INTERNET FUNDAMENTALS

Paper Code   **CEN-701**

Course Credits   **4**

Lectures / week   **3**

Tutorial / week   **1**

Course Description   **UNIT – I**

ARP, ARP Operation, Packet Format, Encapsulation, four Different cases using ARP, Proxy ARP, RARP, Packet format, Encapsulation, RARP servers, Alternative solutions to RARP. BOOTP operations, packet format, DHCP, Static address allocation, DHCP packet.

UNIT- II

ICMP encapsulation, Types of Messages, Message Format, Error Reporting messages: Destination unreachable, source Quench, Time Exceeded, Parameter Problem Query Messages: Echo Request & Reply, Timestamp request & Reply, Address- Mask Request and Reply, Router solicitation and Advertisement. Group management, IGMP messages, IGMP Operations, Joining a group, Leaving a Group, Monitoring Membership, Encapsulation.

UNIT- III

Intra and inter domain routing, distance vector routing, RIP, RIP Msg format, Timers in RIP, link state routing, OSPF, types of links, OSPF Packets, Path vector routing, BGP, BGP Services, Eternal & Internal BGP, Types of autonomous systems, Types of packets.

UNIT- IV

FTP: control connection, data connection, commenication, over control and data connection, TFTP Web Documents: Static Documents, Dynamic Documents, Active Documents, HTTP: Transaction, persistent v/s non-persistent connection, PROXY Server. Remote login, TELNET: concepts, time sharing environment, NVT (n/w virtual terminal)

UNIT – V

Stationary Hosts, Mobile Hosts, Agents, Three Phases, Inefficiency in Mobile IP, Double crossing, Triangle routing, N/w security: Cryptography, Symmetric key cryptography, Public key Cryptography, Privacy, Digital Signatures, Security in the internet, IP security, PGP, Firewall, Packet Filtering firewall, PROXY firewall.

References / Text Books:	• Comer, D: "Internetworking with TCP/IP", PHI, 1997. Vol. I, II,III.
	• Breudans P.Kehoe: Zen and Art of Internet-A Beginner's Guide: PTR Prentice Hall (1994).
	• H.M. Deital: "Java How to Program", McGraw Hill, 1998.
Computer Usage / Software Requires:	