

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2024.

Fifth Semester

Computer Science – Core

DATA COMMUNICATION AND
COMPUTER NETWORKS

(For those who joined in July 2021-2022)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In _____ mode of communication, the communication is unidirectional
(a) Full duplex (b) Half duplex
(c) Simplex (d) Quarter duplex

2. Framing is the responsibility of _____ layer in ISO/OSI model
(a) Physical (b) Network
(c) Transport (d) Data link
3. _____ is loss of energy
(a) Noise (b) Gain
(c) Distortion (d) Alternation
4. _____ is an example of unguided media
(a) OFC (b) Radio Wave
(c) UTP Cable (d) Copper Cable
5. The communication in a circuit-switched network requires _____ phases
(a) 1 (b) 2
(c) 3 (d) 4
6. LATA Stands for _____
(a) Lava Tava
(b) Local Access Transport Areas
(c) Late Attendance
(d) Local Area Triple Avenue

7. When two or more bits in a data unit has been changed during transmission, the error is called _____ error.

- (a) random (b) burst
(c) inverted (d) double

8. Which of the following is not a data link layer protocol?

- (a) Ethernet
(b) Point-to-Point protocol
(c) HTTP
(d) HDLC

9. IEEE standard for wireless LAN is _____

- (a) 805.15 (b) 802.3
(c) 802.7 (d) 802.11

10. IPv4 address contains _____ bits.

- (a) 35 (b) 32
(c) 64 (d) 128

PART B — (5 × 5 = 25 marks)

Answer ALL questions, by choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write about the modes of communication.
Or
(b) Discuss the key elements of a protocol.
12. (a) Write a short note on transmission impairment.
Or
(b) What is meant by multiplexing? What are its types?
13. (a) Write a note on routing table in a datagram network.
Or
(b) Compare different DSL technologies.
14. (a) Write the sender side algorithm for stop-and-wait protocol and explain.
Or
(b) How can you use cable TV Network for data transfer.

15. (a) Describe any two devices for connecting LANs.

Or

(b) Write the advantages of IPv6 address.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, by choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write a note on analog signals used in data transmission.

Or

(b) Describe TCP/IP protocol suite.

17. (a) Explore the functions of physical layer.

Or

(b) Discuss unguided media.

18. (a) Explain different standards of dial-up modems.

Or

(b) Describe circuit switched network.

19. (a) How is error detection done in block coding.

Or

(b) Explore the frame format of MAC sublayer in wired LANs.

20. (a) What are the features of 3G cellular technology.

Or

(b) Write the functioning of DNS.