29/9/25 Experiment - 9

Subnetting in cisco packet tracer

AIM:

Implementation of subnetting in cisco packet tracer simulator

CONCEPT :

classless IP subnetting allows dividing a network into smaller subnets for efficient IP address utilization. Instead of fixed classful masks, subnetting uses variable-length subnet masks (VLSM) to create networks as per requirements.

STEPS :

1) Create Topology : Add routers, switches, and PCs in cisco packet Tracer.

2) Subnetting : eg) 192.168.1.0 /24 subnetted into /27 gives 8 subnets with 30 hosts each.

3) Assign IPs : Allocate subnet IPs to routers, switches and PCs.

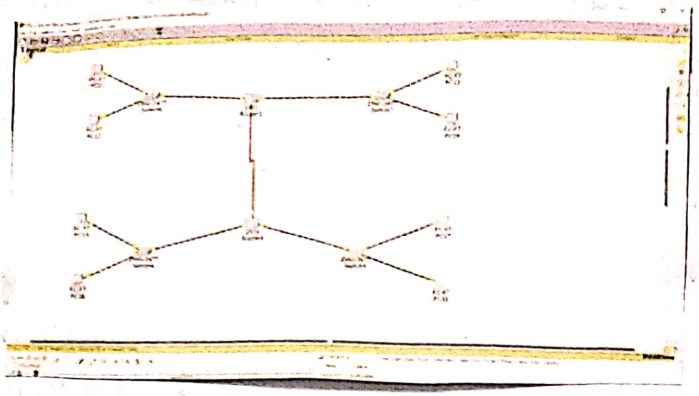
4) Configure Devices :

Router → configure interfaces with IP & subnet mask.

Switch → set access mode on ports.

PCs → Assign IP, subnet mask and default gateway.

5) Test : Use ping to check connectivity among devices.



Student observation :

a) write down your understanding of subnetting

Ans : Subnetting divides a big network into sma parts for better control.

b) what is the advantage of implementing subnett within a network ?

A) It improves security, speed and saves IP addre

c) Find out whether subnetting is implemented in your college ?

A) Yes colleges use subnetting

- Admin : 192.168.1.0 / 26
- Lab : 192.168.1.64 / 26

Result : Implementation of subnetting in cisco packet tracer simulator is done succesfully.

9/10/25