



COMPUTER SYSTEM SERVICING G10
QUARTER 2–WEEK 8: Checking of Work

Name of Learner: _____
Grade & Section: _____

Date: _____
Teacher: _____

MOST ESSENTIAL LEARNING COMPETENCY (MELC):

Check the quality of the work undertaken in accordance with established procedures.
(TLE_IACSS9-12ICCS-IIa-j-30)

Objectives:

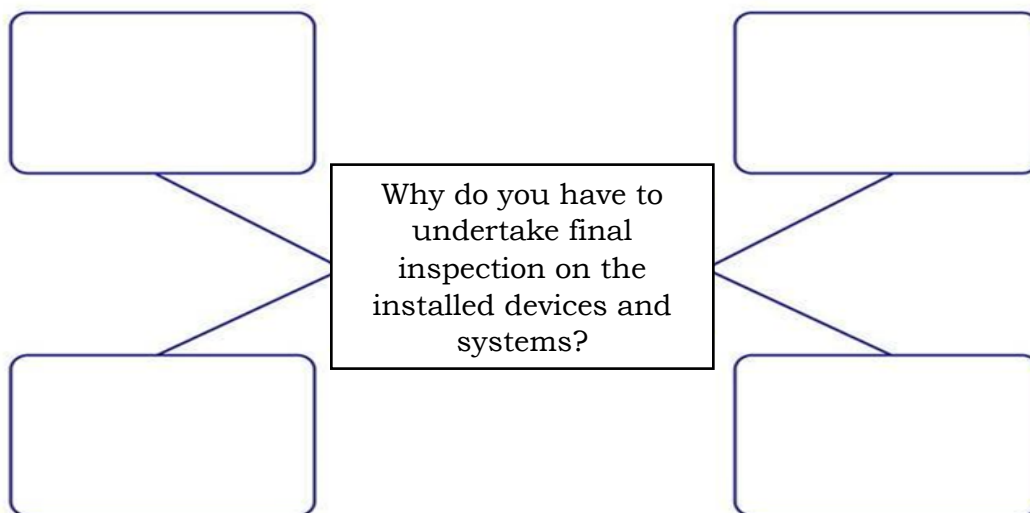
1. Follow the OHS policies and procedures in conducting tests
2. Test devices, systems and/or installation to determine its conformity with the requirements
3. Undertake final inspections on the installed devices, systems to ensure conformity with the requirements



TEACH ME

Learning Task 1:

Directions: Read the question carefully and write your answer in the diagram below.



Learning Task 2:

TESTING INSTALLED EQUIPMENT / DEVICES (COMPONENTS)

As computer technician you will need a good understanding of the health and safety regulations from early on in your career, so that you comprehend the good practices demanded by law. In particular, you need to:

- report any accidents
- take reasonable care of your own health and safety when
- moving heavy components
- not cause any electrical hazards
- make sure that workstations meet safety requirements.

You need to follow the health and safety regulations as they will help to protect you and others and will avoid any unnecessary legal action for reckless and unsafe working practices. If you detect any health and safety problems, you should tell your line manager or the health and safety representative immediately.

The most basic test is to switch the system on to checked if it starts without errors. ICT specialists are also expected to use tools and utilities to check that all is well with the system after an installation.

The Use of Diagnostic Tools in testing installed hardware components and other peripherals.

Diagnostic tools are used to test and diagnose equipment. Diagnostic tools include the following:

- **Digital multimeter** is a device that can take many types of measurements. It tests the integrity of circuits and the quality of electricity in computer components.
- A **loopback adapter**, also called a loopback plug, tests the basic functionality of computer ports. The adapter is specific to the port that you want to test.
- The **toner probe**, is a two-part tool.



Source: www.fluke-87.com

The toner part is connected to a cable at one end using specific adapters, such as an RJ-45, coaxial, or metal clips. The toner generates a tone that travels the length of the cable. The probe part traces the cable. When the probe is in near proximity to the cable to which the toner is attached, the tone can be heard through a speaker in the probe.

Software Tools

Like hardware tools, there are a variety of software tools that can be used to help technicians pinpoint and troubleshoot problems. Many of these tools are free and several come with the Windows operating system.

Disk Management Tools

Software tools help detect the computer and network problems and determine which computer device is not working properly. A technician must be able to use a range of software tools to diagnose problems, maintain hardware, and protect the data stored on a computer.

You must be able to identify which software to use in different situations. Disk management tools help detect and correct disk errors, prepare a disk for data storage, and remove unwanted files.

The following are some disk management tools:

- **FDISK**: A command-line tool that creates and deletes partitions on a hard drive. The FDISK tool is not available in Windows XP, Vista, or 7.
- **Disk Management Tool**: Initializes disks, creates partitions, and formats partitions.
- **Format**: Prepares a hard drive to store information.
- **ScanDisk** or **CHKDSK**: Checks the integrity of files and folders on a hard drive by scanning the file system. These tools might also check the disk surface for physical errors.
- **Defragmentation**: Optimizes space on a hard drive to allow faster access to programs and data.
- **Disk Cleanup**: Clears space on a hard drive by searching for files that can be safely deleted.
- **System File Checker (SFC)**: A command-line tool that scans the operating system critical files and replaces files that are corrupted.

TEST PROCEDURES

A **test procedure** is a set of guides to manage what you need to be done through test the installation.

1. **Gathering test information.** Run the tests required by the process and find out what happens. You must record all the results of your tests in a log so that you know which pass and which fail, thereby requiring further action.
2. **Validating the test information.** Check the information you collected from the tests to make sure it is correct. This is typically complete by running the tests again.
3. **Responding to test information.** You need to be able to identify when a test shows problem or is successful.
4. **Checking specification.** Check the specification for the installation to make sure that it has been met. For example, if a user requested an upgrade to make their display run at 1920 x 1200, then the ICT expert must check that the graphics card and screen can do this.

EXTERNAL VISUAL INSPECTION

The external visual inspection contains of a quick inspection of outside part of the computer, the monitor, the keyboard, any peripherals, and cables. While performing the visual inspection, make any required corrections. To perform the external visual inspection, perform the following steps:

1. Turn off the computer.
2. Verify that all power cables are properly connected to the computer and all peripherals (Keyboard, mouse, monitor, printer, etc.)
3. Verify that network cables, any devices attached to the serial and parallel port connector and video interface cable is firmly attached to its port in the back panel.
4. Inspect all external part of the computer to monitor for any sign of physical damage or improper settings.

OBSERVING THE BOOT ROUTINE

After you have performed an external visual inspection, you should boot the system and observe the system for any signs of problems.

NOTE: *Most of the steps in this procedure require observation of system functions and indications, some of which can occur simultaneously. It may be necessary to reboot the system several times to complete all of these steps.*

1. If the system is off, turn on computer and all peripherals.
2. Check if there is source from power supply and watch the LED indicator on the upper-right corner of keyboard. The three indicators flash briefly. If yes, it proceeds to the boot routine, if not troubleshoot the system power supply.
3. During the boot routine, observe the system for any of the following indications:
 - Beep codes — is a series of beeps that indicates an error condition.
 - System error messages — these messages can indicate problems
 - Diskette-drive and hard-disk drive access indicators — These indicators light up in response to data being transferred to or from the drives. If either of these indicators fails to light up during the boot routine, troubleshoot the diskette drive or hard-disk drive subsystem, as appropriate.
4. Observe the monitor screen for the Diagnostics menu.

NOTICE: *Before you proceed with the internal visual inspection, ensure that all open files are saved and exited all open application programs if possible.*

INTERNAL VISUAL INSPECTION

A simple visual inspection of a computer's internal hardware can often lead to the source of a problem, such as a loose expansion card, cable connector, or mounting screw. To perform the internal visual inspection, perform the following steps:

1. Turn off the computer including any attached peripheral. Disconnect the power cables from electrical outlets.
2. Remove the computer cover and check the chips, expansion card and heat sink are fully seated in their sockets or connectors.
3. Verify that all jumpers are set correctly.
4. Check all cable connectors are firmly attached to its place inside the system unit.
5. Return the computer cover and any attached peripherals, and turn them on.



LEARN MORE

Learning Task 3: Many common issues happen regularly on a personal computer. In this activity, you're going to analyze and give simple solutions.

1. The computer is on but the screen is blank.

2. A computer that abruptly shuts off or has difficulty starting up could have a failing power supply.

3. The operating system or other software is either unresponsive or is acting up.

Learning Task 4:

Directions: Answer the following questions briefly.

1. Why should we need to undertake a final inspection of an installed computer system?

2. In boot routine, why it is important to observe the system?



EVALUATE NOW

SUMMATIVE ASSESSMENT:

A. WRITTEN TASK:

A. Directions: Matching Type: Match column A to Column B. Write your answer in space provided.

Column A

Column B

- _____ 1. It optimizes space on a hard drive to allow faster access to programs and data.
- _____ 2. It is a device that can take numerous measurements.
- _____ 3. It is a set of steps to guide you through what needs to be done to thoroughly test the installation.
- _____ 4. Clears space on a hard drive by searching for files that can be safely deleted.
- _____ 5. It used to detect and correct disk errors, prepare a disk for data storage, an remove unwanted files.
- _____ 6. A command-line tool that scans the operating system critical files and replaces files that are corrupted.
- _____ 7. Tests the basic functionality of computer ports.
- _____ 8. Checks the integrity of files and folders on a hard drive by scanning the file system.
- _____ 9. It is a type of signal provided by a personal computer during the boot process.
- _____ 10. It helps to diagnose computer and network problems and determine which computer device is not functioning correctly.

- ScanDisk
- Disk Management Tool
- Test Procedure
- System File Checker
- Beep Codes
- Loopback Adapter
- Disk Cleanup

B. Directions: Write TRUE if the statement is correct, otherwise write FALSE. Write your answer in the space provided.

- _____ 1. Disk management tool helps to detect and correct disk errors.
- _____ 2. If you identify any health and safety problems, you should not tell your line manager or the health and safety representative immediately.
- _____ 3. The basic test is to switch the system on to check it starts without errors.
- _____ 4. The peripheral visual inspection consists of a quick inspection of the outside of the computer, a loose expansion card, cable connector, or mounting screw.
- _____ 5. Running the test again is to make sure that the gathered information is correct.

B. PERFORMANCE TASK

Assume that you are carrying out hardware installations on your home. To share your knowledge with your classmates, you are given a task to record or to create video about the proper hardware installation and undertake a final inspection.

- 1. Demonstrate how to install hardware component.
- 2. Inspect the assembled computer system for functionality. This will be a test that the newly installed hardware components work without problems;
- 3. Complete technical reports on the tests conducted; and
- 4. Follow procedures in forwarding documentation to appropriate personnel.

Rubrics on Making Video				
	1	2	3	4

Content Accuracy	Most of the information was inaccurate or not clear.	Most information presented in writing was clear, but was not usually accurate.	Most information presented in writing was clear, accurate and thorough.	All information presented in writing was clear, accurate and thorough.
Organization	The presentation was difficult to follow due to disorganization of the utterances.	The presentation was not easy to follow.	The presentation was easy to follow.	The presentation was very easy to follow
Creativity	Lack of creative details	Include some details of creativeness	Include many details of creativeness	Providing full detail of creativeness

You can still do your performance task if you have no computer in your home by making a blog or writing a short narrative using other resources.

References:

Module 3: Install Computer Systems and Networks, pp. 114-120