



CBCS SCHEME

21CS52

Fifth Semester B.E./B.Tech. Degree Examination, June / July 2026 Computer Networks

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain categories of Network and differentiate between them. (10 Marks)
- b. Explain ISO – OSI Reference model in detail. (10 Marks)

OR

- 2 a. What are the design issues of layers? (05 Marks)
- b. Differentiate between Connection Oriented and Connectionless Service. (05 Marks)
- c. What are the advantages of Fibre Optic Cable? Explain with a neat sketch. (10 Marks)

Module-2

- 3 a. Explain the various Framing Techniques of Data link layer. (10 Marks)
- b. Explain about simplex stop and wait protocol for noisy channel. (10 Marks)

OR

- 4 a. Explain Pure ALOHA and Slotted ALOHA channel allocation method in detail. (10 Marks)
- b. Explain about CRC error detection method with suitable example. (10 Marks)

Module-3

- 5 a. Define Routing. Explain Distance Vector Routing Algorithm with example. (10 Marks)
- b. What are the advantages and limitations of flooding? (05 Marks)
- c. Compare Datagram Network and Virtual Circuit. (05 Marks)

OR

- 6 a. Define Congestion. Write about approaches to congestion control. (10 Marks)
- b. How to achieve QoS using Leaky Bucket Algorithm? (10 Marks)

Module-4

- 7 a. What are the services provided by Transport layer to the upper layer? (05 Marks)
- b. What are the Primitives of a Transport layer? (05 Marks)
- c. Explain the Connection Establishment and connection release in transport layer. (10 Marks)

OR

- 8 a. Explain each field in TCP Header with neat diagram. (10 Marks)
- b. Explain how to regulate the sending rate to obtain desirable bandwidth allocation? (10 Marks)

Module-5

- 9 a. Explain DNS Resource record and message in detail. (10 Marks)
- b. Explain FTP with its command and replies. (10 Marks)

OR

- 10 a. What are the major components in E-mail System? Explain the role of SMTP for Sending and receiving Messages. (10 Marks)
- b. Discuss about HTTP request and response mechanisms. (10 Marks)

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