MODULE:4 TROUBLESHOOTING AND

SECTION:1 MULTIPLE CHOICE

1. What is the first step in the troubleshooting process?

* Identifying the problem

1. Which of the following tools is commonly used to diagnose hardware issues by testing electrical connections?

* Multimeter

1. Which windows utility can be used to view system logs, monitor performance, and diagnose hardware and software issues?

* Event Viewer

SECTION:2 TRUE OR FALSE

1. TRUE OR FALSE: Safe Mode is a diagnostic mode in Windows that loads only essential system services and drives allowing users to troubleshooting and fix the problems with the operating system.

* TRUE

1. TRUE OR FALSE: A system restore point is a snapshot of the computer’s system files, registry, and configuration settings at a specific point in time, which can be used to revert the system to previous state if problems occur.

* TRUE

1. TRUE OR FALSE: Ping is command-line utility used to test network connectivity by sending ICMP echo requests to a target device and waiting for ICMP echo replies.

* TRUE

SECTION: 3 SHORT ANSWERS

1. Describe the steps involved in troubleshooting a computer that fails to boot into operating system.

1.Initial Observation

* Check if the computer powers on (lights, fans, screen activity).
* Listen for unusual beeps or clicking sounds—these could indicate hardware issues.

2. Verify Power and Connections

* Ensure the power cable and battery (if applicable) are properly connected.
* Try a different outlet or power adapter.
* Remove any external devices (USB drives, printers, etc.)—they can interfere with booting.

3. Access BIOS/UEFI Settings

* Press the designated key (like F2, Del, Esc, or F12) immediately after powering on.
* Confirm that the boot order includes your operating system disk or drive.
* Check if the system detects your hard drive or SSD.

4. Run Preboot Diagnostics

* Many systems have built-in diagnostics (accessed from BIOS or startup menu).
* Run memory and disk tests to spot hardware failures.

5.Check for Error Messages

* Note any error codes or messages displayed—they can be clues to the issue.
* Common errors like “Operating System Not Found” or “No Bootable Device” point to drive or OS issues.

6. Safe Mode or Recovery Mode (If Accessible)

* Try booting into Safe Mode by pressing F8 or Shift + Restart (Windows).
* Use system recovery tools to repair startup files or roll back recent changes.

7. Boot from External Media

* Insert a bootable USB drive with a recovery tool or installation media.
* Use it to access repair utilities like Startup Repair or Command Prompt.

8. Use Command Line Tools

* If you can access Command Prompt:

bootrec /fixmbr

bootrec /fixboot

bootrec /scanos

bootrec /rebuildbcd

These commands can repair corrupt boot sectors (Windows only).

9. Scan for Malware or File Corruption

* Use antivirus tools or system scanners via bootable media.
* File system corruption can be repaired using:

chkdsk C: /f /r

10. Restore or Reinstall OS

* If repair tools fail, consider restoring to a previous system image or reinstalling the OS.
* Be sure to back up data beforehand if possible.

SECTION:4 PRACTICAL APPLICATION

1. Demonstrate how to troubleshoot network connectivity issues on windows computer using ipconfig command.

Step 1: Open Command Prompt

* Press Windows + R, type cmd, and hit Enter
* Or right-click the Start button, select Terminal or Command Prompt (Admin) if elevated access is needed

Step 2: Check Current Network Configuration

* Use the command:
* Ipconfig
* This display:

Ip address

Subnet mask

Default gateway

DHCP and DNS status

Tip**:** If you see an IP starting with 169.254, that's a sign the computer failed to obtain an IP address from the DHCP server.

Step 3: Release and Renew IP Address

* This can help reset the connection:

ipconfig /release

ipconfig /renew

* release: Drops the current IP address
* renew: Requests a new IP from the DHCP server

Step 4: Flush DNS Cache

* If you're having trouble accessing websites, try:

ipconfig /flushdns

* This clears out old or incorrect DNS data stored on your computer.

Step 5: Verify Gateway and DNS Info

Use:

Ipconfig\all

This shows full details including:

DNS servers

Lease info

MAC address

Whether DHCP is enabled

Troubleshooting Clue:

* No IP or gateway: Could mean physical disconnection or DHCP issue
* Wrong DNS: Try switching to a public DNS (like Google: 8.8.8.8)
* Repeated timeouts: Could be firewall or ISP- related.

SECTION:5 EASSAY

1. Discuss the importance of effective communication skills in a helpdesk or technical support role.

* Builds Trust and Rapport

Users often reach out feeling frustrated or anxious. Clear, respectful communication reassures them.

A calm tone and empathetic language can turn a tense situation into a collaborative one.

* Explains Complex Concepts Simply

Tech support involves explaining solutions to users who may not be tech-savvy.

Good communicators can translate jargon into relatable language without sounding condescending.

* Ensures Efficient Problem-Solving

Asking precise questions and actively listening helps diagnose issues faster.

Verifying information avoids miscommunication and unnecessary troubleshooting.

* Improves Documentation and Handover

Writing detailed, well-organized notes ensures continuity if the issue escalates.

Clear records reduce repeat inquiries and improve knowledge base quality.

* Facilitates Remote Support

Without in-person cues, tone and word choice carry even more weight.

Strong communication bridges geographical and technical gaps.

* Elevates the User Experience

Positive interactions leave lasting impressions, even when the solution is tough.

The goal isn’t just fixing problems it’s making people feel supported and heard.