**Topic 3**

**Tele Net App Service**

A new upcoming messenger app named “Tele Net” is set to open their branches in Bangladesh. To achieve that they are looking to hire some network engineers who can configure the network system for them so that they can connect all their branches/offices. Your task is to satisfy the mentioned requirements given below:

**1.** The office devices details/ host for each branch location:

* Dhaka (1000)
* Khulna(480)
* Chittagong(230)
* Rangpur(55)
* Rajshahi(330)
* Sylhet(175)

**Note**: as this company is shifting in Bangladesh for the first time so they have given the requirements of host and connectivities to a minimum while having a scope to expand the number of hosts within the next 5 years depending on the growth of the company’s reach. **Consider that the host number designated for each branch can be doubled so leave extra room for extra ip addresses while designing.**

**2.** There must be a separate network for each branch. Khulna-Chittagong and Chittagong-Rangpur should be connected with each other more securely than other networks.

**3.** Rajshahi and Chittagong must be connected WITHOUT THE HUMAN INTERVENTION

**4.** Dhaka should work as the connector between the two groups (in point 3) which will also work as a receiver of packets delivered to unknown ip addresses.

**5.** Rajshahi and Khulna will have a connection between them but it wont activate until the network from Dhaka routers stop working. If the Dhaka router is working then packets will travel from Rajshahi to Khulna traveling via Dhaka.

**6.** Dhaka network will have a feature, where the host devices connected with Dhaka network will dynamically get their IP addresses generated from a server inside the network named “IP generator”.

**7.** There are two branches with their own corporate office : DHAKA and CHITTAGONG. They each will have their own web server named in the order : “Tele Net Dhaka” and “Tele Net CTG” which will be connected to Dhaka and Chittagong server accordingly. Upon entering the websites it will show message: “Welcome to the TeleNet World, people of DHAKA/CTG!!” (depending on the web server area)

**8.**  Each network must have at least 2 end devices.

**Deliverables**

* The network mentioned above should be implemented in packet tracer, with necessary devices and full configuration.
* After completion you should be able to test the conditions imposed.
* As hardcopies, you will have to submit the followings:
  + Network topology diagram with proper labels
  + The configurations of all the routers that you have implemented.
  + VLSM/Network address table.
  + IP address table