETWORK

Time : 3 Hours

Maximum Marks : 90

Note : Attempt Five questions in all, selecting ONE question from each Unit. Question No. 1 is compulsory. All questions carry equal marks.

1. (Short answer type question):
 - a) What are the software requirements for establishing a computer network?
 - b) What is the purpose of a hub in a network?
 - c) Differentiate between Band width and Band rate.
 - d) Why is data compression required in a Computer Network?
 - e) Differentiate a copper wire and fibre cable.
 - f) Explain Protocol and Interface.

UNIT-I

2. What are the benefits of computer networks? Give a brief history of OSI reference model?
3. (a) What is architecture of ATM? Why it uses small length cells?
b) What is X.25 and where do we use it?

Unit-II

4. Differentiate :
 - a) Analog transmission and Digital transmission
 - b) Circuit switching and Packet switching.
5. Write the working of :
 - a) Satellite Communication.
 - b) The role of modem and null modem.

UNIT-III

6.
 - a) Discuss various error detection and correction methods used in data link layer. Give an example also.
 - b) Discuss the features of the following devices:
 - i) Repeaters
 - ii) Bridges.
7. Explain steps involved in designing a local area network (LAN). Are these same in a wireless LAN too?

UNIT-IV

8. What is routing? What are the desirable properties of a routing algorithm? Explain the working of shortest path routing algorithm?
9. Write notes on :
 - a) Congestion Control
 - b) Flooding
 - c) Network Security.