Reg. No ..... Name **26U635**

END SEMESTER EXAMINATION - MARCH 2026

SEMESTER 6 : INTEGRATED M.Sc. PROGRAMME COMPUTER SCIENCE-DATA SCIENCE

COURSE : **21UP6CRMCP19 : COMPUTER NETWORKS**

(For Regular 2023 Admission and Supplementary 2022/ 2021 Admissions)

Time : Three Hours Max. Weightage: 30

PART A

Answer any 8 Questions

1. Briefly explain the types of framing.
2. List the taxonomy of multiple access protocols.
3. A bridge operates at _____ in the OSI model.
4. Name the term that refers to a software vulnerability unknown to the vendor and unpatched.
5. Differentiate between net id and host id.
6. Recall the basic units used to represent information in a digital signal.
7. Mention the disadvantages of firewalls.
8. In _____ switching, each packet is treated independently and may take a different route to reach its destination.
9. Explain the significance of bandwidth in the context of transmission media.
10. Define bit rate. Mention its unit.

(1 x 8 = 8 weight)

PART B

Answer any 6 Questions

11. Prepare a short note on DES.
12. Summarize the impact of distortion on the quality of transmitted signals.
13. Change the following IP addresses from binary notation to dotted-decimal notation.
    a. 11011111 10110000 00011111 01011101 b. 11101111 11110111 11000111 00011101
14. Examine the difference between virtual-circuit switching from circuit switching in terms of resource allocation.
15. Give the advantages of cellular telephony.
16. Illustrate how two persons can establish a secret key between themselves in symmetric-key cryptography.
17. Find the class of the following IP addresses. a) 114.34.2.8 b) 129.14.6.8
18. Describe the function of a coaxial cable in guided transmission media.

(2 x 6 = 12 weight)

PART C

Answer any 2 Questions

19. Analyze how various networking devices, such as routers, switches, and hubs, contribute to the interconnectivity of modern networks. Discuss the roles these devices play in facilitating seamless communication and data transfer.
20. Analyze the various types of malware and their impact on network security, discussing preventive measures and mitigation strategies.

21. Compare Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS) techniques.

22. Examine the Presentation Layer and its role in data translation, encryption, and compression. Discuss how this layer contributes to ensuring that data is presented in a format that can be understood by the application layer.

(5 x 2 = 10 weight)