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44 (BCA-5) 5·2

**2022**

**( Held in 2023 )**

## **COMPUTER NETWORK**

Paper : BCA-5·2

Full Marks : 80

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

### **SECTION-1**

**Answer any four questions from SECTION-1.**

1. (a) Define computer networks. What are the major network criteria? Explain. 5
- (b) Define Protocol. Explain briefly TCP/IP Protocol suite. 5
- (c) What is topology? Why do we need it? What are different types of topology? 5

**Contd.**

2. (a) Differentiate between LAN and WAN. 4
- (b) How is tree topology different from bus topology? 3
- (c) What is DNS? What is a DNS server? 5
- (d) Define Amplitude and frequency modulation. 3
3. (a) What is data communication? What are the main components of data communication? 5
- (b) What are the categories of wired media? Explain them. 5
- (c) What are the major responsibilities of data link layer? Explain them briefly. 5
4. (a) What is piggybacking? Explain the working of stop and wait protocol. 5
- (b) What are Routing Protocols? Why are they required? Explain the working of link state routing briefly. 5

- (c) What are symmetric and asymmetric key cryptography? Explain. 5
5. (a) Explain CSMA/CD and its use briefly. 5
- (b) What is the mechanism of sliding window protocol? Why is flow control needed? 5
- (c) What is collision? What are the advantages of FDDI over a basic Token Ring? 5

**SECTION-2 (Compulsory)**

6. Write short notes on : *(any four)* 5×4=20
- (a) Functionality of transport layer
- (b) FTP and SMTP
- (c) Leaky Bucket algorithm
- (d) Services and Functions of Network Layer
- (e) Error detecting (CRC)
- (f) Concept of IP Address