



K25U 0286

Reg. No. :

Name :

**Sixth Semester B.C.A. Degree (C.B.C.S.S.-OBE – Regular/Supplementary/
Improvement) Examination, April 2025
(2019 to 2022 Admissions)**

Core Course

6B19BCA : DATA COMMUNICATION AND NETWORKS

Time : 3 Hours

Max. Marks : 40

**PART – A
(Short Answer)**

Answer **all** questions.

(6×1=6)

1. What is a point-to-point connection ?
2. Expand TCP/IP.
3. What is a noisy channel in networking ?
4. What do you mean by connectionless service ?
5. Define port number.
6. Define encryption in cryptography.

**PART – B
(Short Essay)**

Answer **any 6** questions.

(6×2=12)

7. What is the role of protocol hierarchies in networking ?
8. Briefly explain bus topology.
9. What is a physical layer coding violation ?
10. Compare adaptive and non-adaptive routing algorithms.
11. What is congestion control, and why is it needed ?

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12. Mention addressing mechanisms in the transport layer. Reg. No. :
13. What are the main functions of the application layer ? Name :
14. What is traditional cryptography ? Give an example.

PART - C
(Essay)

Answer **any 4** questions. **(4x3=12)**

15. Explain simplex, half duplex and duplex line configuration.
16. Write a note on services provided by the data link layer.
17. Explain token bucket algorithm.
18. Describe three-way-handshake in TCP connection establishment.
19. Briefly explain RSA algorithm.
20. What is DES chaining ? Explain.

PART - D
(Long Essay)

Answer **any 2** questions. **(2x5=10)**

21. Briefly explain synchronous and asynchronous data transmission.
22. Describe TCP/IP reference model with a suitable figure.
23. Explain Dijkstra's shortest path routing.
24. Write a note on the UDP protocol.