

97679

BCA 5th Semester (Full & Re-appear)

Examination, December-2024

Data Communication and Networking

Paper : BCA-303

Time allowed : 3 hours]

[Maximum marks : 80

Note : Students shall be required to attempt five questions, selecting at least one question from each unit. All questions carry equal marks. Question No. 1 will be compulsory.

1. (a) What is Internetworking?
- (b) What is Flooding?
- (c) What is Repeater?
- (d) What is Gateways?
- (e) What is Data Rate?
- (f) What is Baud Rate?
- (g) What is Frame Relay?
- (h) What is ATM?

8×2=16

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[P.T.O.]

Unit-I

2. (a) What is a computer network? Differentiate between connection-oriented and connectionless services. 8
- (b) Explain the Architecture of TCP/IP in detail with example. 8
3. Explain the following with example : 8+8=16
- (a) Network Design Issues and Protocols
- (b) Decentralized and Centralized Network

Unit-II

4. (a) Explain three ways to convert an analog signal into digital. 8
- (b) Draw the pulse diagram for bit stream 101110001011, for the following encoding techniques : 8
- (i) NRZ-L
- (ii) Manchester
- (iii) Differential Manchester

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5. Explain the following with example : $4 \times 4 = 16$

- (a) Dialup Networking
- (b) Distributed Systems
- (c) Digital Carrier Systems
- (d) Switching and Multiplexing

Unit-III

6. (a) What is meant by Sliding Window Protocols?

How is it useful in networks? Explain. 8

(b) Write a short note on Media Access Control. 8

7. Explain the following with example : $8 + 8 = 16$

- (a) Flow Control
- (b) Detection and Correction
- (c) Random Access Protocols
- (d) Wireless LAN

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Unit-IV

8. Write a short note on : $6+6+4=16$

- (a) Congestion control algorithms
- (b) Symmetric key algorithms
- (c) Hierarchical Routing

9. Explain the following with example : $4 \times 4 = 16$

- (a) Virtual Circuit and Datagrams
- (b) Distance Vector Routing
- (c) Link State Routing
- (d) Encryption Methods