Question: Set up a 6-node wireless network; analyze TCP performance when nodes are static and mobile.

Code:

003.tcl

```
set val(chan) Channel/WirelessChannel
set val(prop) Propagation/TwoRayGround
set val(netif) Phy/WirelessPhy
set val(mac) Mac/802_11
set val(ifq) Queue/DropTail/PriQueue
set val(ll) LL
set val(ant) Antenna/OmniAntenna
set val(x) 500
set val(y) 500
set val(ifqlen) 50
set val(nn) 25
set val(stop) 100.0
set val(rp) AODV
#set val(sc) "mob-25-50"
set val(cp) "tcp-25-8"
set ns_ [new Simulator]
set tracefd [open 003.tr w]
$ns_ trace-all $tracefd
set namtrace [open 003.nam w]
$ns_ namtrace-all-wireless $namtrace $val(x) $val(y)
set prop [new $val(prop)]
set topo [new Topography]
$topo load_flatgrid $val(x) $val(y)
set god_ [create-god $val(nn)]
#Node Configuration
$ns_ node-config -adhocRouting $val(rp) \
-llType $val(ll) \
-macType $val(mac) \
-ifqType $val(ifq) \
-ifqLen $val(ifqlen) \
-antType $val(ant) \
-propType $val(prop) \
-phyType $val(netif) \
-channelType $val(chan) \
-topoInstance $topo \
-agentTrace ON \
-routerTrace ON \
-macTrace ON
#Creating Nodes
for {set i 0} {$i < $val(nn) } {incr i} {
set node_($i) [$ns_ node]
$node_($i) random-motion 0
}
for {set i 0} {$i < $val(nn) } { incr i } {
set xx [expr rand()*500]
set yy [expr rand()*400]
```

```
$node_($i) set X_ $xx
$node_($i) set Y_ $yy
}
#Initial Positions of Nodes
for {set i 0} {$i < $val(nn)} {incr i} {
$ns_ initial_node_pos $node_($i) 40
}
#puts "Loading scenario file..."
#source $val(sc)
puts "Loading connection file..."
source $val(cp)
#Simulation Termination
for {set i 0} {$i < $val(nn) } {incr i} {
$ns_ at $val(stop) "$node_($i) reset";
}
$ns_ at $val(stop) "puts \"NS EXITING...\" ; $ns_ halt"
puts "Starting Simulation..."
$ns_ run
```