1. Implement three nodes point – to – point network with duplex links between them. Set the queue size, vary the bandwidth, and find the number of packets dropped.

Soln:

- set ns [new Simulator]
- set mytrace [open out.tr w]
- $ns trace-all $mytrace
- set myNAM [open out.nam w]
- $ns namtrace-all $myNAM
- proc finish { } {
- global ns mytrace myNAM
- $ns flush-trace
- close $mytrace
- close $myNAM
- puts “the number of packet drops is”
- exec grep –c “^d” out.tr **or** exec nam out.nam &
- exit 0
- }
- set n0 [$ns node]
- set n1 [$ns node]
- set n2 [$ns node]
- $ns duplex-link $n0 $n1 10Mbps 10ms DropTail
- $ns duplex-link $n1 $n2 5Mbps 10ms DropTail
- $ns queue-limit $n0 $n1 10
- $ns queue-limit $n1 $n2 05
- set tcp [new Agent/TCP]
- $ns attach-agent $n0 $tcp
- set sink [new Agent/TCPSink]

- $ns attach-agent $n2 $sink
- $ns connect $tcp $sink
- set cbr [new Application/Traffic/CBR]
- $cbr attach-agent $tcp
- $cbr set packetSize_ 100
- $cbr set rate_ 1Mb
- $cbr set random_ false
- $tcp set fid_ 1
- $ns at 1.0 “$cbr start”
- $ns at 61 “finish”
- $ns run