CSE307:INTERNETWORKING ESSENTIALS

L:0 T:0 P:2 Credits:1

Course Outcomes: Through this course students should be able to

CO1 :: Recall the functions of network hardware

CO2 :: Describe how various networking commands are used

CO3 :: Apply various routing protocols to network configurations

CO4 :: Build and configure server roles and services

CO5 :: Illustrate Ipv6 address allocation methods

CO6 :: Analyze routing protocol interactions

List of Practicals / Experiments:

Network hardware and basics of IP addressing concept

- Familiar with the usage of cisco packet tracer
- Basic working of hub, switch and router
- Adding of interfaces (ports) in the devices
- Creation of cross and straight cables
- IP addressing basics
- Implementation and configuration of different topologies such as bus, star, ring, mesh, tree and hybrid
- Configuration of devices using command line interface (CLI)

Network Commands

- ipconfig, ping, tracert, arp, netstat, nslookup, switch commands, router commands (use DOS and scenario based commands)

Network layer routing protocols

- Implementation of static routing using classfull addressing
- Implementation of dynamic routing using classfull addressing by configuring routing information protocol (RIP)
- Implementation of static routing using classless addressing (FLSM and VLSM)
- Implementation of dynamic routing using classless addressing (FLSM and VLSM) by configuring routing information protocol (RIP, RIP version 2 for VLSM)

Server Configuration and LAN Setup

- Implementation of LAN with DHCP configuration
- Implementation of DNS, FTP, HTTP and Email server configuration

IPv6 addressing and routing

- Implementation of IPv6 static routing
- Implementation of 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