SPECIAL PROGRAM IN TECHNICAL VOCATIONAL EDUCATION (SPTVE)
COMPUTER SYSTEMS SERVICING 10 Q3-W5

I. Topic: DIAGNOSE COMPUTER SYSTEMS AND NETWORK

II. Objectives:
1. understand the meaning of diagnosing;
2. diagnose computer systems and network and;
3. perform diagnosing with safety consideration.

III. Brief Introduction

Diagnosing is a method of testing a computer hardware device or software program to ensure it is working as it should be. The most probable and frustrating problem computer users run into are ***start-up*** problems, where your computer won't boot. Other annoying errors includes ***display screen error*** and ***beep code error.***

The easiest way to determine the root cause of computer system and network problem and find a solution is by examining the events and the condition before symptoms occurred.

DIAGNOSING NETWORK CONNECTION

Connection Problem - if it is wireless, the problem is the WIFI settings. If wired, check all the Ethernet cable connected to/from the devices such as router, switches, and modem. ***Configuration*** Problem – it is the process of setting-up a network's controls, flow and operation to support the network communication of an organization and/or network. This includes IP address, subnet mask, workgroup, shared files, and other LAN properties.

SAMPLE DIAGNOSIS

SYMPTOM	CHECK
When I turn it on...*It makes no sound and there are no lights*	Check the Power Supply, Motherboard, and the CPU.
When I turn it on...*It just beeps*	Check the Keyboard, Video Card, the Memory, and the Motherboard.

IV. Activity 1

Directions: Fill in the box that will complete the steps in booting a computer. Use the words found inside the WORD BANK as your selections. Write the answer inside the box.

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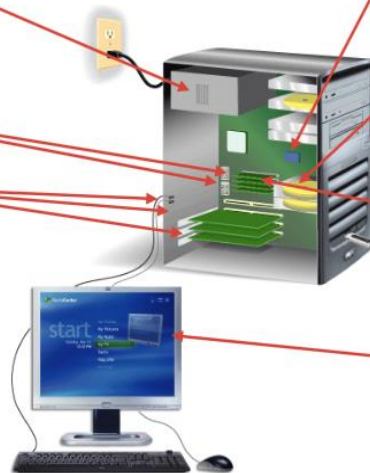
Step 1. [____] supply sends signal to components in system unit

Step 2. [____] accesses BIOS to start computer

Step 3. BIOS runs tests, called the POST, to [____] such as mouse, keyboard, and adapter cards

Step 4. Results of [____] are compared with data in CMOS chip

Step 5. [____] looks for system files on a USB drive, in floppy disk drive or CD/DVD drive, and then hard disk

Step 6. [____] of operating system loads into RAM

Step 7. [____] loads configuration information and displays desktop on screen

WORD BANK	POWER POST PROCESSOR OS
	BIOS CHECK COMPONENTS KERNEL

Activity 2

Directions: Read each question carefully and select a letter that will best describe to it. Write the answer on the space provided.

_____ 1. Why won't the computer turn on?
    a. The power button is broken   c. It has no power
    b. The computer is broken   d. The battery is dead

_____ 2. When you turn the computer on, why does it make a loud whirring noise, then stop?
    a. The fans are broken   c. A fan may be clogged
    b. That is the sound of technology   d. That is normal

_____ 3. Why does your Wi-Fi keep disconnecting?

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a. The Wi-Fi signal is weak   c. Someone is stealing your Wi-Fi
b. You ran out of Wi-Fi   d. Your Wi-Fi is off

_____ 4. Why does your computer clock reset every time the machine is turned off?
a. It can't store that information
b. An internal battery is dead or dying
c. Clocks aren't meant to work like that
d. To mess with you

_____ 5. Which of the following acronyms refers to a series of basic hardware diagnostic tests performed by the BIOS after the computer is powered on?
a. EIDE   c. POTS
b. ACPI   d. POST

Activity 3

Directions: Determine a solution on a given problem and causes below. Write the answer under the SOLUTION COLUMN.

PROBLEM	CAUSE/s	SOLUTION
Blue-screen of Death (BSOD)	Typically caused by driver/hardware conflict.	
Missing .DLL files	Typically caused by incomplete software/program installation.	
Software/application will not install.	Not enough drive space, newer version already installed, or not compatible with OS.	
Software or OS is running slow.	Lack of resources (RAM, CPU, HD). Virus/Malware infection. Missing Updates.	
Computer restarting multiple times.	Software or Windows Updates. Virus.	

V.   Assessment:

Directions: Read each phrase carefully and select the word/s that will best describe the sentences found inside the word bank below. Write the answer on the space provided.

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_____ 1. When you find a faulty component in your computer, check it with the other computers so that you can make sure whether the fault is in the component or not.

_____ 2. In case of any device failure, cables of your computer such as data cables, power cable, internal circuitry cables and make sure that all these are plugged in and working fine.

_____ 3. Settings in the CMOS, device manager of the system, updated device drivers and all the peripheral cards are plugged in properly.

_____ 4. When you notice a software or hardware error in your computer, determine what was changed before the problem occurred.

_____ 5. It will find the error or display warning messages associated to any faulty hardware or software.

_____ 6. Troubleshooting is a big learning option and we can learn a lot when we face any kind of troubleshooting in our computer by listing it down.

_____ 7. The simplest network troubleshooting tools available in most common operating systems that has the ability to monitor attempts, to transfer and return a network packet from one point in the network to another.

_____ 8. This is generally the first or second thing that appears on a computer after turning on the power before the operating system begins to load.

_____ 9. OS (operating system) loads longer than usual may indicate errors in the hard drive.

_____ 10. Rebooting your device so it can reconnect with the network and can fix many devices issues.

WORD BANK

NETWORK PERFORMANCE	IPCONFIG	FIREWALL	WEAK WI-FI SIGNAL
DUPLICATE IP ADDRESSES	POWER CYCLE	LOAD TIME	POST
PING	TRIAL AND ERROR	MAKE NOTES	

VI. Reflection

Can you elaborate the process of booting a computer?

References:

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4. www.techsoup.org
5. www.howstuffworks.com
6. www.microsoft.com/technet/network
7. https://www.cosmicnovo.com/2018/02/03/10-desktop-pc-issues-problems-solutions/

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