Internetworking
Code: IT 701
Credits: 4

An Overview on Internet
The need for an Internet, The TCP/IP Internet, Internet services, Internet protocols and standardization, Review of Network technologies.

Internetworking Concepts
Architectural model introduction, Application level interconnection, Network level interconnection, Properties of the Internet, Internet Architecture, Interconnection through IP Gateways or routers, Internet and Intranet.

Internet Address
Introduction, Universal identifiers, Three primary classes of IP addresses, Classless IP address, Network and Broadcast addresses, Mapping internet addresses to physical addresses (ARP), ARP protocol format, Transport Gateways and subnet addressing, Multicast addressing.

Internet Protocol
Internet Architecture and Philosophy, The concept of unreliable delivery, Connectionless delivery system, The Internet Datagram, Routing direct and indirect delivery, Table driven IP routing, Protocol layering, Reliable stream transport, TCP performance, Bootstrap protocol (BOOTP).

Routing
The origin of Gateway routing tables, Original Internet Architecture and Cores, Core Gateways, Automatic route propagation, Vector distance (Bellman-Ford), routing, Gateway to Gateway Protocol (GGP), Autonomous system concept, Exterior Gateway Protocol (EGP), Interior Gateway Protocol (RIP, OSPF, HELLO), Routing Information Protocol (RIP), Combining RIP, HELLO, and EGP, Routing with partial information.

Enterprise Networking
Corporate networking, Broadband at the Metropolitan area level, High speed dedicated WAN services and switched WAN services, ISDN, BISDN and ATM services, Frame relay technology and services, Virtual private network concepts PPTP protocol.

Internet Servers
DNS, DHCP Servers, FTP, TELNET, E-Mail

Firewall & Networking
Introduction, Implementation of Firewall, Activities of Firewall, Configuration of firewall, Firewalls & SSL, SSL implementation, Bit implementation of SSL, Use of SSL.