**Computer Communications and Networks**



**Lab 12**

**Network Topology using Packet Tracer**

Lab Manual 12

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| Objectives  * Develop a network topology using Packet Tracer * Concept of CIDR Subnet |

# Reference Material

# **Lab Tasks**

1. **You have to design a network solution for UCP four Labs, Staff and Faculty members. All the three Labs, Staff and faculty members should be on different Sub networks. There are total 52 computers divided according to the table shown below.**

|  |  |
| --- | --- |
| Subnets | No. of Hosts |
| Lab 1 | 7 |
| Lab 2 | 10 |
| Lab 3 | 6 |
| Lab 4 | 8 |
| Faculty | 9 |
| Staff | 12 |

**Assume that UCP is given a Network Class C address having first three octets of IP address fixed as 192.168.10.0/24. Make sure that you optimally design the network considering the number of devices (switches, routers etc.) used and how you are assigning the IP addresses to different subnets in your design. (You can consult the slides for sub netting provided to you in case you have no idea about sub netting or you have forgotten it)**

1. **Use wires (straight through and cross over where necessary and applicable) – no wireless LAN is required for this submission.**
2. **Use 2811 Router and 2950-24 switches.**
3. **Use ping from the command prompt of computers to check your network design is working.**

**Make your design as neat as possible and properly add the IPs of all the PCs and router interfaces using comments in your design to get the full credit.**