

## UNIT II DATA LINK LAYER

- **What is the primary purpose of data communication?**
  - a) To store data
  - b) To transmit data from one place to another
  - c) To process data
  - d) To format data

**Answer:** b) To transmit data from one place to another
- **What does the term 'framing' refer to in data communication?**
  - a) Compressing data
  - b) Converting data into signals
  - c) Dividing data into manageable units
  - d) Encrypting data

**Answer:** c) Dividing data into manageable units
- **Which method is used to control the flow of data between sender and receiver?**
  - a) Error control
  - b) Flow control
  - c) Data control
  - d) Signal control

**Answer:** b) Flow control
- **What is the main function of error control in data communication?**
  - a) To compress data
  - b) To encode data
  - c) To detect and correct errors in transmitted data
  - d) To manage data flow

**Answer:** c) To detect and correct errors in transmitted data
- **In which type of channel does data transmission occur without any noise or interference?**
  - a) Noisy Channel
  - b) Noiseless Channel
  - c) Error Channel
  - d) Signal Channel

**Answer:** b) Noiseless Channel
- **Which of the following is an example of a noisy channel?**
  - a) Optical fiber
  - b) Coaxial cable
  - c) Wireless communication
  - d) Ethernet

**Answer:** c) Wireless communication
- **What does HDLC stand for?**
  - a) High-Level Data Link Control
  - b) High-Level Digital Link Control
  - c) High-Level Data Link Communication
  - d) High-Level Digital Link Communication

**Answer:** a) High-Level Data Link Control
- **Which protocol is used for point-to-point communication over a serial link?**
  - a) TCP
  - b) IP
  - c) PPP (Point-to-Point Protocol)
  - d) HTTP

**Answer:** c) PPP (Point-to-Point Protocol)
- **What is the primary function of HDLC?**
  - a) To provide error-free communication
  - b) To manage network traffic
  - c) To establish and terminate connections
  - d) To format data packets

**Answer:** a) To provide error-free communication

- **Which framing method uses a flag to indicate the start and end of a frame?**
  - a) Byte stuffing
  - b) Bit stuffing
  - c) Character stuffing
  - d) Flag bytes

**Answer:** d) Flag bytes
- **What is the purpose of flow control in data communication?**
  - a) To detect errors
  - b) To manage data transmission speed
  - c) To compress data
  - d) To encode data

**Answer:** b) To manage data transmission speed
- **Which error detection method uses a parity bit to ensure data integrity?**
  - a) Checksum
  - b) Cyclic Redundancy Check (CRC)
  - c) Parity check
  - d) Hamming code

**Answer:** c) Parity check
- **In a noiseless channel, what is the key characteristic?**
  - a) High transmission rate
  - b) No data errors
  - c) Intermittent data flow
  - d) High latency

**Answer:** b) No data errors
- **Which type of error control involves retransmitting data until it is correctly received?**
  - a) Error detection
  - b) Error correction
  - c) Automatic Repeat reQuest (ARQ)
  - d) Signal amplification

**Answer:** c) Automatic Repeat reQuest (ARQ)
- **In which type of channel is the signal-to-noise ratio (SNR) a crucial factor?**
  - a) Noiseless Channel
  - b) Noisy Channel
  - c) Error Channel
  - d) Signal Channel

**Answer:** b) Noisy Channel
- **Which HDLC frame type is used for managing control information?**
  - a) I-frame (Information frame)
  - b) S-frame (Supervisory frame)
  - c) U-frame (Unnumbered frame)
  - d) P-frame (Priority frame)

**Answer:** b) S-frame (Supervisory frame)
- **What is the primary advantage of using Point-to-Point Protocol (PPP)?**
  - a) It provides high-speed data transfer
  - b) It supports multiple network layer protocols
  - c) It offers secure data encryption
  - d) It ensures error-free communication

**Answer:** b) It supports multiple network layer protocols
- **Which flow control technique uses a sliding window approach?**
  - a) Stop-and-Wait ARQ
  - b) Go-Back-N ARQ
  - c) Selective Repeat ARQ
  - d) Sliding Window ARQ

**Answer:** d) Sliding Window ARQ

- **What is the purpose of framing in data communication?**
  - a) To detect errors
  - b) To manage data flow
  - c) To divide data into packets
  - d) To convert data into signals

**Answer:** c) To divide data into packets
- **Which protocol is commonly used in DSL internet connections for point-to-point communication?**
  - a) TCP
  - b) IP
  - c) PPPoE (Point-to-Point Protocol over Ethernet)
  - d) HTTP

**Answer:** c) PPPoE (Point-to-Point Protocol over Ethernet)
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