- 1. What is the main difference between serial and parallel transmission?
- a) Serial transmission transmits data one bit at a time, while parallel transmission transmits multiple bits simultaneously.
- b) Serial transmission is faster than parallel transmission.
- c) Parallel transmission is used only in wireless communication.
- d) Serial transmission is used for analog data, while parallel transmission is used for digital data.

Answer: a) Serial transmission transmits data one bit at a time, while parallel transmission transmits multiple bits simultaneously.

Explanation: Serial transmission sends data sequentially, bit by bit, over a single channel, while parallel transmission sends multiple bits simultaneously over multiple channels.

- 2. Which of the following is an example of a line encoding scheme?
- a) HTML
- b) ASCII
- c) Unipolar
- d) FTP

Answer: c) Unipolar

Explanation: Line encoding schemes like unipolar, polar, and bipolar are methods used to represent binary data on a communication channel.

- 3. Which organization is responsible for setting international standards for networking?
- a) IEEE
- b) NASA
- c) NSA

d) ISO

Answer: d) ISO

Explanation: The International Organization for Standardization (ISO) is responsible for setting international standards, including those related to networking.

- 4. What does the term "topology" refer to in networking?
- a) The arrangement of physical devices and connections in a network.
- b) The speed of data transmission.
- c) The type of cables used in a network.
- d) The software used to manage network operations.

Answer: a) The arrangement of physical devices and connections in a network. Explanation: Topology in networking refers to how devices are interconnected in a network, such as in a star, bus, or ring topology.

- 5. Which transmission mode allows for bidirectional communication but not simultaneously?
- a) Simplex
- b) Half-duplex
- c) Full-duplex
- d) Multiplex

Answer: b) Half-duplex

Explanation: In half-duplex mode, data can be transmitted in both directions, but not simultaneously. This is commonly seen in walkie-talkies.

- 6. Which of the following is an example of a bipolar line encoding scheme?
- a) Manchester encoding

- b) NRZ-L encoding
- c) Unipolar encoding
- d) AMI encoding

Answer: d) AMI encoding

Explanation: Alternate Mark Inversion (AMI) is a bipolar line encoding scheme where successive 1s have alternating polarity.

- 7. What is the primary function of network protocols?
- a) To set up physical connections between devices.
- b) To transmit data over the network.
- c) To provide encryption for data.
- d) To manage network hardware.

Answer: b) To transmit data over the network.

Explanation: Network protocols define rules and conventions for communication between devices on a network, including how data is transmitted.

- 8. Which type of network configuration connects all devices to a central hub?
- a) Bus
- b) Star
- c) Ring
- d) Mesh

Answer: b) Star

Explanation: In a star network configuration, all devices are connected to a central hub, which facilitates communication between them.

- 9. Which transmission mode allows for simultaneous bidirectional communication?
- a) Simplex
- b) Half-duplex
- c) Full-duplex
- d) Multiplex

Answer: c) Full-duplex

Explanation: Full-duplex mode allows for simultaneous bidirectional communication, meaning data can be transmitted in both directions simultaneously.

- 10. What is the purpose of an inter-network?
- a) To connect devices within a single network.
- b) To facilitate communication between networks.
- c) To encrypt data transmission.
- d) To manage network security.

Answer: b) To facilitate communication between networks.

Explanation: An inter-network, commonly referred to as the internet, connects multiple networks together, enabling communication between devices on different networks.