Course title: **Elective-II: Network Communications**

**Unit: I Networking Concepts**

Structure of the communication networks - Networks topologies - Telephone networking – Fundamentals of communication theory – Connecting the analog and digital world – Advantages of digital systems – Signal conversion - Synchronizing network components - classification of communication protocols.

**Unit: II Components and network distributed architecture**

**Layering:** Physical layer - Data link layer - Network layer - Transparent layer - Session layer-presentation layer - Application layer - Modems**:** Modulation techniques - other modems –Advances in modems - **Switching:** circuit switching – Message switching – Packet switching.

**Unit: III Communication Networks and protocols**

Asynchronous transfer mode- ATM logic connections-ATM cells –ATM service categories –protocols –Need for a protocols architecture-TCP/IP protocols architecture –Internet protocols architecture-CDMA.

**Unit: IV Local Area Network**

Introduction- LAN definition –Usage – Major components of LAN- LAN protocols –IEEE standards –CSMA CD –Token ring –Token bus –MAN-Fiber distribution data interface (FDDI)-Logical link control-other LAN (Ethernet, IBM, Token ring).

**Unit V:**

Wireless network and wireless LAN overview - Wireless LAN requirements – Wireless LAN technology – IEEE 802 architecture – IEEE 802.11 architecture and services – IEEE 802.11 MAC – IEEE 802.11 physical layer – Wireless local loop – IEEE 802.16

**Books for Study:**

1. Uyless Black,” Computer networks” PHI, II edition,1999

2. Uyless Black, “Data communication and distributed networks”, PHI III edition, 1993.