Subject Code : **CCSCS9**

CORE COURSE XII – DATA COMMUNICATIONS AND NETWORKS

Unit I

Data Communication – Communication model – concept and terminology – analog and Digital data transmission – Channel capacity – Data Communication networking.

Unit II

Networks – Protocols and Standard – Line configuration Topology – Transmission Mode – Categories of networks – Internet works.

Unit III

The OSI Model – Functions of the layers – TCP/IP Protocol suite – Signals – Analog and Digital Signal – Periodic and a periodic Signals – Analog Signals – Digital Signal – Data Transmission – Data Terminal Equipment – Data Circuit Terminals equipment – Modems.

Unit IV

Transmission media – Guided Media – Unguided Media – Transmission Impairments – Media Comparison – Multiplexing – FDM – TDM-WDM. Error Detection and Correction – Types of errors – Detection – Vertical Redundancy Check (VRC) – Longitudinal Redundancy Check (LRC) – Cyclic Redundancy Check (CRC). Check sum – Error Correction.

Unit V

Switching – Circuit Switching – Packet Switching – Message Switching – Networking and internetworking Devices – Repeaters – Bridges – Routers – Gateways. Routing Algorithm – Distance Vector Routing – Link Stat Routing – Data Link Control – Line discipline - Flow Control.

Text Book:

1. "Data Communications and Networks" – Behrouz A.Forouzan Second Edition, Tata Mcgraw Hill Edition, 2002.
2. Data and Computer Communication, William Stallings, 7th Edition, Pearson Education – 2006, Chapter 1, 2 (Unit I)