

# CBCS SCHEME

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21CS52

## Fifth Semester B.E./B.Tech. Degree Examination, June/July 2025 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 : i) Personal area networks ii) Wide area networks. (10 Marks)  
b. Explain services and functions of each layer of OSI model along with neat sketch of OSI reference model. (10 Marks)

OR

- 2 a. Explain twisted pair cable with neat diagram. (10 Marks)  
b. Explain : i) Microwave transmission ii) Radio transmission. (10 Marks)

### Module-2

- 3 a. Explain sliding window protocol using Go-Back-N along with example. (10 Marks)  
b. Explain : i) Error control ii) Flow control. (10 Marks)

OR

- 4 a. Explain any 2 framing methods along with example. (10 Marks)  
b. Explain CRC along with an example. (10 Marks)

### Module-3

- 5 a. Explain distance vector routing algorithm with example. (10 Marks)  
b. Explain : i) Store and forward packet switching  
ii) Implementation of connectionless service. (10 Marks)

OR

- 6 a. i) Differentiate between datagram network and virtual circuit network  
ii) Explain packet switching. (10 Marks)  
b. Explain shortest path algorithm, with an example. (10 Marks)

### Module-4

- 7 a. Explain : i) Transport service primitives  
ii) Nesting of segments, packets and frames. (10 Marks)  
b. Explain remote procedure call and steps involved in it. (10 Marks)

OR

- 8 a. Explain connection for three way handshake protocol (10 Marks)  
b. i) Explain state diagram for simple connection management scheme  
ii) Explain UDP header. (10 Marks)

### Module-5

- 9 a. Explain MIME. (10 Marks)  
b. i) Explain name servers ii) Explain E-mail. (10 Marks)

OR

- 10 a. Explain architecture of e-mail system with neat diagram. (10 Marks)  
b. Explain architecture of web with neat diagram. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.