

Dr. Babasaheb Ambedkar Open University
Term End Examination July – 2026

Course	: BSCIT	Date	: 17/07/2026
Subject Code	: BSCIT-302	Time	: 03:00pm to 05:15pm
Subject Name	: Computer Networks	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. List and explain components of Computer Networks.
2. Explain Client-Server Network and Peer-to-Peer Network. Compare their advantages and limitations.
3. Explain the OSI Reference Model. Discuss the functions of all seven layers.
4. List and explain functions of different layers of TCP/IP architecture.
5. List the various Network Topologies used in Computer Networks. Explain any two topologies in detail with suitable diagrams, advantages and disadvantages.

Section B

Answer the following (Attempt any four) (20)

1. Differentiate between LAN, MAN and WAN.
2. Explain File Server, Mail Server and Web Server.
3. Explain Analog and Digital Signals.
4. Explain Transmission Media and classify it into Guided and Unguided Media.
5. Explain the functions of Bridge and Router.
6. Explain Switching Techniques and Routing in brief.

Section C

Part – A (Multiple Choice Questions) (10)

1. Which network model consists of seven layers?
A) TCP/IP Model B) OSI Model
C) Peer-to-Peer Model D) Client-Server Model
2. Which layer of the OSI model is responsible for logical addressing?
A) Data Link Layer B) Transport Layer
C) Network Layer D) Session Layer
3. Which protocol is used to automatically assign IP addresses to devices?
A) HTTP B) DHCP
C) FTP D) SMTP
4. Which transmission medium is most resistant to electromagnetic interference?
A) Twisted Pair Cable B) Coaxial Cable
C) Fiber Optic Cable D) UTP Cable
5. Which topology requires a central connecting device?
A) Ring B) Bus
C) Mesh D) Star
6. Which device forwards packets based on IP addresses?
A) Hub B) Bridge
C) Router D) Repeater

7. Which protocol is used for secure web communication?
A) HTTP B) HTTPS
C) FTP D) TELNET
8. Which TCP/IP layer is responsible for end-to-end communication?
A) Internet Layer B) Network Access Layer
C) Transport Layer D) Application Layer
9. Which switching technique stores the complete message before forwarding it?
A) Circuit Switching B) Packet Switching
C) Message Switching D) Virtual Switching
10. Which IEEE standard is associated with Wireless LAN (Wi-Fi)?
A) IEEE 802.3 B) IEEE 802.5
C) IEEE 802.11 D) IEEE 802.15

Part – B (State whether the following statements are true or false)

(10)

- 1 The OSI model contains Six layers.
- 2 DHCP is used for dynamic IP address allocation.
- 3 Fiber optic cable transmits data using electrical signals.
- 4 A router operates primarily at the Network Layer.
- 5 Bus topology has a central connection point.
- 6 TELNET provides encrypted communication by default.
- 7 HTTPS is more secure than HTTP.
- 8 TCP provides reliable communication.
- 9 IEEE 802.10 standard is related to wireless networking.
- 10 Packet Switching reserves a dedicated communication path throughout the session.
