SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Electronics & Communication)
Semester: II
Syllabus with Effect from: June - 2011

Paper Code: PS02EELC02	Total Credit: 4
Title Of Paper: Computer Networks	

Unit	Description in Detail	Weightage (%)
I	Network, network classification, protocol & standards, topology, OSI reference model, TCP/IP model, digital data transmission, DTE-DCE Interface, MODEMS,56k modems, transmission media: guided media, unguided media, performance.	20%
II	Framing, error control, flow control, error detection & correction, stop & wait protocol, automatic repeat request (ARQ), sliding window protocol: 1 bit S W, go back n, selective repeat, channel allocation, multiple access protocol, ALOHA, carrier sense multiple access protocol, collision free protocol, IEEE standard 802 for LANs, Ethernet (802.3), token bus (802.4), token ring (802.5), logical link control.	20%
III	Services provided to transport layer, circuit switching & packet switching, routing algorithms, congestion prevention policies, leaky bucket & token bucket algorithm, internetworking devices: repeater, bridges, switches, gateways, connectionless internet, tunneling, fragmentation, firewall.	20%
IV	Transport services, elements of transport protocol: addressing, establishing & releasing a connection, flow control & buffering, multiplexing, crash recovery. Transmission control protocol, user datagram protocol.	20%
V	Network security: traditional cryptography, fundamental cryptography principles, secret key & public key cryptography, authentication protocols, digital signature and DNS, SNMP, ASN.1, E-mail, SMTP, MIME, WWW, HTTP, URL and HTML.	20%

Basic Text & Reference Books:-

- ➢ Computer Networks: A. S. Tanenbaum, Prentice Hall India.
- ➢ Data & Computer Communication: William Stallings, Prentice Hall India.
- ➢ Data communication and networking: B. A. Forouzan, Tata McGraw Hill.