ASSIGNMENT-4
NS-3
Max Marks :10
Deadline: 12/oct/2018

Activate animation in your ns3 before performing Task 1.

use header file:

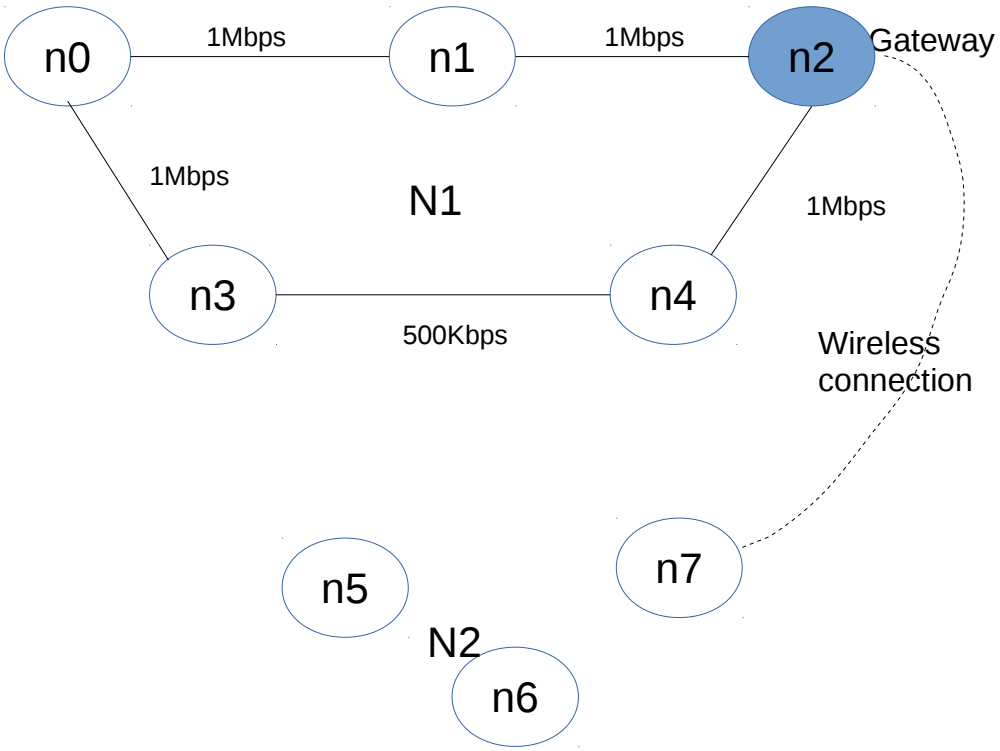
```
#include "ns3/netanim-module.h"
```

and type the following command before Simulator::Run ();

```
AnimationInterface anim ("animation.xml");
```

Task 1. Make the following simulations in NS-3. Take help of code Sixth.cc from tutorials. you can take help from 7.3.4 and 7.3.5 from ns3 manual. **[7 marks]**

Make a topology in the following way.



In the given diagram node n2 is the gateway of N1 network. All the nodes in network N1 are connected through wired connection with the specified bandwidth. Network N2 is wireless and all

the nodes on network N1 can communicate with the nodes of N2 through n2 only (since n2 is the gateway of the network N1).

Perform the following tasks:

1. n0 starts CBR traffic at time 1.0 of rate 900 Kbps destined for n2. n0 starts another CBR traffic at time 1.5 of rate 300 Kbps destined for node n1. At time 2.0, link from n0 to n1 goes down. Use a dynamic routing protocol so that path n0-n3-n2 is used now. At time 2.7, link n0-n1 comes up again. At time 3.0, CBR traffic destined for node n1 stops. CBR destined for n2 stops at time 3.5. The results must be visible on simulation.
2. Following the same scenerio node n0 will transmit packet to node n6 through n2.

Task 2. Next hop selection **[3 marks]**

Design a wireless connection with 7 nodes using WiFi for communication. All nodes will discover their neighbors. Display the neighbor list of each node on cmd. Perform the following task for a single node, let say node n0:

Find distance of n0 with all its neighbors. The neighbor with the smallest distance will be chosen as a next hop. Display the neighbor list of node n0 with distance to all its neighbors on cmd. Initiate a communication between n0 and selected next hop.