BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CSE322 (Computer Networks Sessional), July 2018 Term

Packet Trace Online, Section A1, December 3, 2018

Time: 1 hour **Marks: 20**

Instructions:

There are two checkpoints in this lab. After completing tasks 1-4, you will reach checkpoint 1. At this point show your configurations to your assigned examiner. If marked completed by the examiner, proceed to complete the tasks 5-6. After completing the tasks 5-6, ask the examiner for evaluation of checkpoint 2.

Requirements:

Consider the network topology in the accompanying **topology.pkt** file. You need to configure the network according to the following specifications.

1. Configure the network appropriately to enable communication among all the devices, i.e., PCs and routers.
2. All the configured IP addresses must be in the range 192.0.0.0-223.255.255.255.
3. All the subnet masks must be of length 24.

Now complete the following tasks.

Tasks:

1. Assign unique network addresses to all the subnets.
2. Configure all the hosts/PCs and router interfaces with appropriate unique IP addresses from respective subnets.
3. Make sure all router interfaces are turned on.
4. Configure dynamic routing protocol **RIP** to ensure connectivity among all subnets. Do not use any static route.

Checkpoint 1:

(a) Show that the network is connected. Ping between any pair of devices (i.e., PCs or Router interfaces) must be successful.

(b) Show the routing table of **Router_M** using GUI tool.

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5. Modify your **RIP** configuration in such a way that **packets between any two PC's (e.g., PC_A <-->PC_B and PC_C<->PC_D) pass through Router_M.** <u>You are not allowed to disconnect any cable or shutdown any interface. You are not also allowed to use static route to satisfy the given constraint.</u>

6. Configure <u>minimum number of static routes</u> to ensure that any packet from **PC_A to PC_C** traverses the path **Router_A->Router_M->Router_B->Router_C**, and any packet from **PC_C to PC_A** traverses the path **Router_C->Router_M->Router_D->Router_A.**

Checkpoint 2:

(a) Using **tracert** command show that packets from **PC_A** to **PC_B** go through **Router_M**.

(b) Using **simulation mode** show the path traversed by packets from **PC_A** to **PC_C** and from **PC_C** to **PC_A**.