

# CSE307:INTERNETWORKING ESSENTIALS

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

**Course Outcomes:** Through this course students should be able to

CO1 :: relate the hardware and components of a network and the interrelations

CO2 :: interpret network layer routing protocols

CO3 :: examine concepts and theories of networking to apply them to various situations and classifying networks

CO4 :: show an end to end connectivity using network commands

## 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, tracer, 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