CSC123 DATA COMMUNICATIONS

Learning Outcomes

- Describe the components of a data communications system.
- Identify key considerations in selecting various transmission media in networks.
- Explain the role of line codes in a data communications network.
- Explain the role of digital communications devices in a data communications network.
- Describe the various types of signals and their features.
- Identify and define roles and features of various data transmission protocols.
- Describe the features and functions of multiplexing and modulation.
- Describe the various error detection and correction schemes.

Content

Introduction to data communication; Data transmission system components - DTEs, DCEs and Channels; Data transmission media; The OSI reference model; Data encoding; Basic serial communications interfacing standards; Analysis and synthesis of wave forms; Channel characteristics, Band-width, data rates, capacity; Transmission modes, Modulation and Multiplexing; Synchronization; Error control: detection and correction; Data encryption and compression; Introduction to Network topologies; Data link layer: Line configurations, flow control, error control, bit oriented link control, simplex and sliding window protocols. Data communication standards.

Pre-requisites

CSC214 Digital Electronics

Delivery

Lectures and Tutorials.