LAB 4

IN LAB STATEMENT 01:

Question no.01:

1. Tcp port 20:

This port is used as a data port for active file transfers.

2. TCP port 21:

This port is used to establish a connection between the client and the server. It is also know as the control port as it establishes a controlled connection between the twi systems.

Question no.02:

1. Packet no.89:

Response code: 220 which means that the server is ready for the client. IP

address : 195.89.6.167

Source port : 21

Destination port : 16340

2. Packet no.94:

Client requests server for data

IP address: 192.168.1.2 Source

port: 16340 Destination port:

21

3. Packet no.96:

Response code: 331

Response arg: “password required for user”.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

4. Packet no. 99:

Client requests server for data with command “pass”

IP address: 192.168.1.2

Source port: 16340

Destination port: 21

5. Packet no. 100:

Response code: 230 which means that the user has successfully logged in. IP

address : 195.89.6.16

Source port : 21

Destination port : 16340

6. Packet no. 104:

Client requests data from the server on the IP address 192,168,1,2 which he has given as arguments separated by commas.

Request arg : 192,168,2,3,63,214

IP address: 192.168.1.2

Source port: 16340

Destination port: 21

7. Packet no. 105:

Response code: 200

Response arg: “PORT command successful”.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

8. Packet no. 106

Client requests using command NLST which means that the client is asking for a list of files or directory names in the current directory of the server.

Request arg: NLST.

IP address: 192.168.1.2

Source port: 16340

Destination port: 21

9. Packet no. 107

Response code: 150 which means that server is opening data connection and is ready to start transferring data.

Response arg : “Opening ASCII mode data connection for /“.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

10. Packet no. 125

Response code: 226 which means that server is closing data connection.

Response arg : “Transfer Complete“.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

11. Packet no. 127:

This packet contains the actual data.

12. Packet no.151:

Client requests data from the server on the IP address 192,168,1,2 which he has given as arguments separated by commas.

Request arg : 192,168,2,3,63,214

IP address: 192.168.1.2

Source port: 16340

Destination port: 21

13. Packet no. 152:

Response code: 200.

Response arg : “PORT command successful“.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

14. Packet no.153:

Client gives RETR command which means retrieve. This command is used to retrieve or download a file from server.

Request arg : legal.txt

IP address: 192.168.1.2

Source port: 16340

Destination port: 21

15. Packet no. 155:

Response code: 150 which means that server is opening data connection and is ready to start transferring data.

Response arg : “Opening ASCII mode data connection for legal.txt“.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

16. Packet no. 160:

Response code: 226 which means that server is closing data connection.

Response arg : “Transfer Complete“.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

17. Packet no. 161:

This packet is containing data.

18. Packet no. 173:

Client gives QUIT command to terminate the client-server session.

IP address: 192.168.1.2

Source port: 16340

Destination port: 21

19. Packet no. 175:

Response code: 221 which means that server is closing controlled connection.

Response arg : “Goodbye“.

IP address : 195.89.6.16

Source port : 21

Destination port : 16340

IN LAB STATEMENT 03:

1. Icmp neither sends its messages through TCP nor UDP. ICMP itself is a protocol.
2. (f4:5c:89:a3:a4:39)
3. Echo request
4. Four requests

5. Destination: 192.168.33.110 Source : 192.168.100.1
6. ICMP packets lack source and destination port numbers because they serve a different purpose and operate at a lower layer of the network stack compared to protocols that rely on port numbers for communication.
7. The type field in icmp differentiates the request and reply messages. Request messages have type 8 and reply messages have type 0.
8. Type : 8 , Code : 0 , Checksum : 0x4d36 (16 bits which are 2 bytes) , identifier feilds : 0x0001 , sequence number : 0x0025 other feild is a checksum status : Good
9. Type : 0 , Code : 0 , Checksum : 0x5536 (16 bits which are 2 bytes) , identifier feilds : 0x0001 , sequence number : 0x0025 other feild is a checksum status : Good

10. Type : 3 , Code : 3 the headers are included to diagnose why the destination is unreachable.