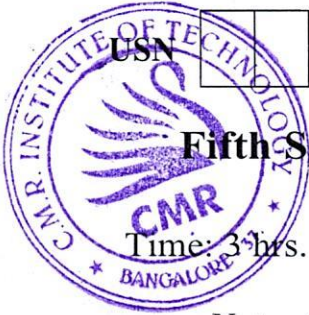


# CBCS SCHEME



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## Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Computer Networks

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Discuss OSI Reference model with a neat diagram. (10 Ma)
- b. Explain Unicast, Multicast and broadcast in computer networks. (10 Ma)

OR

- 2 a. Discuss the following transmission medium with diagram,  
(i) Co-axial cable. (10 Ma)  
(ii) Fibre optic cable. (10 Ma)
- b. Explain the design issues in computer networks. (10 Ma)

### Module-2

- 3 a. Explain error detecting codes and obtain the CRC code for the frame given polynomial  $G(x) = x^4 + x + 1$ . (10 Ma)
- b. Explain framing with Byte Count and Flag bits with bit stuffing. (10 Ma)

OR

- 4 a. Illustrate the Hamming code method with an example. (10 Ma)
- b. Explain the following with examples:  
(i) Binary convolution code. (10 Ma)  
(ii) Reed Solomen code. (10 Ma)

### Module-3

- 5 a. Discuss Store and Forward packet switching. (10 Ma)
- b. Explain the services provided by Network layer to Transport layer. (10 Ma)

OR

- 6 a. Discuss shortest path algorithm. (10 Ma)
- b. Explain the approaches to congestion control in Network layer. (10 Ma)

### Module-4

- 7 a. Explain Berkeley Sockets in detail. (10 Ma)
- b. Explain socket programming with an example. (10 Ma)

OR

- 8 a. Explain TCP protocol with TCP segment header. (10 Ma)  
b. Explain TCP connection establishment and TCP connection release with code snippet. (10 Ma)

**Module-5**

- 9 a. Explain the process communication in the Application layer. (10 Ma)  
b. Discuss the Transport services provided by the Internet. (10 Ma)

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- 10 a. Explain the web and HTTP with Request response behaviour. (10 Ma)  
b. Discuss the Electronic Mail in the Internet. (10 Ma)

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