SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF CSE/CST

COURSE NAME :19IT401 COMPUTER NETWORKS
II YEAR /IV SEMESTER

Unit 5 Application layer
Topic 5 : TELNET

TELNET

TELNET (TELecommunication NETwork) is a network protocol used on the Internet or local area network (LAN) connections. A **Telnet** program allows a user on one system to login to a remote system and issue commands in a command window of the remote system.

- ✓ TELNET is commonly used by terminal emulation programs that allow you to log into a remote host.
- ✓ TELNET can also be used for terminal-to-terminal communication and inter process communication.
- ✓ TELNET is also used by other protocols (for example, FTP) for establishing a protocol control channel.

- ✓ Telnet uses the **TCP port protocol** and port 23 to establish a connection with remote computers. The created system acts as a Telnet server and is available to receive commands.
- ✓ To use telnet, you must have a software (Telnet client) installed. On a remote device, a Telnet server must be installed and running. Telnet uses the TCP port 23 by default.

TELNET/Computer Networks/Dr.K.Periyakaruppan/CSE/SNSCE

Local versus Remote Logging

- ✓ When a user logs into a local system, it is called local logging.
- ✓ As a user types at a terminal or at a workstation running a terminal emulator, the keystrokes are accepted by the terminal driver.
- ✓ The terminal driver passes the characters to the operating system.
- ✓ The operating system interprets the combination of characters and invokes the desired application program or utility.
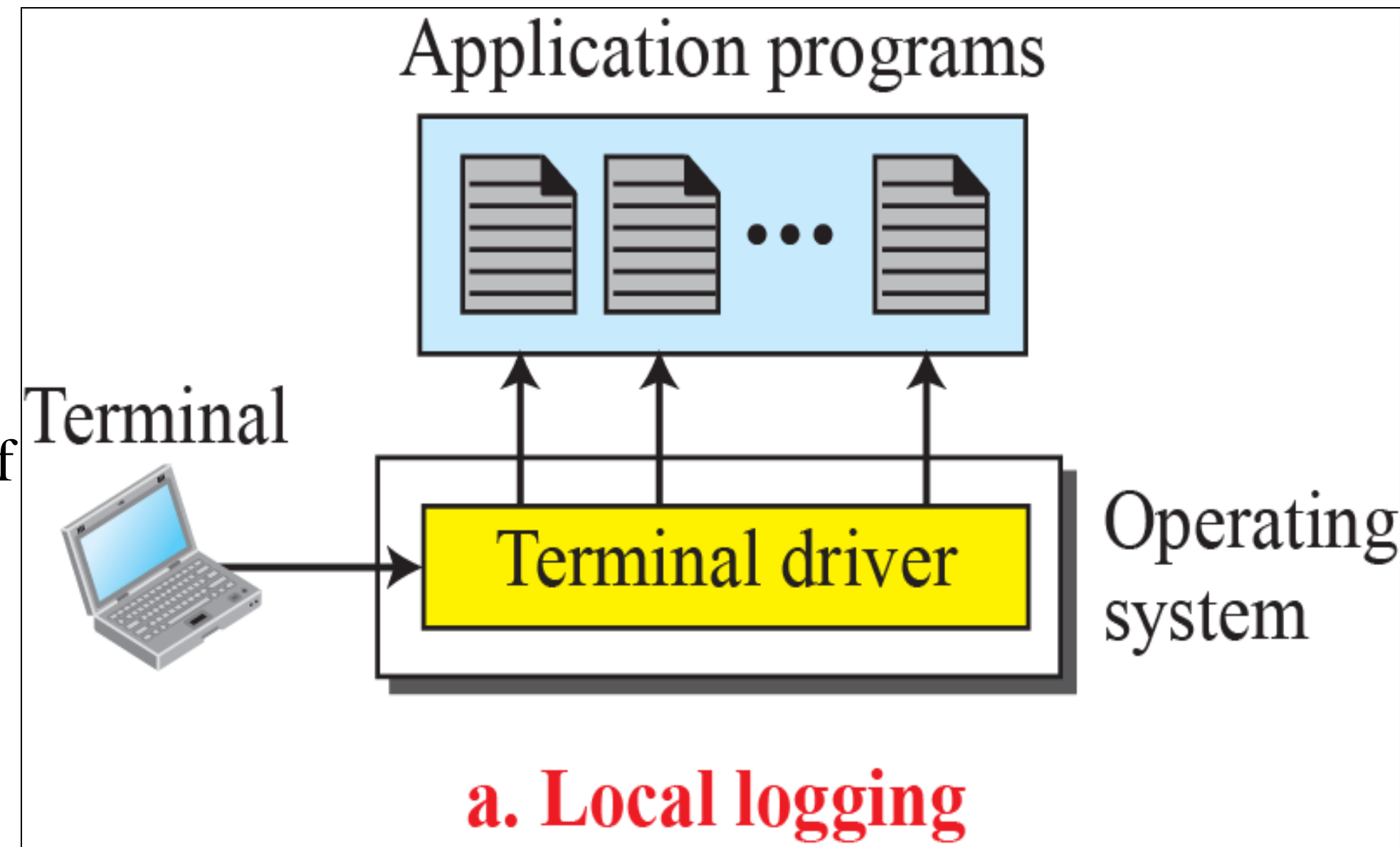

a. Local logging

Local versus remote logging

✓ When a user wants to access an application program or utility located on a remote machine, we perform *remote logging*.

✓ The user sends the keystrokes to the terminal driver where the local operating system accepts the characters but does not interpret them.

✓ The characters are sent to the TELNET client, which transforms the characters into a universal character set called *Network Virtual* Terminal (NVT) characters and delivers them to the local TCP/IP stack.

✓ NVT travel through the Internet and arrive at the TCP/IP stack at the remote machine.

✓ Here the characters are delivered to the operating system and passed to the TELNET server, which changes the characters to the corresponding characters understandable by the remote computer.

✓ However, the characters cannot be passed directly to the operating system because it is not designed to receive characters from a TELNET server; it is designed to receive characters from a terminal driver.

✓ The solution is to add a piece of software called a pseudo terminal driver, which pretends that the characters are coming from a terminal. The operating system then passes the characters to the appropriate application program.

b. Remote logging

TELNET/Computer Networks/Dr.K.Periyakaruppan/CSE/SNSCE
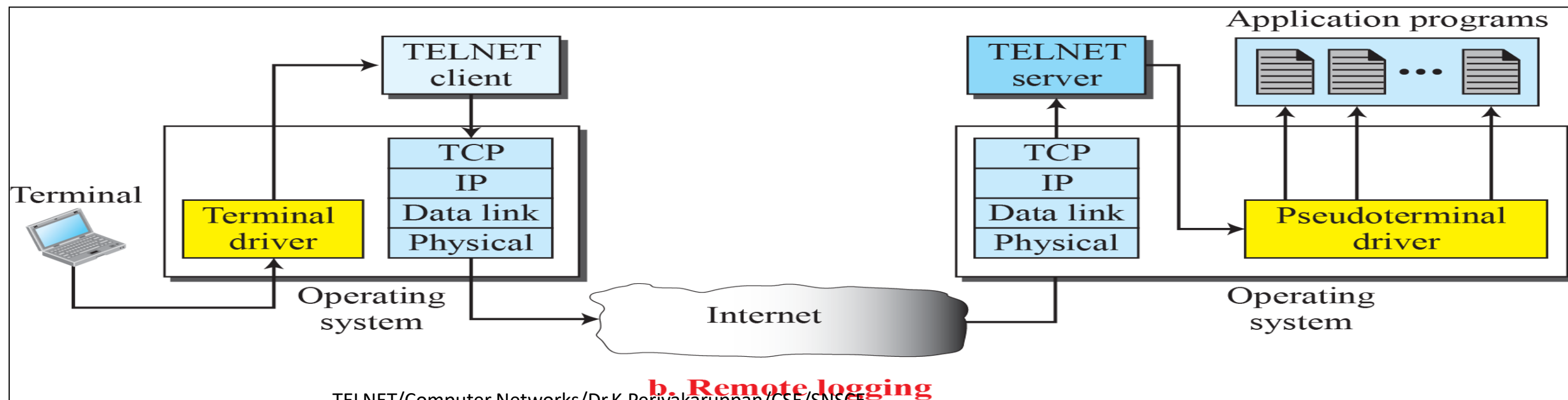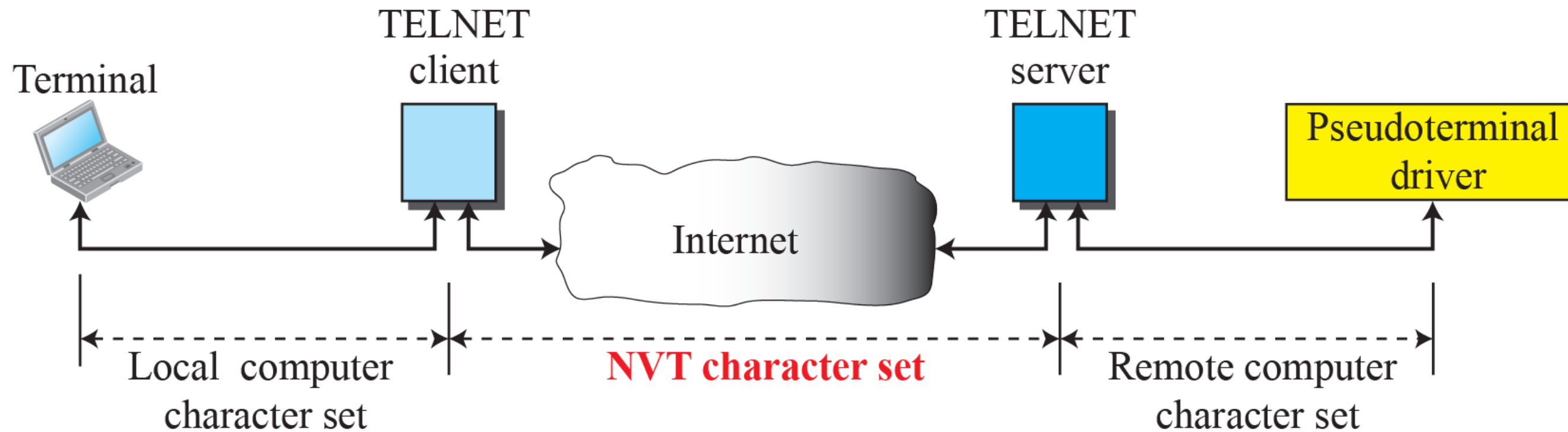
Concept of NVT

The client TELNET translates characters (data or commands) that come from the local terminal into NVT form and delivers them to the network. The server TELNET, on the other hand, translates data and commands from NVT form into the form acceptable by the remote computer.

NVT uses two sets of characters, one for data and one for control. Both are 8-bit bytes

Examples of interface commands

The operating system (UNIX, for example) defines an interface with user-friendly commands

Command	Meaning	Command	Meaning
open	Connect to a remote computer	**set**	Set the operating parameters
close	Close the connection	**status**	Display the status information
display	Show the operating parameters	**send**	Send special characters
mode	Change to line or character mode	**quit**	Exit TELNET

[TecAdmin.net]
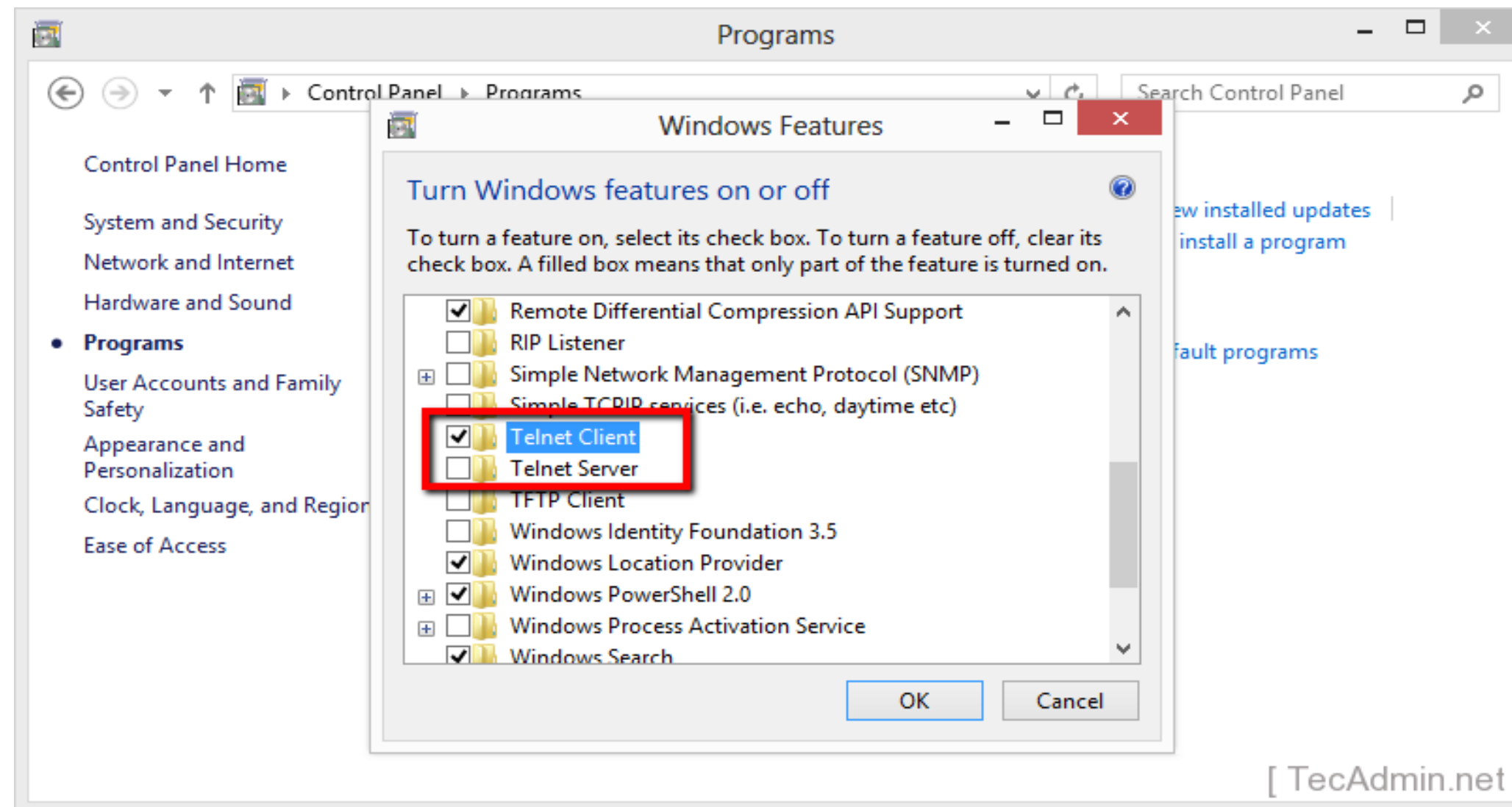
Assessment

a).What is TELNET?

b) What is the purpose of terminal driver?

c) What is the purpose of pseudo terminal driver?

d)What is the function of NVT?

Reference

TEXT BOOKS

Behrouz A. Forouzan, Data Communications and Networking, Fifth Edition TMH, 2013.

REFERENCES

1. William Stallings, Data and Computer Communications, Tenth Edition, Pearson Education, 2013.
2. Andrew Tanenbaum, Computer Networks, Fifth Edition, Pearson (5th Edition) Education, 2013.
3. James F. Kurose, Keith W. Ross, Computer Networking, A Top-Down Approach Featuring the Internet, Sixth Edition, Pearson Education, 2013.
4. Larry L. Peterson, Bruce S. Davie, Computer Networks: A Systems Approach, Fifth Edition, Morgan Kaufmann Publishers Inc., 2012.