CSE307:INTERNETWORKING ESSENTIALS

Course Outcomes: Through this course students should be able to

CO1 :: describe internetworking devices and associated protocols

CO2 :: discuss the working of various cabling standards for internetworking

CO3 :: classify the networks and the associated protocols

CO4 :: analyze the practical utilization of networking standards and protocols in relevant scenarios

CO5 :: evaluate the working of classfull and classless addressing scheme

CO6 :: simulate end to end connectivity using network utilities in a simulation environment

List of Practicals / Experiments:

Network hardware and IP addressing concept

- Working of hub, switch and Router, Adding of interfaces in devices
- Cabling - Creation of straight and Cross cable using crimping tool
- IP addressing basics, configuration using CLI, VLSM and FLSM on single router
- Implementation of Star, Mesh, Bus and Hybrid Topology

Network Commands

- Ping, tracert, arp, netstat, ipconfig, ftp, nslookup, snmpget, snmpgetbulk and snmpset (use DOS and scenario based configuration)

Network layer routing protocols

- Implementation of Static Routing using Classfull and classless (FLSM)
- Implementation of Static Routing using VLSM
- Routing information Protocol(RIP) using classfull and classless (FLSM)
- Routing information rotocol(RIP) using VLSM

Server Configuration and LAN Setup

- Implementation of FTP, Implementation of HTTP and Email setup on server
- Implementation of DNS, Implementation of DHCP
- Implementation of LAN with configuration of inter-networking devices and any application layer protocol

IPv6 addressing and routing

- IPv6 Addressing & Stateless Address Auto Configuration (SLAAC)
- IPv6 Neighbor Discovery
- IPv6 Static Routing
- IPv6 Dynamic Routing

Text Books:

1. COMPUTER NETWORKS by ANDREW S. TANENBAUM, PEARSON

References:

1. DATA COMMUNICATION AND NETWORKING by BEHROUZ A. FOROUZAN, MCGRAW HILL EDUCATION