

## **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, 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