

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

Course : BCAR
Subject Code : BCAR-301
Subject Name : Introduction to Computer
Network

Date : 10-07-2026
Time : 11:30am to 01:45pm
Duration : 02.15 Hours
Max. Marks : 70

Section A

Answer the following (Attempt any three)

(30)

1. Define Computer Networking. Describe components of networking with their role.
2. Explain the OSI Reference Model in detail. Discuss the functions of each layer with a diagram.
3. Describe the different types of transmission media. Compare Guided and Unguided media.
4. What is Switching? Explain Message Switching and Packet Switching techniques with their respective advantages and disadvantages.
5. Define Network Topology. Explain the characteristics, advantages and disadvantages of all types of topologies.

Section B

Answer the following (Attempt any four)

(20)

1. Define Data and Information. Differentiate between Client-Server Network and Peer-to-Peer Network.
2. Write a note on Internet Standards and the role of the Internet Society (ISOC) and IRTF.
3. Explain the components of Fiber Optic Cable and compare its performance with Coaxial and Twisted Pair cables.
4. What is Routing? State Static, Default and Dynamic routing.
5. Explain the following network devices: Bridge, Gateway, and Modem.
6. Discuss the IEEE 802.11 (Wi-Fi) standards and their categories.

Section C

Part – A (Multiple Choice Questions)

(10)

1. Which organization is responsible for the overall planning and designing of the Internet?
A. ISOC B. ARPANET
C. IETF D. IAB
2. How many layers do the OSI Reference Model consist of?
A. 4 B. 5
C. 6 D. 7
3. Which layer of the OSI model deals with the representation of bits on the media?
A. Application B. Data Link
C. Physical D. Presentation
4. Which layer is responsible for routing packets from source to destination?
A. Network B. Application
C. Transport D. Physical
5. A device that connects two LAN segments having the same protocol is:
A. Router B. Bridge
C. Gateway D. Modem
6. Which topology connects every node to a central hub or switch?
A. Bus B. Ring
C. Star D. Mesh

7. What is the standard data transfer rate of a 10Base-T Ethernet?
A. 1 Mbps B. 10 Mbps
C. 100 Mbps D. 1000 Mbps
8. Which technique provides a dedicated path between sender and receiver?
A. Message Switching B. Packet Switching
C. Circuit Switching D. None of these
9. The term "Modem" stands for:
A. Modulator-Demodulator B. Mobile-Demodulator
C. Modern-Method D. Model-Demodulator
10. Which protocol is used to send/upload email messages?
A. HTTP B. SMTP
C. POP3 D. TELNET

Part - B (Do as Directed)

(10)

1. Data is raw material, while Information is processed data. (True/False)
2. State full form of TCP/IP.
3. BitTorrent is an example of a Peer-to-Peer network application. (True/False)
4. The _____ topology is known as a broadcast network where all nodes share a single cable.
5. Which device is used to amplify or regenerate a signal?
6. State full form of IEEE.
7. Which layer handles high-level protocols and user interaction in OSI model?
8. IPv4 addresses are _____ bits long.
9. Which device is used to connect different networks having different designs?
10. The network layer performs the task of framing, error detection and correction. (True/False)
