RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
Credit Based Grading System
Information Technology, VI-Semester
IT-6001 Internet Technology and Network Management

Unit-I

Binding Protocol Address: ARP & RARP, packet format, Encapsulation, Internet protocol: Introduction, Ipv4 header, Ipv4 Datagram, Encapsulation, Fragmentation and Reassembly, IP routing, Subnet addressing, Subnet mask, Supernetting- special case of IP addresses Ipv6-Motivation, frame format and addressing, comparison of Ipv4 and Ipv6.

Unit-II

ICMP: Introduction, ICMP Header, ICMP message types, ICMP timestamp request and reply, trace route, ping program. Intra & inter domain routing-distance vector routing, RIP, Link State Routing, OSPF, Path Vector Routing, BGP, Unicast Routing protocols, IGMP-IGMP message, operation, encapsulation.

Unit-III

TCP: Introduction, services, headers, connection establishment and termination, timeout of connection establishment, maximum segment size- half, close, state transition diagram, port no. and socket addresses, TCP timers. UDP: Introduction, UDP header, UDP checksum, UDP operations, encapsulation & decapsulation, queuing, SCTP-Services, transmission sequence number, stream identifier, stream sequence number, packet format.

Unit-IV
BOOTP: operation, packet format, DHCP: Address allocation, configuration & packet Format,

DNS: Distribution of name spaces, DNS in the internet, FTP: Connection, Communication, command processing, TFTP, E-mail: SMTP, POP & IMAP, SNMP: Management components, SMI, MIB.

Unit-V

Network management applications:-Configuration management, Fault Management, Performance management, Security management, Accounting management, Report Management, policy based management.

References:-

1. B. A Forouzan, TCP/IP-Protocol suite, TMH.
2. D.E.Comer, Computer Networks and Internets, Pearson.
3. Mani Subramaniam , Network management- principles & practice, Pearson education.
4. W. Richard Stevens, TCP/IP Illustrated Volume I, Addison Wesley.
5. Comer, Internetworking with TCP/IP: Vol. I, II & III, PHI Learning.