

M.Tech(IT) : Group C
Paper Code : MT24C
Paper Title : Networking Programming

SYLLABUS

1. Introduction to Internet

Open System, OSI Model, Routers, Internet Architecture, TCP/IP Model

2. Internet Layers Protocols

IP Protocol Address, Binding Protocol Addresses, Address Translation and Address Resolution, Address Resolution Techniques, Address resolution Protocol, IP Datagram and Data Gram Forwarding, IP Encapsulation, Fragmentation, Reassembly, ICMP.

3. Transport Protocols and Client Server Communication

Transport Protocol (TCP and UDP), Feature of TCP, Using IP for data delivery, Delivering TCP, TCP header, Out of Band Data, TCP timers, Determining Timeout, TCB, Sliding Window Principle, Retransmit a lost segment, Error recovery, Sliding window buffer, TCP connection management, TCP state machine, UDP, UDP encapsulation, UDP format, Internet Programming, Client Server Paradigm, Socket, Multiple servers for one service, Master Slave Servers, Connection oriented, and connection less Transport, Client server interaction.

4. Internet Programming with Sockets

Sockets, Two types of Sockets, Low level network Theory, Structure and Data Handling, Types of System calls, Client Server Background.

5. Routing Protocols

Routing Component, Routing protocol functions, Basic IP routing, Autonomous System, RIP, OSPF, BGP.

Reference:

- a) Internetworking with TCP/IP, Volume 1,2,3 by Comer D.E
- b) Computer Network by Andrew S. Tannenbaum
- c) Data Communication and Networking by frozen