III B. Tech I Semester Regular Examinations, February-2022
COMPUTER NETWORKS
(Computer Science and Engineering)

Time: 3 hours   Max. Marks: 75

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks
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UNIT-I

1. a) Discuss functionalities of different layers of OSI reference model.   [8M]
    b) Classify networks by scale and explain each with figures.   [7M]

(OR)

2. a) Explain circuit switching, message switching and packet switching.   [8M]
    b) Explain why layered architecture is used for networks.   [7M]

UNIT-II

3. a) Illustrate Frequency Division Multiplexing and Time Division Multiplexing.   [8M]
    b) A sender sends series of frames to the same destination using 5-bit sequence number. If the sequence number starts with 0, what is the sequence number after sending 100 frames?   [7M]

(OR)

4. a) Explain flow control mechanism in data link layer.   [8M]
    b) Explain CSMA/CD mechanism.   [7M]

UNIT-III

5. a) Explain standard Ethernet.   [8M]
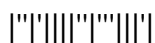   b) Explain IEEE 802.11 wireless LAN.   [7M]

(OR)

6. a) Explain the role of redundancy in error detection.   [8M]
    b) Distinguish between Wi-Fi and Wi-MAX.   [7M]

UNIT-IV

7. a) What is the major problem of IPV4 protocol? What are the solutions?   [8M]
    b) Perform CIDR aggregation on the following IP addresses: 128.56.24.0/24, 128.56.25.0/24, 128.56.26.0/24 and 128.56.27.0/24   [7M]

(OR)

8. a) Compare Distance Vector Routing and Link State Routing.   [8M]
    b) Compare connection oriented and connection less services provided by the network layer.   [7M]

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UNIT-V

9. a) Draw and explain TCP header. [8M]
    b) Explain congestion control in TCP. [7M]

(OR)

10. a) Explain how domain name is converted to IP address. [8M]
    b) Explain the purpose of FTP and BOOTP protocols. [7M]

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