

**Self-Study component:**

**Unit 1:** Telephone networks, Dial up modems, Digital subscriber line, Cable TV networks, Cable TV for data transfer.

**Unit 2:** Point to Point protocols, Bluetooth, Cellular telephony, Satellite networks

**Unit 3:** Address mapping, ICMP, IGMP, ICMPv6

**Unit 4:** SCTP, Network management system, SNMP

**Unit 5:** Security services, Message confidentiality, Integrity, authentication, management.

**TEXT BOOKS :**

1. Behrouz A. Forouzan, "Data communication and Networking", Tata McGraw-Hill, **Fourth edition**, 2013.
2. James F. Kurose & Keith W. Ross, "Computer Networking: A Topdown Approach Featuring", Pearson Education, Third edition.

**REFERENCE BOOKS :**

1. Andrew S. Tannenbaum, "Computer Networks", PHI, Fourth Edition, 2003.
2. William Stallings, "Data and Computer Communication", Sixth Edition, Pearson Education, 2000.
3. Larry L.Peterson & Peter S. Davie, "Computer Networks", Harcourt Asia Pvt. Ltd., Second Edition.

**CIE – Continuous Internal Evaluation Theory (50 Marks) :**

1	Networks- – Topologies- Modes of data Transmission – Protocols and Standards- – Components and Categories – Types of Connections– ISO / OSI model –TCP/IP, Digital Multiplexing , Packet Switching.	7
2	DATA LINK LAYER: Flow Control and Error control – Stop and Wait – Go Back N ARQ – Selective Repeat ARQ – Sliding Window Techniques – HDLC – LAN – Ethernet IEEE 802.3 (Only Description) IEEE 802.4 and IEEE 802.5 – IEEE 802.11–FDDI – Bridges	8
3	NETWORK LAYER: Internet works — IPv4 and IPv6, Transition from IPv4 to IPv6, Subnetting, Routing – Distance Vector Routing – Link State Routing – Routers.	8
4	TRANSPORT LAYER: Duties of Transport Layer – Multiplexing – Demultiplexing – Sockets – User Datagram Protocol (UDP) – Transmission Control Protocol (TCP) – Congestion Control – Quality of Services (QOS) .	9
5	APPLICATION LAYER: Principles of Network Application – Domain Name Space (DNS)- DNS in the Internet. Resolution, E-mail- Architecture, User agent, Message transfer Agent, FTP- FTP and Anonymous FTP, The WEB- WEB documents, HTTP, Network Management: SNMP, Structure of management information, Management information base	8

**NOTE :** 1. Questions for CIE and SEE not to be set from self-study component.  
2. Assignment Questions should be from self-study component only.