

## BACHELOR OF COMMERCE - FIFTH SEMESTER

# COMPUTER NETWORKS

---

Code: SC5.5

Contact Hours: 56

Credits: 4

Evaluation: Continuous Internal Assessment – **30 Marks**

Semester-End Examination – **70 Marks**

Univ Code:

Work load: **4 hours per week**

### Objectives:

### Pedagogy:

**Module 1: Introduction:** Evolution of Computer Networks, Analog signal transmission, Digital signal transmission, data transmission, transmission media, classification of computer Networks, Switching and routing, multiplexing, concentrator, components of a Computer Networks.

**Module 2: Network Standards and OSI Model:** Types of standards, the OSI reference model, one physical layer, the data link layer, Network layer, transport layer, session layer, presentation layer, application layer.

**Module 3: IEEE:** The IEEE standards, the Ethernet, IEEE 802.4: token bus, IEEE 802.5: the token ring, X.25 protocol, digital network architecture.

**Module 4: LAN:** LAN architecture, advantages and services, characteristics of LAN, LAN topologies, LAN access topologies, CSMA/CD- based LAN, token ring protocol.

**Module 5: High Speed Networks:** The IBM token ring network, token bus/IEEE 802.4, high speed LAN, Fast Ethernet systems, Gigabit Ethernet, Gigabit Ethernet protocol architecture the FDDI Networks, FDI, Wireless LAN and USAT, ISDN.

### Recommended Books

1. Rajesh, Easwarakumar and Balasubramanian, Computer Networks: Fundamentals and Applications, Vikas Publications (2002).
2. Richard A. McMohan, Introduction to Networking, Tata McGraw Hill (2003).
3. Douglas Comer, Computer Networks and Internet, 2<sup>nd</sup> Edition, Pearson Education (2003).
4. William A. Shay, Understanding Data Communications and networks, 2<sup>nd</sup> Edition, Thomson Learning-Vikas Publishing House (1998).
5. Miller, Data and Network Communications, Thomson Learning- Vikas Publishing House (2000).

6. AchyutsGodbole, Data Communications and networks, Tata McGraw Hill (2002).

**Practicals:**

Practical: 2Hrs/Week

I.A Maximum Marks: 20

The Students shall be acquainted with network concepts, installing and configuring operating system, file system, printing, security and management of network.

**Note:** The internal assessment marks (Maximum Marks 20) shall be awarded by the concerned course teacher based on the two practical tests of 2 hours duration each conducted by him/her during the semester.