55347

VI SEMESTER B.Sc. EXAMINATION, SEPTEMBER 2022
SCHEME: SEMESTER- CBCS
COMPUTER SCIENCE
DATA COMMUNICATION AND COMPUTER NETWORKS

Time: 03 Hours   Max Marks: 80

Instruction: Answer **Part A** and **Part B.**

PART - A

Answer **any TEN** questions.   2x10=20

1. Define computer network.
2. Mention the characteristics of data communication.
3. Differentiate twisted-pair and fibre-optic cable.
4. Define Bit rate and Bit length.
5. Write any two differences between OSI model and TCP/IP model.
6. List any two functions of Hub.
7. Differentiate Static and Dynamic IP addressing.
8. Expand SNMP and ICMP.
9. Write any two advantages of virtual circuits.
10. What is Routing table?
11. What is congestion control?
12. List different types of errors.

PART - B

Answer **any TWO** questions from each Main.   20x3=60

13. a) a1) Explain the components of data communication.   (5) 10x2=20

       a2) Discuss Mesh topology with its advantages and disadvantages.(5)

    b) b1) Differentiate half duplex and full duplex transmission modes. (4)

       b2) Explain the different categories of networks.   (6)

    c) Explain Radiowave and Microwave transmission system in detail.

                                                                              PTO

14. a) Explain the functions of OSI model with a neat diagram.   10x2=20

    b) b1) Explain different types of Bridges.   (6)

      b2) Explain the applications of Routers and Gateways.   (4)

    c) c1) Explain different types of IP addresses.   (4)

      c2) Write a note on HTTP and FTP.   (6)

15. a) a1) Compare connectionless packet switching and virtual circuit   10x2=20

        packet switching.   (5)

      a2) Explain checksum error detection method.   (5)

    b) Explain Leaky bucket algorithm in detail with example.

    c) Explain Hamming code error correction method.

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