

Dr. Babasaheb Ambedkar Open University, Ahmedabad

Term-End Examination : January-2026

Course Name : MSCCS

Subject Name : Fundamental of Computer Networking

Subject Code : MSCCS-102

Date : 17-02-2026

Time : 11:30AM TO 01:45PM

Max Marks : 70

Section A

Q.-1. Answer the following. (Attempt any three) (30)

- (1) Explain the concept of computer networks. Discuss the need for networking, advantages, and applications of computer networks in detail.
- (2) Explain the concept of port numbers and sockets. Discuss their role in process-to-process communication.
- (3) Explain guided transmission media. Discuss twisted pair, coaxial cable, and optical fiber with their advantages and disadvantages.
- (4) Discuss circuit switching, packet switching, and message switching. Compare their characteristics and applications.
- (5) Explain the importance of network management. Discuss fault management, configuration management, and performance management.

Section B

Q.-2. Write short notes on any four of the following topics. (20)

- (1) Explain the goals of computer networking. Discuss resource sharing, reliability, scalability, and communication as major networking objectives.
- (2) Discuss the advantages and limitations of peer-to-peer networks compared to client-server networks.
- (3) Discuss flow control mechanisms in computer networks. Explain Stop-and-Wait and Sliding Window protocols.
- (4) Describe characteristics of transmission media such as bandwidth, attenuation, and noise.
- (5) Explain wireless communication technologies and their applications in modern networks.
- (6) Explain virtual circuits in packet-switched networks and compare them with datagram networks.

Section C

Q.-3. Multiple Choice Questions. (10)

(1) What is information?

- | | |
|-------------|-------------------|
| A) Raw data | B) Processed data |
| C) Input | D) Output |

(2) What is DBMS?

- | | |
|-----------------------|--------------------------------|
| A) Data backup system | B) Data base management system |
| C) Data block system | D) Debug management system |

(3) Which SQL clause filters records?

- | | |
|-------------|-------------|
| A) WHERE | B) HAVING |
| C) GROUP BY | D) ORDER BY |

(4) What is an index?

- | | |
|---------------------|------------|
| A) Constraint | B) Pointer |
| C) Search optimizer | D) Key |

(5) Which improves query performance?

- | | |
|------------|--------------|
| A) View | B) Index |
| C) Trigger | D) Procedure |

(6) What is transaction?

- | | |
|-----------------|---------------------|
| A) Single query | B) Multiple queries |
| C) Logical unit | D) Backup |

(7) Which property ensures atomicity?

- | | |
|---------|---------|
| A) ACID | B) BASE |
| C) CRUD | D) DML |

(8) What is commit?

- | | |
|---------------------|--------------------|
| A) Rollback | B) End transaction |
| C) Save transaction | D) Delete data |

(9) What is stored procedure?

- | | |
|-----------------|------------------|
| A) Compiled SQL | B) Virtual table |
| C) Index | D) Constraint |

(10) Which constraint prevents null values?

- | | |
|-------------|------------|
| A) UNIQUE | B) CHECK |
| C) NOT NULL | D) DEFAULT |

Section D

Q.-4. Decide whether the statements given below are True or False.

(10)

- (1) Switch uses MAC address to forward data
- (2) LAN covers large geographical area
- (3) MAN covers city-level networks
- (4) OSI model has seven layers
- (5) Transport layer ensures reliable delivery
- (6) Wireless media uses radio waves
- (7) UDP guarantees packet delivery
- (8) Repeater regenerates signals
- (9) Star topology uses central device
- (10) Ring topology allows data in one direction
