



K25U 0126

Reg. No. :

Name :

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

**CORE COURSE IN COMPUTER SCIENCE
6B12CSC : Data Communication and Computer Networking**

Time : 3 Hours

Max. Marks : 40

**PART – A
(Short Answer)**

Answer all questions.

(6×1=6)

1. What is the purpose of transmission media in data communication ?
2. Name two types of network topologies.
3. Define flow control in data link protocols.
4. What does TCP/IP stand for ?
5. Define the leaky bucket algorithm.
6. What does UDP stand for ?

**PART – B
(Short Essay)**

Answer any 6 questions.

(6×2=12)

7. Differentiate between LAN and WAN.
8. What are the advantages of using guided transmission media ?
9. Briefly explain bit stuffing in framing.
10. Which are the various sliding window protocols ?

P.T.O.



11. Draw and explain UDP segment Header format.
12. What is the purpose of HTTP in the application layer ?
13. Differentiate between adaptive and non-adaptive routing algorithms.
14. Compare and contrast SMTP and POP3.

PART – C
(Essay)

Answer **any 4** questions.

(4×3=12)

15. Compare the OSI and TCP/IP reference models in terms of structure and functionality.
16. Explain the framing techniques in the data link layer with suitable examples.
17. Explain Dijkstra's shortest path algorithm with an example.
18. What are the various design issues in network layer ?
19. Compare various algorithms used in congestion control.
20. Write short note on FTP.

PART – D
(Long Essay)

Answer **any 2** questions.

(2×5=10)

21. Explain the various addressing schemes used in each layer of OSI Model with examples.
 22. Discuss the synchronous and asynchronous data transmission methods. Compare their advantages and disadvantages with examples.
 23. Explain the connection management process in the transport layer, including addressing, establishing, and releasing a connection.
 24. Briefly explain the overview of an E-mail system.
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