



**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 ?

**P.T.O.**



12. Mention addressing mechanisms in the transport layer.
13. What are the main functions of the application layer ?
14. What is traditional cryptography ? Give an example.

**PART – C**  
**(Essay)**

Answer **any 4** questions.

**(4×3=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.

**(2×5=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.
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