



QP CODE: 25024389



25024389

Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, APRIL 2025

Fourth Semester

M Sc PHYSICS

ELECTIVE - PH820402 - DATA COMMUNICATION AND COMPUTER NETWORKS

2019 ADMISSION ONWARDS

6C2582AA

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. What is isochronous transmission?
2. What is called digitization process in data communication?
3. Why is multiplexing cost-effective?
4. Which type of network is called unicasting?
5. Differentiate between WAN and MAN.
6. Write about cellular topology.
7. What is TCP?
8. Which protocol defines mail transfer agent in the Internet?
9. What are called passive threats to network security?
10. What is called transposition cipher?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. If a binary signal is sent over a 3-kHz channel whose signal-to-noise ratio is 20 dB, what is the maximum achievable data rate?
12. Write a note on communication using optical fibre.
13. What is a parity bit?
14. What do you mean by clock synchronization? Explain.





15. Explain Fourier series, Fourier transform and their applications in data communication.
16. What are the components of a communication network? Explain.
17. Distinguish between client server and peer-to-peer architecture.
18. What is IP address? Explain IP address formats for different classes of networks.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Write an essay on Wireless Transmission.
20. Describe the features of satellite communication.
21. Explain the TCP/IP reference model with diagram and compare it with OSI model.
22. Explain internet working and Internet infrastructure with diagrams.

(2×5=10 weightage)

