

## CMPE2000 Data Communications and Network Management

### Project based Learning

#### Project 1

Create networks and simulate star, bus and ring topologies using the Cisco packet tracer.

#### Project 2

##### RIP Routing Configuration Using 3 Routers in Cisco Packet Tracer

Routing Information Protocol (RIP) is an active routing protocol that operates hop count as a routing metric to find the most suitable route between the source and the destination network. It is a distance-vector routing protocol that has an AD value of 120 and works on the Network layer of the OSI model.

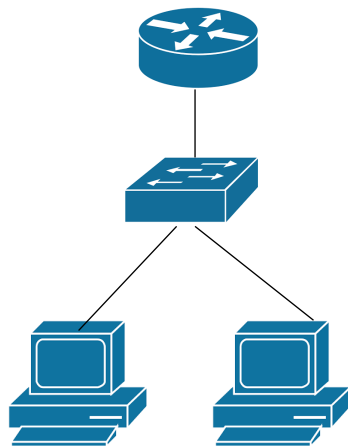
#### Tip

You can use the IP configuration given here or use your own calculation.

Device	IPv4 Address	Subnet mask	Default Gateway
PC0	192.168.10.2	255.255.255.0	192.168.10.1
PC1	192.168.10.3	255.255.255.0	192.168.10.1
PC2	192.168.20.2	255.255.255.0	192.168.20.1
PC3	192.168.20.3	255.255.255.0	192.168.20.1
PC4	192.168.30.2	255.255.255.0	192.168.30.1
PC5	192.168.30.3	255.255.255.0	192.168.30.1
Device	Interface	IPv4 Address	Subnet mask
router0	FastEthernet0/0	192.168.10.1	255.255.255.0
	Serial2/0	10.0.0.1	255.0.0.0

Device	IPv4 Address	Subnet mask	Default Gateway
router1	FastEthernet0/0	192.168.20.1	255.255.255.0
	Serial2/0	10.0.0.2	255.0.0.0
	Serial3/0	11.0.0.1	255.0.0.0
router2	FastEthernet0/0	192.168.30.1	255.255.255.0
	Serial2/0	11.0.0.2	255.0.0.0

The below network can be used as a starting point.



### Project 3

Propose a network design with its requirements for the EECMS Building (314). The objective of this project is to design and configure a Local Area Network (LAN) topology, together with configuration of network devices to be used across the premises. The network will allow all computer systems and devices such as projectors and printers in the buildings to access the internet as well as communicating between themselves.

## Assumptions

1. There are 4 departments and about 40 employees.
2. It has a maximum of 180 users including staff, lecturers, and students at the same time.
3. The server room and control room can be accessed by technicians and some staff only.
4. You need to list any additional assumptions you make.

## Instructions

1. Form groups by the end of week 1 and enroll in BB.
2. Complete projects 1, 2 and 3.
3. Submit the pkt files to BB submission point before the deadlines. Deadlines can be found in the program calendar.
4. Use project report template to complete your group assignment report.
5. Complete the work breakdown structure with each student's contribution
6. Attach peer evaluation forms

## Marking Rubrics:

Criteria	Approaching expectations	Meets expectation	Exceeds expectation	Score
<b>Project 1 Design</b>	Propose incomplete design with weak justification	Propose complete design with minimal justification	Propose complete design with justification, suitable for the problem with supporting evidence.	<b>10</b>
<b>Project 1 Reflections</b>	Reflection makes little or no attempt to explain the value of the learning experience	Reflection attempts to explain the value of learning experience	Reflection clearly explains the value of learning experience	<b>10</b>
<b>Project 2 Design</b>	Propose incomplete design with weak justification	Propose complete design with minimal justification	Propose complete design with justification, suitable for the problem with supporting evidence	<b>20</b>
<b>Project 2 Reflections</b>	Reflection makes little or no attempt to explain the value of the learning experience	Reflection attempts to explain the value of learning experience	Reflection clearly explains the value of learning experience	<b>10</b>
<b>Project 3</b>				
<b>Introduction</b>	Introduction has no clear objectives, scope, assumptions and limitations (0-2)	Introduction has defined some objectives, scope and assumptions. ()	Introduction has clearly defined objectives, scope and assumptions.	<b>10</b>
<b>Referencing</b>	No in-text citation and very minimal references. Major issues in the referencing format.	Minimal in-text citation and references used. Minor issues in the referencing format.	Very good quality of references used, with proper citation and reference list for all facts and diagrams used	<b>5</b>

<b>Network Device Selection Justification</b>	Propose incomplete Network Devices weak justification	Propose complete Network Devices with minimal justification	Propose complete Network Devices with justification, suitable for the problem with supporting evidence.	<b>10</b>
<b>Network Design</b>	Propose incomplete Network Design	Propose good Network Design with minimal justification	Propose complete Network Design suitable for the problem with supporting evidence.	<b>10</b>
<b>IP Addressing Justification</b>	Propose incomplete IP Addressing plan with weak justification	Propose complete IP Addressing plan with minimal justification	Propose complete IP Addressing plan with justification, suitable for the problem with supporting evidence.	<b>10</b>
<b>Project 3 reflections</b>	Reflection makes little or no attempt to explain the value of the learning experience	Reflection attempts to explain the value of learning experience	Reflection clearly explains the value of learning experience	<b>5</b>

**Work Breakdown Structure:**

<b>Section 1 (Team)</b>		Introduction <ul style="list-style-type: none"><li>- Objective / Scope / Limitations</li><li>- Assumptions (number of hosts, departments etc.)</li><li>- Referencing</li></ul>		
<b>Section 2 (Individual)</b>	<b>Student 1</b>	<b>Student 2</b>	<b>Student 3</b>	<b>Student 4</b>

## Peer Evaluation Form for Group Work:

Your name: **Dhrubo Jouti Das Troyee**

Student ID: **22663281**

Write the name of each of your group members in a separate column. For each person, indicate the extent to which you agree with the statement on the left, using a scale of 1-4 (1=strongly disagree; 2=disagree; 3=agree; 4=strongly agree). Total the numbers in each column.

Evaluation Criteria	Student Name: <b>Aadhar Karki</b>	Student Name: <b>Sabtain Afzal</b>	Student Name: <b>Shae Sullivan</b>
Attends group meetings regularly on time.	<b>4</b>	<b>4</b>	<del>4</del> <b>3</b>
Contributes meaningful to the group discussions.	<b>4</b>	<b>4</b>	<b>4</b>
Prepares a quality of work and completes on time.	<b>4</b>	<b>4</b>	<b>4</b>
Demonstrates a cooperative and supportive attitude.	<b>4</b>	<b>4</b>	<b>4</b>
Contributes significantly to the success of the project.	<b>4</b>	<b>4</b>	<b>4</b>
<b>TOTALS</b>	<b>20</b>	<b>20</b>	<del>20</del> <b>19</b>

# **GROUP ASSIGNMENT**

**CMPE2000**

**MEMBERS :**

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