

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

|                     |                            |                   |                             |
|---------------------|----------------------------|-------------------|-----------------------------|
| <b>Course</b>       | <b>: BSCIT</b>             | <b>Date</b>       | <b>: 18/07/2026</b>         |
| <b>Subject Code</b> | <b>: BSCITRMA-303</b>      | <b>Time</b>       | <b>: 03:00pm to 05:15pm</b> |
| <b>Subject Name</b> | <b>: Computer Networks</b> | <b>Duration</b>   | <b>: 02.15 Hours</b>        |
|                     |                            | <b>Max. Marks</b> | <b>: 70</b>                 |

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**Section A**

**Answer the following (Attempt any three) (30)**

1. Explain the concept of Computer Networking. Discuss the benefits of networking and various types of computer networks.
2. Explain Client-Server, Peer-to-Peer, Centralized and Distributed Computing Models with suitable examples.
3. Explain the OSI Reference Model. Describe the functions of each layer in detail.
4. Discuss various Transmission Media used in Computer Networks. Compare Guided and Unguided Transmission Media.
5. Explain Network Topologies. Compare Bus, Star, Ring and Mesh Topologies with their advantages and disadvantages.

**Section B**

**Answer the following (Attempt any four) (20)**

1. Explain the role of Hub, Switch, Router and Bridge in Computer Networks.
2. Discuss the services provided by File Server, Mail Server and Web Server.
3. Differentiate between Analog Signals and Digital Signals.
4. Explain IEEE 802 Family Standards.
5. Explain the TCP/IP Model and compare it with the OSI Model.
6. Explain Switching and Routing in Computer Networks.

**Section C**

**Part – A (Multiple Choice Questions) (10)**

1. ARPANET is considered as:  
A) First Computer Network                      B) First Operating System  
C) First Programming Language              D) First Database
2. Which network covers a small geographical area such as a college or office?  
A) WAN                                              B) MAN  
C) LAN                                                D) PAN
3. Which device forwards data packets between different networks?  
A) Hub                                                B) Router  
C) Bridge                                             D) Repeater
4. Which layer of the OSI model is responsible for routing?  
A) Physical Layer                                B) Data Link Layer  
C) Network Layer                                D) Session Layer
5. Which transmission medium provides the highest data transmission speed?  
A) Twisted Pair Cable                          B) Coaxial Cable  
C) Fiber Optic Cable                            D) Telephone Line
6. TCP stands for:  
A) Transfer Control Protocol                    B) Transmission Control Protocol  
C) Transport Communication Protocol        D) Transfer Communication Process

7. Which protocol is used for transferring files over a network?

- A) FTP
- B) SMTP
- C) HTTP
- D) POP3

8. IEEE 802 standards are related to:

- A) Database Systems
- B) Computer Networks
- C) Operating Systems
- D) Programming Languages

9. Which topology uses a central connecting device?

- A) Bus
- B) Ring
- C) Star
- D) Mesh

10. Which device works as a broadcast device?

- A) Router
- B) Switch
- C) Hub
- D) Bridge

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

**(10)**

- 1 Data communication is the process of transferring information between devices.
- 2 MAN covers a larger area than WAN.
- 3 Switch operates in full-duplex mode.
- 4 Fiber Optic Cable transmits data using light signals.
- 5 OSI model consists of seven layers.
- 6 TCP/IP is a four-layer model.
- 7 FTP is used for file transfer.
- 8 Star topology has a central connecting device.
- 9 Routing is performed at the Network Layer.
- 10 A Router is used to connect different networks.

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