



Term Evaluation (Odd) Semester Examination September 2025

Roll no.....

Name of the Course: MCA

Semester: I

Name of the Paper: Computer Networks

Paper Code: TMC-102

Time: 1.5 hour

Maximum Marks: 50

Note:

- (i) Answer all the questions by choosing any one of the sub-questions
- (ii) Each question carries 10 marks.

Q1.

(10 Marks)

- a. Describe the OSI reference model. Explain the functions of each layer in detail. (CO1)

OR

- b. Define the following types of delays with examples: (CO2)

- (i) Processing delay
- (ii) Queuing delay
- (iii) Transmission delay
- (iv) Propagation delay

Q2.

(10 Marks)

- a. Differentiate between circuit switching and packet switching. Provide one real-life example of each. (CO1)

OR

- b. Explain the principles of network applications and the client-server architecture. (CO2)

Q3.

(10 Marks)

- a. Explain SMTP, POP3, and IMAP protocols with their roles in email communication. (CO2)

OR

- b. Describe the TCP/IP protocol stack and compare it with the OSI model. (CO1)

Q4.

(10 Marks)

- a. Explain HTTP message formats and the role of cookies and proxy servers. (CO2)

OR

- b. Explain DNS resource records and how DNS messages are exchanged between client and server. (CO1)



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Q5.

(10 Marks)

- a. Discuss Internet access networks and compare broadband, fiber, and wireless connections.
(CO2)

OR

- b. Write a short note on BitTorrent and peer-to-peer file distribution. Explain how file sharing happens in this architecture.
(CO1)