CN Lab

man CommandName

(bind, send, recv, fork, wait)

lab.1 :-

Que 1 :-

Client sends ~~Hello~~ , server sends ~~Hello~~

(Client)	(Server)
socket()	socket()
serv_addr	setsockopt()
connect()	address
send()	bind()
read()	listen()
close()	accept()
	read()
	~~
	send()
	close()
	shutdown()

gcc client.c -o client   ⇐   gcc server.c -o server
./client   ./server

Que 2a :-   Chatting between client & server
Que 2b :-   Server will send sorted array to client.

./client   ⇐ ./server

Que 3 :- (Client 1) sends n to (server) then (server) sends n+1 to all digits to (client 2).

./client1 localhost 8080   ⇒   ./client2 localhost 8080
Enter string

~~~~ ⇒

./server 8080

Lab 2 :-

Que 1 :-

Port fix

g++ server.cpp -o server
·/server 8080

$\Rightarrow$

g++ client.

·/client localhost 8080

Que 2 :-

Can connect to ⑤ clients in ⑤ terminals
—pthread

Reverse string for 5 clients
—pthread

Que 3 :-

10 users simultaneously

g++ server.cpp -o server —pthread
·/server 8080

$\Rightarrow$

g++ client.cpp -o
client —pthread

Lab 3

Que 1

Scanner

·/server 1024

·/scanner localhost

Que 2

echo of msg by server

Que 3

Server1 sends random ⑤ 2MB files to client
Server2 sends left out ⑤ 2MB files to client

make genfile
make all
·/server_A 8888

·/server_B 8889

·/client localhost 8888 8889

Lab4 :-

Que 1 :- 3 topologies in TCP

ns tree-tcp.tcl

Que 2 :- 3 topologies in UDP

ns tree-udp.tcl

Que 3 :- No of nodes v/s throughput
$(n=3, n=4, n=5, n=6)$

Lab5

Que 1a :- Mesh Topology when $n=2, n=5$
$n=10, n=15$

ns mesh.tcl 2   ns mesh.tcl 5

Que 1b :- Mesh Topology when Packet size = 256,
having N=10   512,
2048,
8192

ns mesh.tcl 10   (Manually change
packet size at 2 places)

Que 2 :- Compare (TCP Tahoe
&
TCP Reno) under (Low Traffic (5%)
Medium Traffic (15%)
Hight Traffic (25%))

(n=50 nodes
simulation Time = 50 sec)   Plot graphs

- change path in tcl file
- ns reno.tcl low
  ns taho.tcl low
- check values in trace file & plot graph

| Lab 7 | : (with Tcp) FTP = File Transfer protocol (PDR ≡ Package Delivery Ratio) (PLR ≡ Package Loss Rate) (with UDP) CBR = Constant Bit Rate (Overhead ≡ Context Switching is high or not)

Que simulate DVR for 50 stations

Run for 100 sec & plot PDR, PLR, Overhead, RRR every 10 sec

ns grid.tcl   n   m   source Node   Destination Node

eg ns grid.tcl 10 5 1 10

grid of 10×5 = 50 nodes

| Lab 8 |

Que Compare performance of ④ routing protocols { DVR, LSR, static, Session }

with ③ topologies { Linear → 10 nodes, Random → 25 nodes, Grid → 25 nodes }

Run for 100 sec & plot corresponding to 20 sec, 40 sec ... - for values PDR, PLR, Overhead, Energy

- change path
- comment/uncomment to change routing protocol
- ns linear.tcl
  ns random.tcl
  ns grid.tcl

| Lab 9 | Implement (Slotted Aloha, CSMA, CSMA/CD) under (linear topology, random topology)

with varying no of nodes (n=10, n=20, n=30)   • Plot the graphs v/s no of nodes

ns random.tcl -n 10 -nc 1 -r 0.1 -cd 1