

SCS1314	DATA COMMUNICATION AND COMPUTER NETWORKS	L	T	P	Credits	Total Marks
		3	0	0	3	100

**COURSE OBJECTIVES**

- Recognize the individual components of the big picture of computer networks.
- Outline the basic network configurations.
- List the layers of the OSI model and Internet model and describe the duties of each layer.

**UNIT 1 DATA COMMUNICATION****9 Hrs.**

Introduction to data communication - Network protocols & standards - Line configuration - Topology - Transmission mode - Categories of networks - OSI model - Layers of OSI model - TCP/IP Model - Transmission media - Guided media - Unguided media.

**UNIT 2 DATALINK LAYER****9 Hrs.**

Link layer services - Framing - Flow Control - Error control- Medium Access Control - Ethernet CSMA/CD - Token Ring - FDDI - Token Passing- Wireless LAN - CSMA/CA

**UNIT 3 NETWORK LAYER****9 Hrs**

Circuit Switching - Packet Switching - Routing - Distance Vector Routing - Link State Routing - Addressing- Subnetting - IPV4- IPV6- ARP - RARP - ICMP - IGMP - DHCP.

**UNIT 4 TRANSPORT LAYER****9 Hrs.**

TCP- UDP - Connection Management- Flow Control - Retransmission - Congestion Control - Detection and Avoidance.

**UNIT 5 APPLICATION LAYER****9 Hrs.**

Networking Devices - Repeaters - Switches - Bridges - Routers - Gateways- Domain Name System - FTP - WWW and HTTP - SNMP - SMTP - POP3 - IMAP - MIME.

**Max. 45 Hours****TEXT / REFERENCE BOOKS**

1. Behrouz A. Fourouzan, "Data Communication and Networking", McGraw-Hill Education India Pvt. Ltd - New Delhi.
2. William Stallings, Data and Computer Communications (8th ed.), Pearson Education, 2007.
3. P.C. Gupta, Data Communications and Computer Networks, Prentice-Hall of India, 2006.
4. Andrew S. Tanenbaum, "Computer Networks", Fourth Edition, Pearson.
5. L. L. Peterson and B. S. Davie, Computer Networks: A Systems Approach (3rd ed.), Morgan Kaufmann, 2003.

**END SEMESTER EXAM QUESTION PAPER PATTERN****Max. Marks : 100****Exam Duration : 3 Hrs****PART A :** 10 questions of 2 marks each- No choice**20 Marks****PART B :** 2 questions from each unit of internal choice, each carrying 16 marks**80 Marks**