- 1. List the five components of data communication system
- 2. What are the different transmission modes in data communication
- 3. Compare the serial and parallel transmission
- 4. Show the important roles of Data Link Layer
- 5. List data link layer services?
- 6 What are the three criteria necessary for an effective and efficient network?
- 7 Brief about protocols and standards.
- 8 Show 5 devices are arranged in a mesh topology. How many cables are needed?
- 9 What is framing?
- 10 Compare the HDLC and PPP
 - 1. (a) Identify the various types of networks topologies along with their advantages and disadvantages in detail.
 - 2 (b) What is TCP/IP reference model? Explain the functions, protocol and services of each layer?
 - 3. (a) Organize and visually represents the Noisy Channels with neat diagram
- 4 (b) Explain the operation of HDLC and PPP with suitable diagrams.
- 5. (a) Write short notes on 1. Transmission modes 2. Types of connections.
- 6 (b) Formulate and discuss the various types of transmission media, highlighting their merits and demerits
 - 7. (a) Demonstrate the concepts of error control and flow control by providing
 7. (a) suitable examples. Illustrate how these techniques are applied in real-world networking scenarios to ensure data integrity and efficient data transmission.
- 8 (b) Organize and visually represents the Noiseless Channels with neat diagram
 - 9 (a) Analyze the OSI Model by examining the functions, protocols, and services of each layer. Compare how these layers interact with each other in both theoretical and practical networking environments
- 10 (b) Examine the application of virtual circuit switching in the Internet.

- 11. (a) Examine the application of Datagram switching in the Internet.
- 12. (b) Distinguish the Circuit switching and virtual switching with suitable example.