**Assignment Module 4:** Troubleshooting and Helpdesk

**Section 1:** Multiple Choice

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

1. Implementing a solution
2. Identifying the problem
3. Testing the solution
4. Documenting the solution

Answer: b) Identifying the problem

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

1. Loopback plug
2. Toner probe
3. Multimeter
4. Cable tester

Answer: c) Multimeter

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

1. Task Manager
2. Device Manager
3. Event Viewer
4. Control Panel

Answer: c) Event Viewers

**Section 2:** True or False

1. **True or False:** Safe Mode is a diagnostic mode in Windows that loads only essential system services and drivers, allowing users to troubleshoot and fix 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 a previous state if problems occur.

**True**

1. **True or False:** Ping is a 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 Answer

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

**Answer:**

* Are the lights on? Fans spinning? Any “beep” sounds? If nothing happens, maybe the power is the problem
* Is the power cable plugged in? Battery okay?
* Open the computer and check if the RAM, hard drive and wires are fixed tightly
* BIOS is like the car’s key system. Press keys like F2 or Delete when starting.
* See if the hard drive is detected. If not, it may be loose or broken.
* Unplug USB drivers, printers, and CDs. Sometimes the computer tries to “Start” from them by mistake.
* If it starts a little, press F8 or Shift + Restart.
* Safe mode loads only the important things so you can fix errors.
* If it won’t go further, use a window USB.
* From there, you can repair the system or reinstall Windows.
* Use built-in tests to check the memory or hard drive.
* Commands like chkdsk or sfc /scan now can fix file problems.
* If nothing works, wipe it and install Windows again.
* It’s like starting fresh with a clean notebook.

**Easy way to remember:**  
**Power → Parts → BIOS → Remove extras → Safe Mode → USB repair → Tests → Reinstall**

**Section 4:** Practical Application

1. Demonstrate how to troubleshoot network connectivity issues on a Windows computer using the ipconfig command.

**Answer:**

Step 1: Open Command Prompt

* Press windows Key + R
* Type cmd and hit enter
* A black window pops up – this is your command centre!

Step 2: Type ipconfig and press Enter

* IPv4 Address – your computer’s IP
* Subnet Mask – like your neighbourhood
* Default Gateway – the door to the internet

Step 3: Release the current IP address

* Type: ipconfig/ release
* This command disconnects the current IP configuration and releases the IP address assigned to your computer.

Step 4: Renew the IP address

* Type: ipconfig/ release
* This requests a new IP address from the DHCP server(usually your router).  
  If the renewal is successful, you’ll see a valid IP like **192.168.x.x**

Step 5: Flush DNS cache

* Type: ipconfig/ flushdns
* This clears old or corrupted DNS records that might cause website loading problems.  
  You should see: successfully flushed the DNS resolver cache.

Step 6: Verify Network Connection

* Type: ipconfig/ all
* Display detailed information about all network adapters, including MAC address, DNS server, and DHCP status.
* Check whether your adapter shows “Media State: Enabled” and “DHCP Enabled: Yes”.

Step 7: Test Network Connectivity

Using the ping command to test communication:

* Ping your router: ping 192.168.1.1
* Ping Google: ping 8.8.8.8

Step 8: Restart and Recheck

* Restart your computer and router.
* If the issues continue, disable and re-enable the network adapter from Network Settings.

**Summary:**

|  |  |
| --- | --- |
| **Command** | **Purpose** |
| Ipconfig | Display IP configuration |
| Ipconfig/release | Release the current IP |
| Ipconfig/renew | Gets a new IP |
| Ipconfig/flushdns | Clears DNS cache |
| Ipconfig/all | Shows full details |

**Section 5:** Essay

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

**Answer:**

1. Good communication helps in correctly
2. Explaining the solution clearly saves time and avoids confusion
3. Polite and respectful communication builds trust and confidence
4. Clear instructions prevent repeated calls or mistakes.
5. Good communication shows a professional and company values reputation.
6. Helps share information smoothly with other support team members.
7. Calm and empathetic communication helps manage frustrated users.

**X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X**

**THANK YOU**