(07/22-II)

5255

B.A./B.Sc. EXAMINATION

(Sixth Semester)

COMPUTER SCIENCE

Paper–IV

Computer Networks

Time : Three Hours   *Maximum Marks :* $\begin{cases} \text{B.Sc.} : 30 \\ \text{B.A.} : 20 \end{cases}$

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

(Compulsory Question)

1. Explain the following :   6(4)

   (a) Switching

   (b) Gateways

   (c) Virtual circuit

.P.T.O.

(d) ATM network

(e) Flooding

(f) List out the functions of Network layer.

Unit I

2. Write down short notes on the following :

   (a) Centralized and Decentralized model of network system   3(2)

   (b) X.25.   3(2)

3. (a) What do you mean by Network Topology ? Explain any *three* network topologies with the help of diagram. 3(2)

   (b) Differentiate between LAN, MAN and WAN.   3(2)

Unit II

4. What do you mean by Transmission Media ? Why do we need Transmission Media ? Explain different types of transmission media with the help of its structure, advantages and disadvantages.   6(4)

5. (a) Explain the following terms 3(2)

Bit Rate, Bandwidth, Multiplexing.

(b) How do you represent data as Analog Signals and Digital Signals ? 3(2)

Unit III

6. (a) What do you mean by CSMA ? Explain various approaches used in CSMA protocol. 3(2)

(b) What do you mean by Error Control ? Explain any *two* Error Control Techniques in detail. 3(2)

7. (a) Write down differences between Hub and Repeater. https://www.cdluonline.com 3(2)

(b) Explain Flow Control function of DLL. 3(2)

Unit IV

8. Explain the following :

(a) Network Security Threats 3(2)

(b) Symmetric-Key Algorithms. 3(2)

9. What do you understand by Congestion in a network ? What are the causes of Congestion in a network ? Explain various types of Congestion Control mechanisms. 6(4)