HORTICULTURAL CROPS PRODUCTION

Level-I

Learning Guide-17

Unit of Competence: Operate Personal Computer

Module Title: Operating Personal Computer

LG Code: AGR HCP1 M05 LO1-LG-17

TTLM Code: AGR HCP1 TTLM 1219v1

LO1:-Identify the functions of PC hardware components

Instruction Sheet	Learning Guide #17

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying Hardware components
- Identifying the interaction of components

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically,

Upon completion of this Learning Guide, you will be able to:

- Identify hardware components in terms of device type and functions
- Identify interaction of components in terms of flow of data between them

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 5.
3. Read the information written in the information “Sheet 1 and Sheet 2”
4. Accomplish the “Self-check 1 and Self-check 2” **in page -6 and 10**respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to the next.

Information Sheet-1	Identifying Hardware components

1.1 computer

A Computer is an electronic device, operating under the control of instructions stored in its own Memory unit, which can accept data (input), manipulate the data according to the specified rules (Process), produce information (output) from the processing, and store the result for future use.

- **Input device**: - raw data is accepted in to the Computer.
- **Storage devices**:-the accepted data is stored.
- **Processing devices**:-the stored data is processed.
- **Output devices**:-information is processed.

1.2 Uses of Computers

Use of Computers is affecting the lives of people in all spheres of their activities whether at home or In the workplace. These are: Benefit at the work place, Better service for the people, Weather Forecasting, Communications, Recreational Benefit, Education, and Scientific Research

1.3 Characteristics of Computer

The term ‘Computer character’ describes the capability and limitations of a computer system.

Some of the characteristics are:-

Speed: Computer is a high speed device, capable of performing operations in unbelievable speeds.

Reliability and accuracy: - Computers have highly reliable and accurate error checking methods.

Memory: - Computers have large and perfect memories .they are capable of recalling stored in Memory at a rate of more than a millions words in a fraction of speed.

Logical decision: -Computers are capable of making decision based on various alternatives available. Computers are capable of comparing data and, depending upon the results of the comparison, can tad appropriate action, it must be realizes that data to be compared need not necessarily be numerical; a computer can also handle non-numerical data.

Automation:-computers are automatic in operation. Once data and instructions are fed in to a computer, human intervention is not required. The computer manipulates the data according to the instructions and continues doing so until the instructions is fed to the computer without human intervention.

Diligence: - computers never feel tired, even if they have to work very long hours. Even after working long hours, there is no loss of accuracy**.**

Versatility: -you can open and work different application program at the same time**.**

1.4 Computer Hardware components

Hardware refers to the physical components of a computer system.

Computer hardware components such as:-

cabinet, central processing unit, monitor, keyboard, computer data storage, graphics card, sound card, speakers and motherboard

A typical stand alone home computer system is shown below.

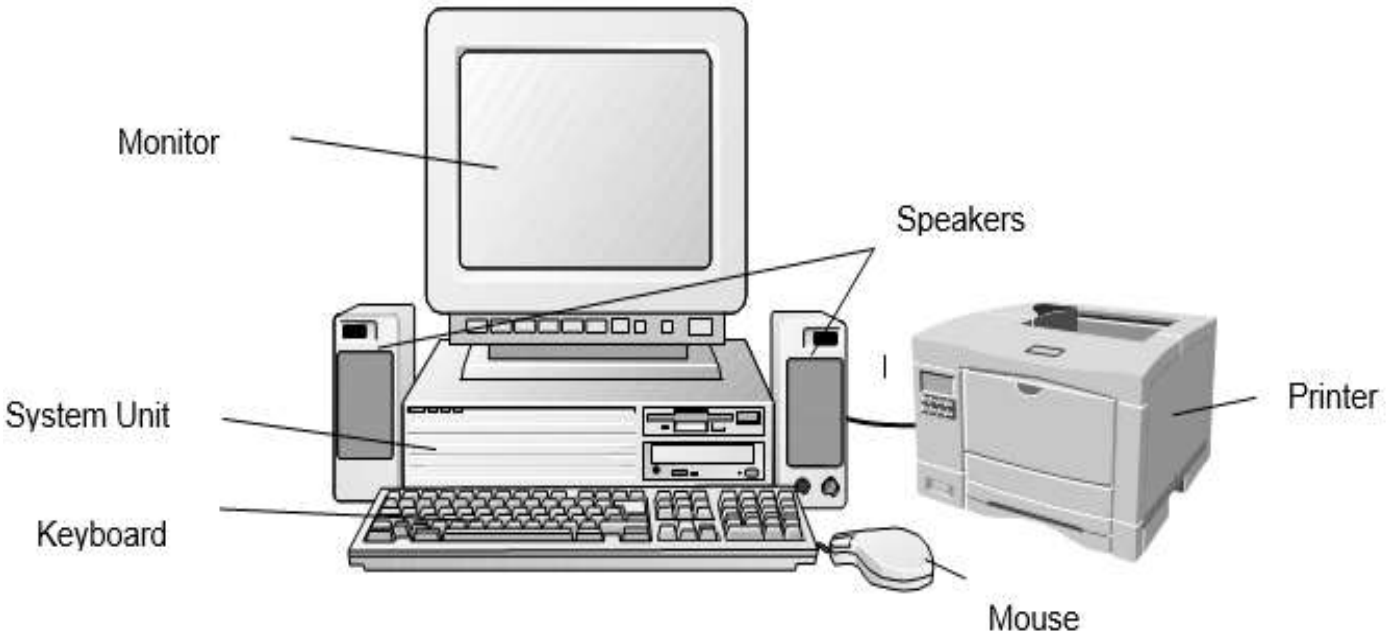


Fig.1 Hard ware components of the computer

1. **The monitor** (or screen) enables the operator to view data (and to alter it before printing it out).
2. **System Unit containing CPU (Central Processing Unit)**
3. The System Unit can contain storage devices such as a hard disk, floppy disk drive and CD ROM drive. A chip (called a Central Processing Unit) within the system unit processes data and relays messages to and from the keyboard, monitor, disk drives and printer.
4. **Keyboard**: The computer keyboard has the standard QWERTY layout with extra keys for specific functions.
5. **Speakers**: The speakers play sound when on-capable features are accessed on the computer.
6. **Mouse**: A mouse is used to select menu options, text and graphics displayed on the monitor.
7. **Printer**: A printer is used to print text and graphics onto paper.

Self-Check -1	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page.

1. What is computer? (3 points)
2. List the characteristics of computer.(6 points)
3. Define hardware and write some examples (components). (6 points)

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Information Sheet-2	Identifying the interaction of components

1.1 Computer System

The computer system is the totality of **Hardware** (the physical components of a computer) and **Software** (a set of instruction that direct the computer to perform a given task).the data that entered though computer system is called **information**. Anyone who uses a computer at a time is known as **User**. To say a computer is working the above components must be fulfill.

1.1.1 Computer hardware

Hardware refers to the physical components of a computer system. examples;-cabinet, central processing unit, monitor, keyboard, computer data storage, graphics card, sound card, speakers and motherboard.

1.2 Identifying the interaction of a personal computer parts

A **peripheral** device is defined as a **computer** device connects to a **computer** system to add functionality, such as a keyboard or printer, which is not part of the essential **computer** (i.e., the memory and microprocessor). These auxiliary devices are intended to be connected to the **computer** and used.

There are many different models of personal computers. They include desktop personal computers (PC), notebooks and laptops but they all have the same basic hardware parts:

- a keyboard
- mouse/touch pad/trackball
- monitor (screen)
- System unit.

The diagram below shows a typical set up of a personal computer.

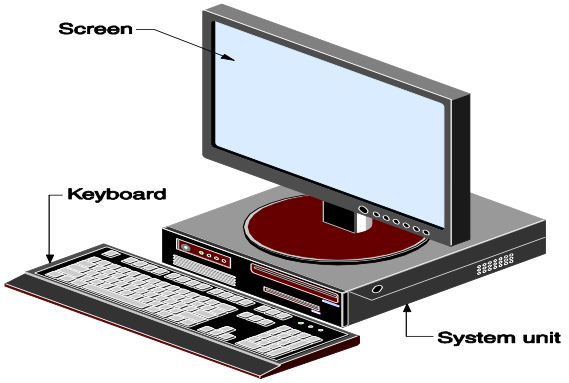


Figure 1: The typical set up of a personal computer

Next time you see a shop that sells computers you could have a look at some of the computers, notebooks, laptops and palm pilots that are available.

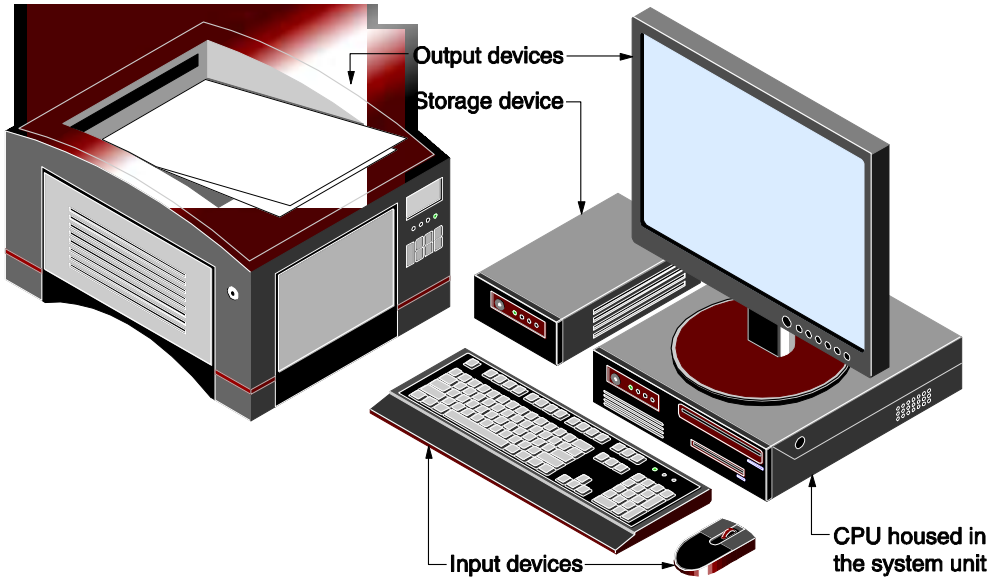


Figure 2. The interaction of computer parts

1.3 How computer works

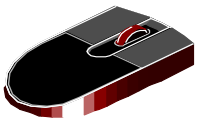
The computer system needs people, data, hardware and software to operate. The process for getting data in, processing the data and getting the information out is known as **input/process/output**.

1.3.1 Input

Input is the data that is entered into the computer. It is entered through input devices. Some examples of input devices are:

- mouse
- keyboard
- microphone
- scanner
- digital camera
- joy stick
- touch pad
- MP3 player
- Digital video player (plays DVDs).

Using a mouse (input device)



The mouse is used to move the mouse pointer around the screen and to perform tasks such as moving and opening folders or files. A mouse could be attached to a computer with a cord or it may be cordless (a remote mouse).

You see the position of the mouse on the screen by seeing a symbol. The mouse symbol moves around the screen as you move the mouse. Depending on the task you are doing, the mouse symbol could look like any of the following.

A **mouse pointer**: means you can click on an item, such as a folder icon, to select it or move it.

A **timer**: means the computer is busy processing a task so you need to wait until the computer finishes the task and the symbol changes back.

Flashing insertion point: When you click the mouse the insertion point will flash if text can be entered or deleted.

I-beam: This shows you where your mouse is when it is hovering over text.

1.3.2 Output

Output is what the computer displays as a result of processing data (e.g. calculations or instructions). Some examples of **output devices** are:

- printers
- speakers
- Monitor/screen.

1.3.3 Process

Processing refers to the computer performing operations and calculations (using the data that has been input and software). This processing of data is done by the **central processing unit** (CPU) that is housed in the system unit.

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Write the difference b/n hardware and software computer? (8 points)

2. Discuss the following terms? (8 points)

A. input device

B. Output device

C. storage unit

D. System device

Note: **Satisfactory rating - 16 points Unsatisfactory - below 16 points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

HORTICULTURAL CROPS PRODUCTION

Level-I

Learning Guide-18

Unit of Competence: Operate Personal Computer

Module Title: **Operating Personal Computer**

LG Code: **AGR HCP1 M05 LO2-LG- 18**

TTLM Code: **AGR HCP1 TTLM 1219v1**

LO2:- Develop knowledge on the computer and application software

Instruction Sheet	Learning Guide#18

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Identifying and describing System software
- Identifying application software
- Describing the interaction between system software and application software

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide**, you will be able to**:

- Identify and describe software in terms of its purpose and operation
- Identify application software and state its purpose in terms of outputs
- Describe the interaction between system software and application soft ware

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 5.
3. Read the information written in the information “Sheet 1 and Sheet 2.
4. Accomplish the “Self-check 1, Self-check 2 and Self-check 3” **in page -15, 18 and 22**respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to the next.

Information Sheet-1	Identifying and describing System software

1. 1 System Software

Systems software is programs that manage the resources of the computer system and simplify applications programming. They include software such as the operating system, database management systems, networking software, translators, and software utilities.

The five **types of systems software** are all designed to control and coordinate the procedures and functions of computer hardware. They actually enable functional interaction between hardware, software and the user.

Systems software carries out middleman tasks to ensure communication between other software and hardware to allow harmonious coexistence with the user.

1.1.1 Categorized Systems software

- Operating system: Harnesses communicate between hardware, system programs, and other applications.
- Device driver: Enables device communication with the OS and other programs.
- Firmware: Enables device control and identification.
- Translator: Translates high-level languages to low-level machine codes.
- Utility: Ensures optimum functionality of devices and applications

1.1.2 Operating System (OS)

The operating system is a type of system software kernel that sits between computer hardware and end user. It is installed first on a computer to allow devices and applications to be identified and therefore functional.

System software is the first layer of software to be loaded into memory every time a computer is powered up.

Suppose a user wants to write and print a report to an attached printer. A word processing application is required to accomplish this task. Data input is done using a keyboard or other input devices and then displayed on the monitor. The prepared data is then sent to the printer.

In order for the word processor, keyboard, and printer to accomplish this task, they must work with the OS, which controls input and output functions, memory management, and printer spooling.

Today, the user interacts with the operating system through the graphical user interface (GUI) on a monitor or touch screen interface. The desktop in modern OSs is a graphical workspace, which contains menus, icons, and apps that are manipulated by the user through a mouse-driven cursor or the touch of a finger.

Figure 1.Operating software

Self-Check -1	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. What is system software? 4 points
2. List the categories of system software. 6 points

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Information Sheet-2	Identifying application software

Application Software

Application software is a type of computer program that performs a specific personal, educational, and business function. Each program is designed to assist the user with a particular process, which may be related to productivity, creativity, and/or communication.

Table 1. The different types of application software include the following:

Application Software Type	Examples
Word processing software	MS Word, WordPad and Notepad
Database software	Oracle, MS Access etc
Spreadsheet software	Apple Numbers, Microsoft Excel
Multimedia software	Real Player, Media Player
Presentation Software	Microsoft Power Point, Keynotes
Enterprise Software	Customer relationship management system
Information Worker Software	Documentation tools, resource management tools
Educational Software	Dictionaries: Encarta, BritannicaMathematical: MATLABOthers: Google Earth, NASA World Wind

Simulation Software	Flight and scientific simulators
Content Access Software	Accessing content through media players, web browsers
Application Suites	Open Office, Microsoft Office
Software for Engineering and Product Development	IDE or Integrated Development Environments

Self-Check -2	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Define application software? 4 points
2. Write at list 5 types of application software with their examples? 10 points

Note: **Satisfactory rating - 14 points Unsatisfactory - below 14points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

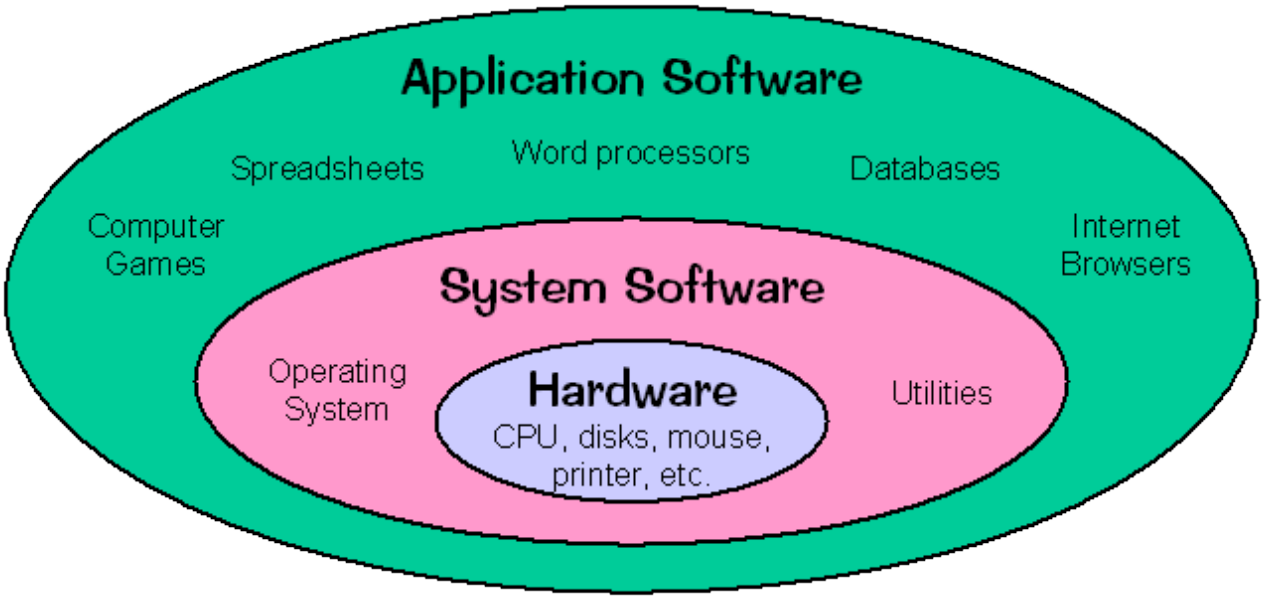
Information Sheet-3	Describing the interaction between system software and application software

1. System software and applications software

1.1 Software

Software is referred to as a set of programs that are designed to perform a well-defined function. A program is a particular sequence of instructions written to solve a particular problem.

There are two categories of software are system software and application Software



Application and System Software

1.1.1 System Software

A collection of programs that are designed to operate, control, and extend the processing capabilities of the computer itself, is known as system software.

- The computer manufacturers prepare System Software. It includes the programs that are written in low-level languages that interact with the hardware at a very basic level.
- System Software is a general-purpose software and it works as an interface between application programs (end users) and the computer hardware.

- System Software manages the system resources and provides a path for running the application software.

These are some of the most features of system software as follows,

- It is close to the system
- It is faster and smaller in size
- Difficult to design and also difficult to understand
- Less interactive and difficult to manipulate
- It is written in machine language

1.1.2 Application Software

Application software is special purpose software which is used by the user to perform a particular task.

- Application software is designed to meet a particular requirement of a particular environment. All software applications written by the user are Application software.
- This software we can install onto our Operating System. It includes a single program, just like Microsoft's notepad for writing and editing a simple text. under the various Operating Systems, these Applications software are written to run on OS.
- If an application contains a collection of programs these are referred to as a software package. It works together to accomplish a task, such as a spreadsheet package.
- Other examples such as Payroll Software, Student Record Software, Inventory, Income Tax Software, Railways Reservation Software, Microsoft Office Suite Software, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, etc.

These are some of the features of application software as follows,

- It is close to the user
- Easy to design and more interactive
- It is generally written in high-level language
- It requires more storage space as it is bigger in size

Table 1. Difference between System Software and Application Software

S.No.	System Software	Application Software
1.	System software is used for operating computer hardware.	Application software is used by user to perform specific task.
2.	System soft wares are installed on the computer when operating system is installed.	Application soft wares are installed according to user's requirements.
3.	In general, the user does not interact with system software because it works in the background.	In general, the user interacts with application sof wares.
4.	System software can run independently. It provides platform for running application soft wares.	Application software can't run independently. They can't run without the presence of system software.
5.	Some examples of system soft wares are compiler, assembler, debugger, driver, etc.	Some examples of application softwares are word processor, web browser, media player, etc.

Self-Check -3	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Define software? 4 points
2. Write the two categories of software. 4 points
3. Differentiate system software and application software. 12 points

Note: **Satisfactory rating - 20 points Unsatisfactory - below 20points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

List of reference and materials

https://turbofuture.com/computers/The-Five-Types-of-System-Software

HORTICULTURAL CROPS PRODUCTION

Level-I

Learning Guide#19

Unit of Competence: Operate Personal Computer

Module Title: Operating Personal Computer

LG Code: AGR HCP1 M05 LO3-LG-19

TTLM Code: AGR HCP1 TTLM 1219v1

LO3:-Perform basic operation and maintenance procedures

Instruction Sheet	Learning Guide#19

This learning guide is developed to provide you the necessary information regarding the following **content covera3ge** and topics:

- Connecting basic components of a PC system
- Powering a PC system
- Identifying and correcting simple hardware faults
- Caring and maintaining a PC system

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide**, you will be able to**:

- Connect basic components of a PC system to enable it to be operated safely.
- Power up a PC system according to organizational requirements
- Identify and correct or report simple hard ware faults according to organizational requirements
- Care for and maintain a PC system according to organizational requirements

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4”.
4. Accomplish the “Self-check 1 to Self-check 4” **in page -31, 37, 43 and 49** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1 to Operation Sheet 4 ” **in page -32,33,38,and44.**
6. Do the “LAP test” **in page – 50** (if you are ready).

Information Sheet-1	Connecting basic components of a PC system

1.1 PC System Components

A modern PC is both simple and complicated. It is simple in the sense that over the years, many of the components used to construct a system have become integrated with other components into fewer and fewer actual parts. It is complicated in the sense that each part in a modern system performs many more functions than did the same types of parts in older systems.

Table 1. Basic PC Components

Component	Description
Motherboard	The motherboard is the core of the system. It really is the PC; everything else is connected to it, and it controls everything in the system. Microprocessors are covered in detail in Chapter 3, "Microprocessor Types and Specifications."
Processor	The processor is often thought of as the "engine" of the computer. It's also called the CPU (central processing unit).
Memory (RAM)	The system memory is often called RAM (for random access memory). This is the primary memory, which holds all the programs and data the processor is using at a given time.
Case/chassis	The case is the frame or chassis that houses the motherboard, power supply, disk drives, adapter cards, and any other physical components in the system.
Power supply	The power supply is what feeds electrical power to every single part in the PC.
Floppy drive	The floppy drive is a simple, inexpensive, low-capacity, removable-media, magnetic storage device.

Hard drive	The hard disk is the primary archival storage memory for the system.
CD-ROM/DVD-ROM	CD-ROM (compact disc read-only) and DVD-ROM (digital versatile disc read-only) drives are relatively high-capacity, removable media, and optical drives.
Keyboard	The keyboard is the primary device on a PC that is used by a human to communicate with and control a system.
Mouse	Although many types of pointing devices are on the market today, the first and most popular device for this purpose is the mouse.
Video card	The video card controls the information you see on the monitor.
Monitor	It is default output devices that display all actual work that a computer doing at a time.
Sound card	It enables the PC to generate complex sounds.
Modem	Most prebuilt PCs ship with a modem (generally an internal modem).

1.1.1 Starting a computer running Windows XP operating system

Starting your computer is also known as **booting** the computer. It is important to switch your computer on in the correct way because the computer will check the peripheral devices on start up. Starting the computer will also start the operating system.

Sequence for starting a computer

1 Check peripheral device connections.

2 Turn on power at the power outlet.

3 If the monitor has a separate switch, turn it on.

4 Switch on the printer.

5 Check to see if there is a floppy disk in the floppy disk drive if your computer has one. Eject the disk to ensure the computer starts from the hard drive.

6 Switch on the system unit. If using a desktop PC the power switch is usually a button on the front or side of the system unit. If using a laptop the power switch is usually at the top of the keyboard.

The computer will perform a start-up routine. When the start-up routine has completed then the operating system will start.

1.1.2 Logging on

The computer you are using may have been set up so that you need to **log on** to the computer in order to be able to access the software and stored data, and commence using it. This is a security feature that is often in place for computers in the workplace, school, college or other large organisation.

When you log on you are connecting the computer with a **network** of other computers in the organisation.

If you need to log on you will see a box on the screen asking you for two items of information that you need to type in:

- **username**
- **Passwords**.

Usernames and passwords are set (for each authorised user) by the IT Administrator for the organisation. Your teacher or IT Department (in an organisation) will provide you with these details.

1.1.3 Security conditions

Your username and password determines what information and features of the computer and network you have access to, and this is determined by the IT security policy of the organisation.

Therefore, it is important to note the conditions of use that apply to you when you log on to a computer with your username and password. These conditions appear on the screen before you are asked to enter your name and password. You must click on the **OK** button

after you have read the conditions. This enables you to get to the log on screen where you enter your name and password.

1.1.4 Logging off

If you have to log on to the computer when you started the session, then you need to **log off** when you finish your session on the computer.

Logging off means you are disconnecting the computer from the network and no one else will be able to access the same computer unless they also have a log on (username and password). You must log off the computer regardless of whether or not you will be turning off the power.

If you don't log off the computer, then you will be preventing other people from using the same computer and being able to log on with their own name and password. In the workplace, failure to log off will probably also mean that other people (who may be unauthorised to use your computer) can access all the files that you have access to. This could mean a serious breach of security in an organisation.

Sequence for log off a computer:

1 Close all files (remember to save your latest work if necessary).

2 Close all software programs.

3 Remove floppy disks or other storage media from drives if necessary.

4 Click the **Start** button on the taskbar (at the bottom left corner of the screen) to see the **Start menu**.

5 Click on **Log Off** (at the bottom of the menu).

6 A message box will appear on the screen asking you to confirm that you want to log off. Click on **Log Off**.

7 A final message box will appear telling you 'It is now safe to turn off your computer.'

You can now switch off the computer and the power outlet if you want to shut down the computer.

Figure 1: Logging off in Windows XP. From the Start menu, click on the Log off button at the bottom of the menu.

Self-Check -1	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Write the basic PC components with descriptions. 10 points

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Operation sheet-1	Connecting basic components of a PC system

The steps for starting up a computer

1. Check peripheral device connections.
2. Turn on power at the power outlet.
3. If the monitor has a separate switch, turn it on.
4. Switch on the printer.
5. Check to see if there is a floppy disk in the floppy disk drive if your computer has one.
6. Eject the disk to ensure the computer starts from the hard drive.
7. Switch on the system unit. If using a desktop PC the power switch is usually a button on the front or side of the system unit. If using a laptop the power switch is usually at the top of the keyboard.

Operation sheet-2	Logging off a computer

The Steps to logging off a computer:-

1. Close all files (remember to save your latest work if necessary).
2. Close all software programs.
3. Remove floppy disks or other storage media from drives if necessary.
4. Click the **Start** button on the taskbar (at the bottom left corner of the screen) to see the **Start menu**.
5. Click on **Log Off** (at the bottom of the menu).
6. A message box will appear on the screen asking you to confirm that you want to log off. Click on **Log Off**.
7. A final message box will appear telling you 'It is now safe to turn off your computer.'
8. You can now switch off the computer and the power outlet if you want to shut down the computer

Information Sheet-2	Powering a PC system

1.1 Computer power

the effective performance of a computer. It can be expressed in IPS (instructions per second), clock speed (Ghz) and in word or bus size (bits). However, as with automobile horsepower and the number of cylinders, such specifications are only guidelines. Real power is whether it gets the job done in the required time.

1.1.1 Powering Up a PC

When you first power up a PC, the machine goes through several internal processes before it's ready for you to use. This is called the boot process, or booting the PC. Boot is short for bootstrap, a reference to the old adage, "Pull yourself up by the bootstraps," which means to start something from the very beginning. The boot process is controlled by the PC's basic input-output system (BIOS).

The BIOS is software stored on a flash memory chip. In a PC, the BIOS is embedded on the motherboard. Occasionally, a PC manufacturer will release an update for the BIOS, and you can carefully follow instructions to "flash the BIOS" with the updated software.

Besides controlling the boot process, the BIOS provides a basic configuration interface for the PC's hardware components. In that interface, you can configure such things as the order to read drives during boot and how fast the processor should be allowed to run. Check your PC's documentation to find out how to enter its BIOS interface. This information is often displayed when you first boot the computer, too, with a message such as, "Press DEL to enter Setup Menu."

1.1.2 Power supply unit (computer)

A **power supply unit** (or **PSU**) converts mains AC to low-voltage regulated DC power for the internal components of a computer. Modern personal computers universally use switched-mode power supplies. Some power supplies have a manual switch for selecting input voltage, while others automatically adapt to the mains voltage.

Figure 1. power supply unit with top cover removed

1.1.3 Functions of power supply

The desktop computer power supply changes alternating current from a wall socket of mains electricity to low-voltage direct current to operate the processor and peripheral devices. Several direct-current voltages are required, and they must be regulated with some accuracy to provide stable operation of the computer. A power supply rail or **voltage rail** refers to a single voltage provided by a power supply unit (PSU).

How to turn on a computer

Turning on your computer isn't always easy. Some manufacturers hide the 'on' button – for instance, on top of the case or flat on the front where you can't see it. When you get your computer, don't be embarrassed to ask: 'Where's the "on" button?'

Follow these step-by-step instructions to help you turn on your computer

Step 1: Find the 'on' button. It probably looks like this (but might be square or oblong!):

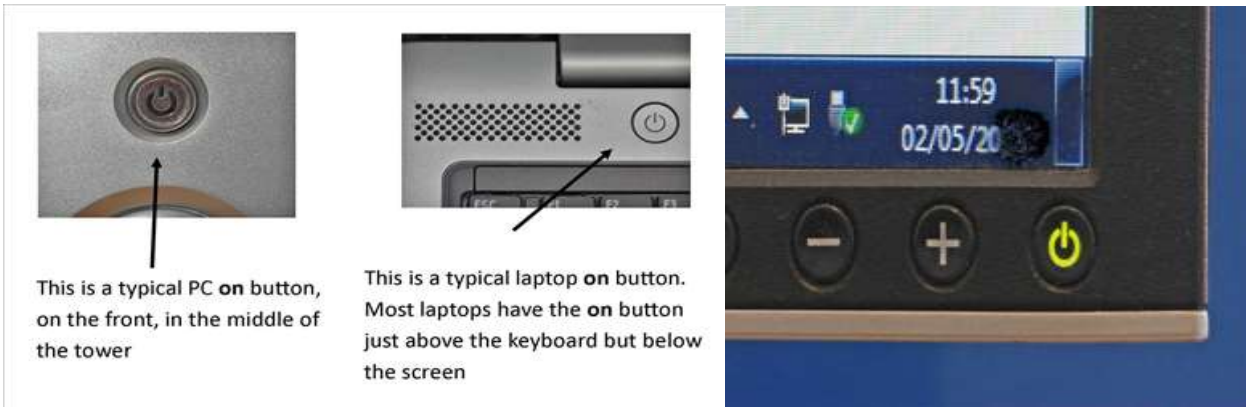


Figure 2. personal computer power on

Step 2: Push the button.

On some computers, the button lights up when the computer is on. On laptops, there's often a light on the front that comes on. You may have to keep pushing for a couple of seconds to make this happen, but don't worry – you'll soon get to know how your computer works.

If nothing happens, there are a few things you can check easily:

Step 3: Now you need to log in.

If you're the only user of your computer, once it's turned on it may go straight to the desktop:

Figure 4. User name

If you're using a public computer – for example, in a library – you'll be given instructions (and help if you ask for it) on how to log in.

If you're sharing your computer with other people, each one will usually have their own account. When you turn on the computer, the screen will look something like this:

When you click the icon above your name, you'll be asked for a password. The main user or administrator should set this up for you before you begin. Type in your password and click the arrow.

Done! Figure 5. Inter Password and open

Self-Check -2	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. What is computer power? 3 points
2. How to powering up a PC? 3 points
3. What is the function of power supply? 4 points

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Operation sheet-1	Turning on personal computer

Follow these step-by-step instructions to help you turn on your computer

Step 1: Find the ‘on’ button. It probably looks like this (but might be square or oblong!):

Step 2: Push the button.

Step 3: Now you need to log in.

Step 4: inter password if have

Step 5: Done (click enter).

Information Sheet-3	Identifying and correcting simple hardware faults

1.1 Identify Computer Problems

All computer problems fall into two general categories:

- ❖ Hardware problems
- ❖ Software problems

It may be tricky as some computer malfunctions could be caused by problems from either camp, but the first step is always to try to identify what you are dealing with. Computer hardware problems are usually easier to specify, but they cost more to repair. Software problems, though harder to detect, usually cost less to fix or repair.

1.1.1 Hardware Problems

Hardware issues are directly related to the physical components of the computer system. For instance, if there's no image on the screen, the computer simply refuses to power on, the monitor displays odd colors after start-up or the keyboard doesn't work.

Basic steps to identify and/or solve the hardware problem

- Check that your computer is plugged into a working outlet
- Check that everything is turned on. If something seems to be not working, make sure the brightness is up or the on switch is in the appropriate position or the volume unmuted depending on what you are having issues with.
- Check that keyboard, mouse, monitor, speakers, etc are plugged into your device. Try a different port, if one is available, to check if it is the port or the device that is damaged. Make sure that wireless hardware has a fully charged battery.

1.1.2 Common PC Hardware Problems

PCs in general are built with all security measures because all of their sensitive components and hardware will be housed inside a casing to protect the components form dust and other harsh elements. However, some common PC hardware problems occur despite the protection. Even though the most complex computer issues at work place can often be solved by the business IT support team, there are many other small, but common, problems that occur quite often on a personal computer. It's very important to identify and recognize such problems.

The following are some of the commonly found hardware related problems on your PC.

Blank monitors

A blank monitor is the most common computer problem. Most people who work with computers might have dealt with such non-working blank monitor at least once. In such cases, first and foremost check the supply cord and power systems. Sometimes, the video cable might be loosened. Just push the video cable and place it again, it should help your now.

Mouse Problems

The mouse is used for a variety of purposes, such as playing games or opening files and moreover, it facilitates easy navigation, thus easy access to your data. The most common problems related to the mouse include failure to move, connection problems, freezing on the screen or damage to the mouse.

Jumpy Mouse

Jumpy Mouse! Sounds strange right? Actually, a jumpy mouse is just a muted mouse i.e. cannot be scrolled. If you have a track and ball mouse, then simply turn it over and open the ball container, and remove the excess debris and clean the dirt that lines the rollers. For an optical mouse, eliminate the dust that has collected around the optical sensor.

PC won't recognize my USB camera

In this case, even when you connect your USB camera, you PC might not be able to recognize it and hence throw errors like "Device not recognized" error. This might be due to the USB connector problems or the software malfunctioning. Before plugging in the camera, turn it on. This action can usually solve your problem.

My smart phone will not synch with my PC

In order to ensure backup of your smart phone, it is important that you regularly synch your phone content with your computer. At times, your PC might fail to sync with your

smart phone. It can be due to many reasons. Sometimes it is required that all programs are closed, during synching or backup.

Keyboard Problems

As we all know the keyboard is a vital part of any computer. It not only allows typing, but it also gives commands as well. However, you might encounter some common potential problems with the keyboard that includes keyboards that will not connect to the computer, stuck keys, broken keyboards or keyboards where the letters end up jumbled.

Power Cord Problems

Whether it is a laptop or a desktop, power cords are a vital part of any computer. The desktop needs the power cord to work. A laptop can run on batteries for a limited amount of time, but then needs the power cord for recharging. The most common problem with the power cord is an improper connection.

Motherboard Problems

The motherboard contains several parts of the computer including the RAM, BIOS system, mass storage and CPU. The computer motherboard contains several devices, which can create numerous potential problems. Problems with the motherboard range from too little RAM to BIOS problems. Fixing the problems will depend on the specific problem and, in the worst case scenario, purchasing a new motherboard will fix the problems.

Insufficient Memory

Processor-intensive programs also demand a lot of memory. Random access memory (RAM) aides the central processing unit (CPU) by storing instructions linked to common operations. Without enough RAM, software crashes and slowdowns can occur.

Above mentioned are some of the commonly found PC hardware problems. However, these are minor issues and you can easily find a solution for it. As you can observe most of these issues are related to PC peripherals, for example Mouse, keyboard, USB camera etc. Hence, one of the root causes for these issues lies with your devices.

Actually some devices need third-party software to be connected to the PC and even for its proper functioning. The software is referred as Device drivers. Drivers help the operating system to communicate with the hardware and helps in proper functioning of these peripherals. Even your video cards, keyboards, mouse, or any USB device plugged into the computer requires device drivers.

1.2 Reporting hardware faults

- **Reporting the following hardware faults**
  - The Computer Won't Start
  - The Screen is Blank
  - Abnormally Functioning Operating System or Software
  - Windows Won't Boot
  - The Screen is Frozen
  - Computer is Slow
  - Strange Noises
  - Slow Internet
  - Overheating
  - Dropped Internet Connections

When reporting a hardware fault to the IT Service Desk you will need to supply the following details

- Your name and Username
- The nature of the fault.
- The location of the equipment.
- Your contact details.
- The UG number of the equipment

Self-Check -3	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Write the basic steps to identify and/or solve the computer hardware problems.10 points
2. Write and describe the common computer hardware problems.10 points

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Operation sheet-1	Identifying and correcting simple hardware faults

Basic steps to identify and/or solve the hardware problem:

1. Check that your computer is plugged into a working outlet
2. Check that everything is turned on.
3. If something seems to be not working, make sure the brightness is up or the on switch is in the appropriate position or the volume unmuted depending on what you are having issues with.
4. Check that keyboard, mouse, monitor, speakers, etc are plugged into your device.
5. Try a different port, if one is available, to check if it is the port or the device that is damaged. Make sure that wireless hardware has a fully charged battery.

Information Sheet-4	Caring and maintaining a PC system

Take Care of Your Computer

Almost all households in the world have their desktop computers. In the modern world, computers are very important – education, business, research, and other functions. In the United States, 85.1% of the American households have personal computer, according to 2016 statistics. Of course, as computer users, we should take care of our computers. In this article, we will discuss the basic care and maintenance of your computers.

Keep your software up-to-date

Your computer will prompt you if there are software updates. It is important that you keep your software up-to-date, including your operating system to fix bugs, glitches, and vulnerabilities of the previous version. They also strengthen the security of your computer. Some computers perform automatic updates.

Install antivirus software

A computer virus is a primary threat to computer health. They damage not just certain programs and software in your computer, but your system as a whole. It is important that you keep these viruses from entering your computer. Install antivirus software that will detect, block, and eliminate all types of viruses. There are dozens of competitive antivirus software available on the internet.

Secure a backup of your files

Sometimes, computer problems and issues come unexpectedly. This may be due to cyberattack or power outage. It is best to be secure your files and documents in advance. There are two ways in backing up your data. First, you can use cloud storage in which you can upload copies of your files and documents through the internet. The second one is through external storage devices. Make sure to have multiple backups.

Defragment your hard drive

Part of computer maintenance is by defragmenting your hard drive. Usually, computers are equipped with disk defragmenters. You just need to go to the system tools and run

the disk defragmenter. In cases you do not have this, there are dozens of disk defragmenting programs and software that can be downloadable.

Get rid of unused programs

Make it a habit to declutter your PC. Get rid of old files and programs that you do not need anymore. This will lessen the burden of your PC from running them in the background. The best way to do this is to install and run a disk cleanup program that deletes temporary files and clean your registry.

Activate the Firewall

Viruses can penetrate your computer systems through the internet. It is important to activate your firewall. A firewall acts as a gate or barrier that filters data from gaining unauthorized access to the computer system. Typically, computers have a built-in firewall. But if you want to strengthen security, install a third-party firewall that provides maximum internet protection.

Safely remove devices

Most of you are guilty of this one – not safely removing external devices. It is a must that you eject devices, drives, and other media in a safe mode. This prevents corruption of data both in the computer and on the external drive.

Consider reformatting

If your computer is really full of viruses and loads, affecting PC performance, consider reformatting. Of course, to do this, make sure you back up your files. Reformatting will bring back your computer the way it is before. However, we recommend that you let PC technicians do this for you.

Clean your computer screens

When we tend to overuse the computer, we forget cleaning the computer externally, especially the screens. Like any other appliances, computers need regular cleaning. We advise that you use a soft cloth or special wipes in cleaning your computer screens and some other external parts of your computer. Get rid of dust, smudge, dirt, etc.

Figure 1. Cleaning material

beyond just getting the dust out, here are some other steps to consider: Dust often collects inside the CPU and video card heat sinks, consider disassembling and cleaning them if you're comfortable doing so, or at least using compressed air to specifically blow them out.

Invest in cooling pads

Another factor that affects PC performance is overheating. When you use your computers for a longer period of time, consider buying cooling pads. Cooling pads are external devices that prevent computers from overheating. Apart from cooling pads, you can use fans. But if you want it to be easy, avoid using your computers in an environment with extreme temperatures.

Take care of your battery

Laptop batteries do not last a lifetime. But you can extend its lifespan by taking good care of your battery. Avoid overcharging your battery. If it reaches 100%, make sure to unplug it. If you are not using your laptop, it is also recommended to remove the battery pack.

Use a surge protector

Surge protectors are special appliances or devices that protect appliances, including the computer from voltage spikes. They limit the voltage supply, by blocking or shorting, to avoid the power from exceeding a safe threshold. It is a safe practice for your laptop or computer, especially when they are plugged into the power supply.

Protect your desktop

When we say “protect”, we meant literal protection. Buy cases or bags where you can safely store your laptops especially when traveling. Moreover, cover your desktop computer with a cloth. This can keep your computer away from dust.

Avoid eating near computers

This is a must! Avoid eating near your computers, or better, do not eat while using your computer. Food crumbs or pieces may get into your keyboard and other parts of your computer which will attract ants, termites, and other insects. If this happens, the insects might destroy some internal parts on your computer.

Consult a PC expert

Lastly, always ask a PC technician about your computer health. If you want to be 100% sure that your computer is doing okay, bring your unit to your favorite PC technician. Let them do the rebooting or reformatting, defragmentation, troubleshooting, and complete computer maintenance. If you are an owner of a website, make sure you consult an IT expert to make sure that your websites are safe and secure.

Basic care and maintenance for your computer are very important. It prevents certain factors and issues from arising, affecting the PC performance. If you take good care of your computer, you can get rid of viruses, malware, and other threats in advance. Invest in software that protects your PC from viruses, cleans up drives, and performs overall PC maintenance.

Self-Check -4	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Discuss the basic care and maintenance of your computers. 10 points

Note: **Satisfactory rating - 10 points Unsatisfactory - below 10 points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instruction: Given necessary templates, tools and materials you are required to perform the following tasks within 1 hours.

Task 1. Start up a computer

Task 2. Logging off a computer

Task 3. Turn on personal computer

Task 4. Identify the hardware problems

List of reference and materials

http://www.informit.com/articles/article.aspx?p=29470&seqNum=3

https://www.voipshield.com/computer-basic-101-how-to-take-care-of-your-computer/

https://www.remosoftware.com/info/common-pc-hard-ware-problems

HORTICULTURAL CROPS PRODUCTION

Level-I

Learning Guide-20

Unit of Competence: Operate Personal Computer

Module Title: Operating Personal Computer

LG Code: AGR HCP1 M05 LO4-LG-20

TTLM Code: AGR HCP1 TTLM 1219v1

LO4. Operate a printer

Instruction Sheet-1	Learning Guide

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Displaying data from a personal computer
- Identifying simple printer hardware faults and printer related error messages

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide**, you will be able to**:

- Display data from a personal computer on printed out media based on instructions
- Identified and remedy simple printer hard ware faults and printer related error messages

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1 and Sheet 2.
4. Accomplish the “Self-check1 and Self-check 2 **in page -61 and 68** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1 **in page -62.**
6. Do the “LAP test” **in page – 69** (if you are ready).

Information Sheet-1	Displaying data from a personal computer

1.1 Displaying Data

Data display refers to computer output of data to a user, and assimilation of information from such outputs. Some kind of display output is needed for all information handling tasks. Data display is particularly critical in monitoring and control tasks. Data may be output on electronic displays, or hardcopy printouts, or other auxiliary displays and signaling devices including voice output, which may alert users to unusual conditions.

The screens of computers are made up of thousands of tiny dots called pixels.

Each of these tiny dots is also made up of their own three dots called sub pixels.

Each sub pixel is red, green, or blue. These sub pixels light up in different mixtures of intensity, in order to create a unique color.

For example, to make white, all of the sub pixels will turn on.

To make yellow, only the green and red sub pixels will turn on.

To make black, all of them will turn off.

There are two ways to send data to a LCD screen.

1. controlling each dot one at a time
2. Interfacing with the LCDs controller to do all the hard work. In the case of a character LCD, the built in controller includes a character table. so that you do not have to control many dots to draw each character, but instead send just one command for it to turn on a letter or number.

1.1.1. Files

Most computers at work or at home will have a number of files on them. These might be documents you have created in Microsoft Word, Excel, Access or PowerPoint programs. They will all have different names.

To use a computer effectively you need to know how to create, move, copy, rename and delete files. You also need to know how to identify the type of file and information about the file. A file is often referred to as a document.

1.1.2. Organizing Files

On a home computer you can choose your own way of organizing your files. If you are the only one using it you only need to worry that it is clear to you. In an office, however, people often share files. It is important that you use a system that everyone understands. If you are unsure where to put a file always check with your supervisor. So you can find files easily it is important to organize your files in a way that is logical and clear. One way of organizing files is to put them in different folders.

1.1.3. Opening a Files

- **You can open a file:**
  - ✓ from My Documents
  - ✓ from within a program, e.g. Microsoft Word
  - ✓ from the **Start** menu
- Opening a file in Microsoft Word. Follow these steps to open a file in Microsoft Word:
  1. Open Microsoft Word
  2. Select **File** from the top toolbar
  3. Select **Open** from the menu
  4. Find the folder that the file is in and double click on it to open it
  5. Find the file you need and double click on its name to open it. Another way to open a file that was recently created is through the **Start** menu and then Documents. Point to the file you need with the mouse and click on it to open it.

1.2. Creating Documents

- There are several ways of creating a file. You can create a file from:
  - ✓ My Documents
  - ✓ the desktop
  - ✓ Microsoft Word or any other program you are in.

- Creating a file in My Documents. Follow these steps to create a file in My Documents:
  1 Open **My Documents**
  2 Click on **File** on the top menu bar
  3 Scroll down the menu and click on **New**
  4 Select the type of document you would like, e.g. Microsoft Word Document, from the sub-menu. A dialog box 'New Microsoft Word Document' will appear. Type in the name of the new document.
- Creating a file from the desktop, you can create a new file from the desktop by selecting a 'type' of file from the shortcut menu. Follow these steps to create a file from the desktop:
  1 Go to your desktop
  2 Right click on the desktop
  3 Select **New** from the shortcut menu that appears
  4 Select the type of file you want and the correct program will open
- Creating a new file in Microsoft Word. Follow these steps to create a file in Microsoft Word:
  1 Open Microsoft Word
  2 Click on **File** on the top toolbar
  3 Select **New** from the menu
  4 Select **Blank Document** and a new Word document will open

1.3. File types

There are different types of files. You will notice that in Microsoft Word the file always comes up with the ending `.doc', for example `Job Application.doc'. This is called a `file extension'. Regardless of how the file is created or saved, Microsoft Windows always gives it an extension. This identifies the 'type' of document. For example, if you create a spreadsheet in Microsoft Excel, the extension is `. Xls'. Some common extensions are outlined below.

Table 1: **Example of file extension**

Program/File	Extension
Microsoft Word	.doc, **docx**
Paint	Bmp
PowerPoint	**.ppt, pptx**
Microsoft Excel	Xls,, **xlsx**
Microsoft Access	.mdb, ACCDB

1.4. Saving Documents

After Naming and Saving a File Once: Click the **Save button** on the Standard toolbar. **OR** Go to the File menu and choose **Save**. Follow these steps to perform a Save As

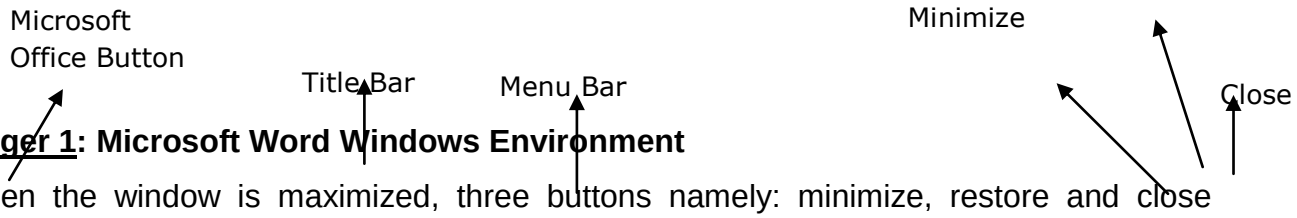
1. Click **File** from the menu bar.
2. Select **Save As**. The **Save As Dialog Box** appears.
3. Type a new name for your file in the **File name: box**.
4. Click **Save**.

1.5. MS Word

- Using a computer to create, edit, and print documents. Of all computer applications, word processing is the most common.
- To perform word processing, you need a computer, a special program called a *word processor*, and a printer.
- A word processor enables you to create a document, store it electronically on a disk, display it on a screen, modify it by entering commands and characters from the keyboard, and print it on a printer.
- There are a number of word processing packages (software). Among these are WordPerfect, AmiPro, Microsoft Word 2007 and 2010 versions. Some of them run under MS-DOS and others under MS-Windows Operating System environment.

1.6. Customizing basic settings

When you start Word, you see the Application window, named **Document 1-Microsoft Word**. This is a blank document window, named Document 1. Usually, the window is maximized and fills the whole screen.

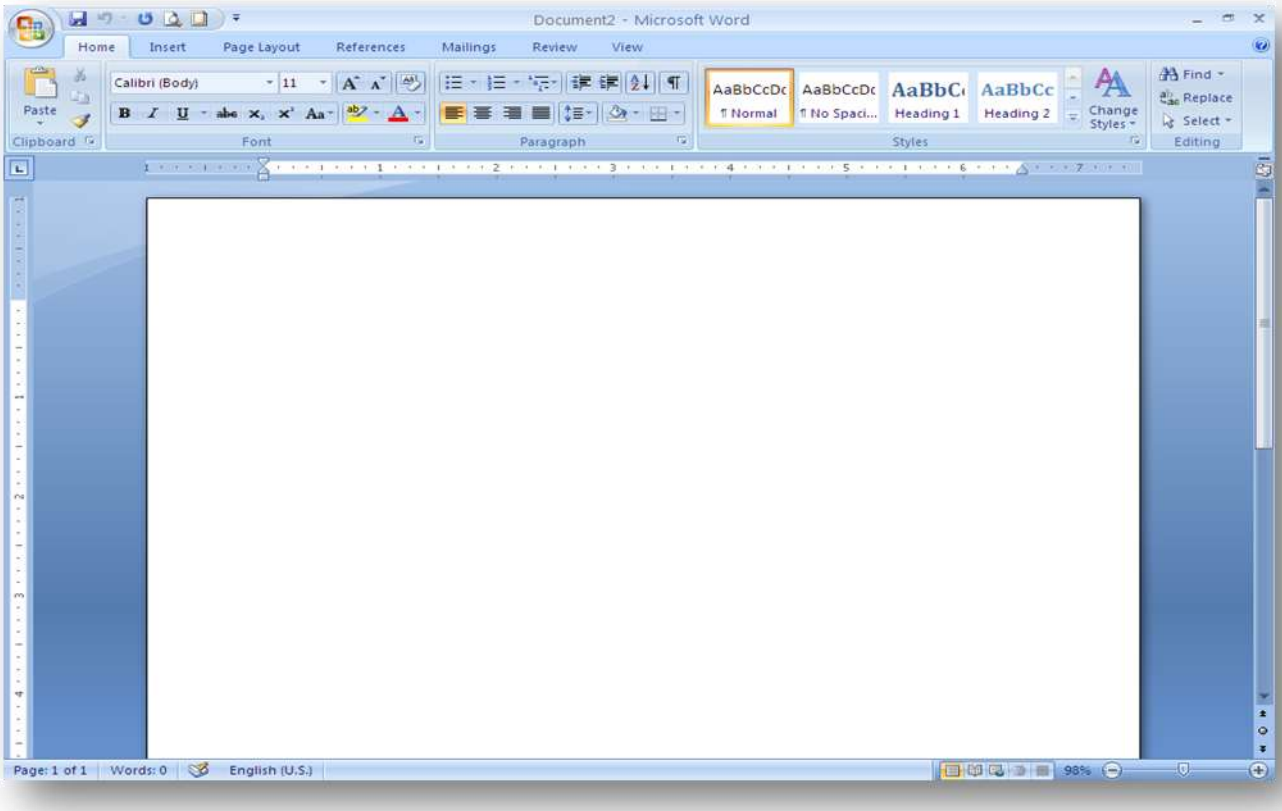


Finger 1: Microsoft Word Windows Environment

When the window is maximized, three buttons namely: minimize, restore and close

buttons are displayed in the upper-right corner of the screen

- **Title bar: -**It is Upper bar and contains the name of application windows, document name, different buttons like (save button, undo buttons, Redo button



and etc.) and control menu like minimize, maximize/restore and close button used to control windows.

- **Microsoft Office Button: -** The File menu of word 2003 has been replaced with the Microsoft Office Button. We can gate new, open, save, and etc. commands on the Microsoft office button.
- **Menu bar: -** Contains seven menus. Menu bare contains menus lake Home, Insert, page layout, References, Mailings, Review and View. Each menu contains different buttons.
- **Ruler:** - shows you where your margins are (i.e. left margin, right margin, top margin bottom margin, tabs and indents) and it lets you set them.
- **View Ruler: -** To show or hide the horizontal and vertical rulers, click View Ruler at the top of the vertical scroll bar.
- **Typing area -** is the blank area in the document window where you can type your text.

- **Insertion point: -** Also known as the cursor shows you where the next characters you type will appear.
- **View buttons: -** There are five view buttons located in the lower-Right corner of the document window, used to change the way your document is displayed on screen. By default, **Word** uses Print Layout view.
- **Zoom slider**: - You can zoom in to get a close-up view of your document or zoom out to see more of the page at a reduced size. You can also save a particular zoom setting with a document or template.
- **Scroll bar: -** There are two scroll bars, Vertical and Horizontal. Used to navigating inside windows.
- **Status bar: -** Tells you what page you're on, the total number of pages, and where your insertion point is on the page. As you use **Word,** the status bar sometimes displays other information as well.

1.7. Start Word 2007

First Click on **Start** button→ Click on All program→Click on Microsoft office→ click on Microsoft office word 2007 **OR**

First Click on **Start** button→Click on Run→ Write WinWord→Ok.

1.7.1. Creating New Document

Sometimes you need to create a new document when you are in the middle of typing another one. You can create a new document even if you have not saved and closed the document you are currently working on.

Click the **Microsoft Office Button→New →** Under **Templates**, you see options you can use to create (A blank document, installed, template and etc.) select one of your option→ **Create**. **Or** Press **Ctrl** +**N** key.

1.7.2. Entering Text

- The flashing insertion point shows you where the new character you type will appear.
- You can move the insertion point to a new location by using the four arrow keys found on the keyboard.
- You can also point a new location with your mouse, and then click once to move the insertion point.

1.7.3. Saving Document

- When you save a file, you can save it to a folder on your hard disk drive, a network location, disk, CD, the desktop, or another storage location.
- You need to identify the target location in the Save in list.
- **To save Document**

  Click the **Microsoft Office Button→Save as →** Word document→type file name on **File name** box→ In the **Save as type** list, click the file format that you want to save the file in→ **Save**.
- **To save using keyboard**

  Press Ctrl+ S key for your keyboard

Self-Check -1	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. What is data display? 5 points
2. Write the two ways of to send data to a LCD screen. 6 pints

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Operation sheet-1	Displaying data from a personal computer

- Steps to open a file in Microsoft Word:
    1. Open Microsoft Word
    2. Select **File** from the top toolbar
    3. Select **Open** from the menu
    4. Find the folder that the file is in and double click on it to open it
    5. Find the file you need and double click on its name to open it. Another way to open a file that was recently created is through the **Start** menu and then Documents. Point to the file you need with the mouse and click on it to open it.

- Steps to create a file in personal computer
    1. Open **My Documents**
    2. Click on **File** on the top menu bar
    3. Scroll down the menu and click on **New**
    4. Select the type of document you would like, e.g. Microsoft Word Document, from the sub-menu. A dialog box 'New Microsoft Word Document' will appear. Type in the name of the new document.
- Steps to create a file from the desktop:
    1. Go to your desktop
    2. Right click on the desktop
    3. Select **New** from the shortcut menu that appears
    4. Select the type of file you want and the correct program will open
- Steps to create a file in Microsoft Word:
    1. Open Microsoft Word
    2. Click on **File** on the top toolbar
    3. Select **New** from the menu
    4. Select **Blank Document** and a new Word document will open

Information Sheet-2	Identifying simple printer hardware faults and printer related error messages

2.1 Printer

A printer is a device that accepts text and graphic output from a computer and transfers the information to paper, usually to standard size sheets of paper. Printers vary in size, speed, sophistication, and cost. In general, more expensive printers are used for higher-resolution color printing.

2.1.1 Problems of printer

1. The Endless Paper Chase

Problem: Printing takes too long

Nothing is worse than making great time with a project only to hit the wall when it comes time to print. Slow print time can be caused by a high resolution setting, a memory issue, and/or choice of drivers.

Solutions:

High-resolution images have more data for your PC and printer to process, which can cause slow print times. If you're not looking for gallery quality, select draft, standard or normal mode for office documents. For presentations or formal pieces switch your setting back to high-quality. If processing large files with complex images is part of your regular workflow, consider adding memory to keep your printer humming along.

Figure 1. Printing takes too long

2. The Workflow Logjam

Problem: Paper jams

So you've remedied the cause for slow printing only to end up with the King of All Printer Nightmares – the paper jam.

Solutions:

Your User Guide or control panel instructions should walk you through this easily enough. In fact, some Xerox printers provide video assistance and lighted interiors to make jam clearance a snap. Start by inspecting the paper path and remove any jammed material, being careful to take out any stuck paper straight —and above all—not tearing it. If it's caught between rollers, follow the guide on how to release the pressure.

If it's a misaligned paper that caused the jam, remove the tray to make sure the paper is positioned correctly and reseat the tray. Sometimes you may find no misfed sheet at all, in which case you'll need to remove the paper stack, check to see if it's squared properly and reposition it back in the tray—all after taking a deep breath.

As a rule you should always make sure the type of paper being printed is supported by your printer. And also remember to store your paper where it's dry to avoid moisture that can make printing difficult.

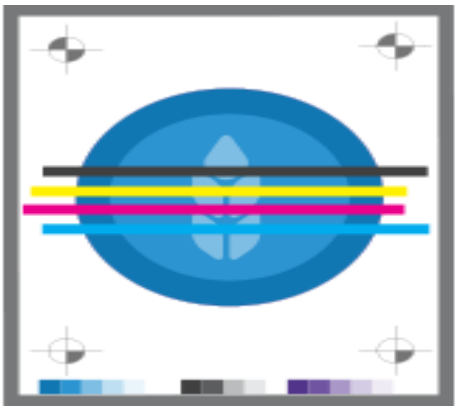


Figure 2. Paper jams

3. A Picture's Worth 1,000 Words

Problem: Really bad looking prints

Your printer is operating perfectly—but your final product looks terrible. Smudges, poor image quality or faded type make even the best documents look sloppy and unprofessional.

Solutions:

Try these easy fixes for better quality laser printing. If your issues persist, the problem is more likely to be due to supplies or hardware.

- Check your print driver to make sure you have the correct paper or media selected.
- Double check that the paper loaded in the tray matches the type selected in the printer driver.
- In some laser printers, the fuser has an adjustment for paper type. If your printer's fuser can be adjusted manually, check to see that it's set properly but be aware: fusers get very hot so exercise caution.
- Check out your toner cartridges, imaging unit(s) and the fuser for damage. These components vary by model and manufacturer so it's best to refer to the User Guide.
- If you've got smudge marks, print several blank sheets of paper and they will eventually fade away.

Figure 3 Really bad looking prints**.**

4. Nothing's Happening

Problem: My printer isn't printing

Next to the almighty paper jam, nothing happening also ranks high on the printing problem list.

Solutions:

First, check that you sent the print job to the right printer; you may very well be printing dozens of documents in the next department. To make your main printer your default, click navigate to Printers and Faxes in Windows®. Right-click on your printer icon and select Set as default printer.

Did you check that there's enough—and the correct kind—of paper in the tray? While you're at it, make sure your printer is on and that all cables are secure. Both USB- and network-connected computers require that the print driver be installed on the computer you're printing from. Print drivers with a two-way communication feature can tell you what might be causing your issue via desktop or driver notifications, without making a trip to the printer.

And finally, if your printer just won't print or your print job seems stuck in the queue, the easiest solution is to restart. Begin by restarting your software application. If that doesn't work, reboot your computer. Lastly, turn off your printer for a few minutes before switching it back on.

Figure 5. Printer isn't printing

5. Time to pull the plug

Problem: Old age and/or outdated technology

We see this lot: your printer has been good to you, and you've grown rather attached to it…it fits just right and has all the configurations exactly as you want them. And yet, you're starting to notice little hiccups now and then—a grating noise here, a collating problem there…

Solution:

Accept the fact that it may be time to let it go, bearing in mind the steep cost of holding onto outdated legacy technology, not only in terms of business drag but the price of a hamstrung IT department. When you're ready for a replacement, consider a new printer with a service contract. You can see all of our award-winning product line at **xerox.com/office**.

2.1.2 Printer error messages

- Not enough memory
- Out of disk space
- User cancelled print
- General error
- Printer not named (default printer settings in Windows Control Panel)
- Print driver not specified (default printer settings in Windows Control Panel)
- Print port not specified (default printer settings in Windows Control Panel)
- Name of printer driver too long - device in WIN.INI (if line is longer than 80 characters you will get this error)
- "Create DC call unsuccessful" (DC means "Display Context")

Self-Check -2	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Define a printer? 5 points
2. List the hardware printer problems. 10 points
3. Write the common error message printer. 5 points

Note: **Satisfactory rating - 20points Unsatisfactory - below 20 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instruction: Given necessary templates, tools and materials you are required to perform the following tasks within 1 hours.

Task 1. Display data from personal computer

List of reference and Materials

https://www.xerox.com/en-us/small-business/insights/printing-problems-and-solutions
https://www.quora.com/How-is-data-displayed-on-the-screen-of-a-computer
https://www.accountedge.com/knowledge-base/troubleshooting/printer-error-messages/

HORTICULTURAL CROPS PRODUCTION

Level-I

Learning Guide#22

Unit of Competence: Operate Personal Computer

Module Title: Operating Personal Computer

LG Code: AGR HCP1 M05 LO5-LG-22

TTLM Code: AGR HCP1 TTLM 1219v1

LO5. Apply ergonomic principles for safe operation

Instruction Sheet	Explaining Ergonomic principles

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Explaining Ergonomic principles
- Explain Ergonomic requirements

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, **upon completion of this Learning Guide, you will be able to**:

- Explain ergonomic principles in terms of user physical well-being
- Explain ergonomic requirements in terms of environment

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 4.
3. Read the information written in the information “Sheet 1 and Sheet 2”.
4. Accomplish the “Self-check 1 and Self-check 2” **in page -77 and 85** respectively.
5. If you earned a satisfactory evaluation from the “Self-check” proceed to the next.

Information Sheet-1	Explaining Ergonomic principles

1.1 Ergonomics

- Derived from the Greek words ‘Ergon’ meaning work and ‘nomos’ meaning laws.
- Thus, ergonomics can be simply defined as the how workplace and equipment can be best used and designed for comfort, safety, efficiency and productivity.
- “Ergonomics (or human factors) is the scientific discipline concerned with the understanding of the interactions among human and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance.”-International Ergonomics Association Executive Council, August 2000
- Simply, ergonomics is the branch of science that deals with the people and their working environment.
- Ergonomics is for worker safety and health and maintaining the healthy working environment.
- It can also be understood as the study of worker in their working environment.
- Ergonomics is concerned with designing or arranging workplaces, products and systems so that they fit the people who use them and the maximum output can be obtained from them
- Ergonomics extends beyond the proper posture of the workers.

1.1.1 Importance of ergonomics

a) Increases productivity

- Best ergonomic solution enhances the productivity
- Ergonomic reduces the unwanted tension, awkward position of the body.
- Ergonomic is focused in making the work your easier and comfortable, this thereby reduces any kind of stress, risk and enhances the satisfaction and productivity.

b) Reduces the cost

- Ergonomics can be considered as the one-time investment

- As ergonomics is focused about marinating the better health of the worker it can further reduce the cost of compensation that would be made by the injured or unhealthy staffs.
- It also reduces the indirect and the opportunity cost that could have incurred due to injury.

C) Improves the quality of the work

- Improved ergonomics favors the favorable environment where the workers can work efficiently.
- As the ergonomics improves, level of satisfaction in the quality of the work increases.

1.1.2 Principles of Ergonomics

There are 10 fundamental principles of ergonomics which are:

1. Work in neutral postures

- Proper posture maintenance is necessary
- Working too long with “C” curve can cause strain
- Keeping the proper alignment of neck hands wrist are also necessary

2. Reduce excessive force

- Excessive pressure or force at the joints can cause injury
- Better to minimize the work that requires more physical labor

3. Keep everything in reach

- Keeping everything in reach would help in avoiding unneeded stretching and strain
- More or less this principle is related with maintaining good posture.

4. Work at proper height

- Working at right makes things way easier
- Sometimes height can be maintained by adding extensions or avoiding extensions on the chair or tables

5. Reduce excessive motions

- Repetitive motion needs to be avoided

- This can cause disorder and numbness in long run
- Motion scan be reduced by the use of power tools

6. Minimize fatigue and static load

- Fatigue is common in strenuous work
- Having to hold things for longer period is example of static load
- Fatigue can be reduced by the intervals and the breaks between the works.

7. Minimize pressure points

- One needs to be aware of pressure points
- Almost everyone of has to sit on chairs that had cushioning, one of the pressure point is behind knees, which happens if air is too high or when you dangle your legs. Pressure point is also created in between your thigh and the bottom of a table when you sit.
- Anti-fatigue mats or insole can be used

8. Provide clearance

- Work area should have enough clearance
- Let the worker not worry about the bumps that they have to encounter on daily basis.

9. Move, exercise and stretch

- Move and stretch when you can
- It better to take intervals between the works and stretch and move along
- Stretching technique may differ and depend on the work one does

10. Maintain a comfortable environment

- This principle is focused on the other component of the working environment.
- It is concerned about the lightening, space, cool air and many more.

1.1.3 Ergonomic Injuries/Musculoskeletal Disorder (MSDs):

- Ergonomic injuries or MSDs can affect the muscles, nerves, tendons, ligaments, joints, cartilage and spinal discs.
- Musculoskeletal disorder (MSDs) is also known as the repetitive motion injury.
- MSDs are the condition that can affect muscles, joints and bones.
- MSD are caused due to individual risk factor or ergonomic risk factor.

- MSDs are the single largest category of workplace injuries and are responsible for almost 30% of all worker's compensation costs
- Individual risk factor include age, nutrition, activity, etc.

Figure 2. Ergonomic injury

Self-Check -1	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. What is Ergonomics? 4 points
2. Write the Importance of ergonomics. 6 points
3. List the 10 fundamental principles of ergonomics. 10 points

Note: **Satisfactory rating - 20points Unsatisfactory - below 20 points**

You can ask you teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

Information sheet -2	Explain Ergonomic requirements

2.1 Computer Workstations & Ergonomics

Individuals who use computers for extended periods of time may experience discomfort or pain as a result of poor posture, improper adjustment or use of workstation components or other factors. In most cases, there are relatively simple and inexpensive corrective measures which can be employed to reduce the likelihood of discomfort or injury.

EHS staff are available to train computer users on how to adjust their computer workstations in order to work safely.

2.1.1 Setting up Your Workstation

Here are some general guidelines to adjusting your workstation in order to achieve a neutral posture while working. Of course, no two bodies are identical and different styles, models, and sizes of furniture and accessories may be needed. The best results are achieved when the individual is involved in the selection and adjustment process.

Chair

Desired features for computer task chairs include:

- pneumatic seat height adjustability
- 360 degree swivel
- back height/lumbar support adjustability
- seat depth adjustability (either by moving the back of the chair or by moving the seat pan).
- Tilt is not necessarily recommended, and, if a chair has tilt, it should also be equipped with tilt lock.
- Armrests are not recommended for computer use. If a chair is equipped with arms, they should be adjusted to their lowest point.

Users should be able to sit such that their feet are flat on the floor (or a footstool, if necessary), knees are approximately 90 degrees and the back of the chair is in use.

Keyboard/Mouse

- Users should be able to place their hands on the keyboard or mouse with their neck and shoulders relaxed, their upper arms at their sides, their elbows at or slightly larger than 90 degrees and wrists straight.
- If a keyboard or mouse is too high when placed on the desk surface, users can employ a height- and tilt-adjustable keyboard tray. Keyboard trays should be large enough to accommodate the keyboard and mouse on the same level. If a keyboard tray is not practical or desired, users may be able to raise the height of the chair and use a footstool.
- In order to keep wrists in a neutral posture, keyboard legs should be folded up and keyboard trays can be adjusted to a slightly negative angle (away from the user).

Monitor

- Monitors should be placed at a distance such that the user can focus on the screen while still using the back of the chair and keep their arms parallel to their upper body. This may be anywhere between 18 and 30 inches.
- Monitor height should be adjusted such that the user's eyes are level with the top of the screen. This may need to be adjusted with the use of corrective glasses, as multi-lens glasses can impact how a user holds their neck posture.
- Computer users who use two monitor screens must assess how both monitors are used:
    - If both monitors are used equally, the monitors should be placed together, directly in front of the user.
    - If one monitor is used primarily and another is used only occasionally, the primary monitor should be placed directly in front of the user with

Laptop Computers

Laptop computers and tablets do not have the adjustability of a desktop computer when adjusting keyboard, mouse and monitor. For long term use of laptops, a docking station, port replicator or external keyboard and monitor are recommended.

Accessories

- Telephone headsets: If your job requires you to frequently use the telephone and the computer at the same time, a telephone headset may be recommended. Contact the University Telephone Office to find telephone headsets compatible with University telephones
- Input devices: There are a number of alternatives to the standard mouse input device. Since there are many varied work types, work spaces and operator issues, there is no single alternative device which is recommended. Contact EHS with questions about specific input devices.
- "Ergonomic" or "Natural" keyboards: There are a variety of keyboard types available for use. However, research shows that standard keyboards allow most users to keep their arms and wrists in a neutral posture.
- Keyboard or mouse palm/wrist rests: Palm/wrist rests may be used to keep a user's wrists in a neutral posture and prevent leaning wrists on the edge of a desk, creating contact stress.

2.1.2 Tips for Reducing Computer Discomfort

Evaluating Your Work

- How much time is spent on the computer each day?
- What are your non-computer-related job tasks? Can these be scheduled throughout the day?
- Is your computer work mouse-intensive, keyboard-intensive or a combination?
- Does your work require you to work on the computer and the telephone at the same time?

Other Considerations

- Do you wear corrective lenses? Should you consider lenses specifically for computer use?
- Do you have poor posture habits, such as crossing legs, leaning to one side or the other, slouching, etc.?
- Do you participate in home activities which might use similar motions or muscle groups as computer work (i.e., gardening, playing an instrument, home computer use, etc.)?

2.1.3 General Tips and Work Practices

Even the perfect posture is not perfect for 8 hours per day. Computers users should devote at least five minutes of every hour of computer use to a non-computer-related task.

- Stand up while on the phone to force a break from computer work and focus on a distant object
- Print to a remote printer to force yourself to stand up and move around
- Schedule non-computer-related tasks throughout the day
- Blink your eyes multiple times during computer breaks to avoid eyestrain.
- Each time you sit, take the opportunity to “reset” your posture. Sit back in the chair, relax your neck and shoulders, move the chair in, etc.

1.1.4 Sit-Stand Workstations

Standing desks or sit-stand workstations are rapidly gaining in popularity. While research suggests that prolonged sedentary behavior has emerged as a risk factor for various negative health outcomes, there is little agreement on the best intervention strategies to reduce sedentary behavior.

The following information outlines the EHS guidance regarding these emerging intervention strategies:

Departmental Purchases

As with chairs, desks or other office furniture, sit-stand desks are purchases made at the discretion of the department. EHS does **NOT** make recommendations in regards to the need for or the type of sit-stand workstations.

Medical Accommodation

Requests for a medical accommodation, including those for a sit-stand or standing desk, should be referred to the Office of Human Resources (for staff), the Office of the Dean of Faculty (for DOF employees), or the Office of Disability Services (for undergraduate and graduate students).

1.1.4 Standing Desks vs. Sit-Stand Desks

Some workstations are designed for the user to stand exclusively and some are designed to vary posture between sitting and standing. Research suggests that variability is key and users benefit from the ability to change postures between sitting and standing.

1.1.5 Types of Sit-Stand Workstations

There is a wide range of sit-stand workstations commercially available, from free-standing electrically controlled to manual setups that can be placed on an existing desk surface. Each type has benefits and limitations. Departments and users should consider the following when evaluating products:

- Ease of use
- Cost
- Desk space footprint
- Distance to monitor
- Space for mouse or other input device

1.1.6 Alternative Strategies

There are several alternative strategies to reducing sedentary behavior, both at work and outside of work. All computer users should be encouraged to devote at least five minutes of every hour of computer use to a non-computer-related tasks.

Work-related strategies can include:

- Standing while speaking on the telephone builds in a natural break throughout the day and avoids the temptation to pinch the telephone headset between your shoulder and chin
- Print to a remote printer to force yourself to stand and retrieve documents
- Schedule non-computer-related tasks throughout the day
- Set a timer that reminds you to stand up and move throughout the day. Certain commercially available fitness trackers (Fitbit, Garmin, etc.) will remind you to move throughout the day
- Use these University Health Services Desk Stretch videos to increase movement throughout the day

Strategies outside of work can include:

- Join a walking group in the neighborhood or at the local shopping mall.
- Recruit a partner for support and encouragement.
- Get the whole family involved — enjoy an afternoon walk or bike ride with your kids. Play with your kids — tumble in the leaves, build a snowman, splash in a puddle, or dance to favorite music.
- Walk up and down the soccer or softball field sidelines while watching the kids play.
- Walk the dog frequently
- Clean the house or wash the car.
- Drive less: walk, bike or take public transportation
- Do stretches, exercises, or pedal a stationary bike while watching television.
- Mow the lawn with a push mower.
- Plant and care for a vegetable or flower garden.

2.1.7 Training on Adjusting Your Computer Workstation

EHS staff are available to train computer users on how to adjust their computer workstations and work safely. Contact the individuals listed to the right to arrange a training session.

2.1.8 Reporting a Work-Related Computer Injury

For employees, all work-related injuries must be reported to Employee Health at University Health Services at 609-258-5035.

If you believe you are experiencing an injury due to the setup or use of your computer workstation, contact Employee Health at 609-258-5035 (for employees) or Student Health at 609-258-3141 (for undergraduate and graduate students).

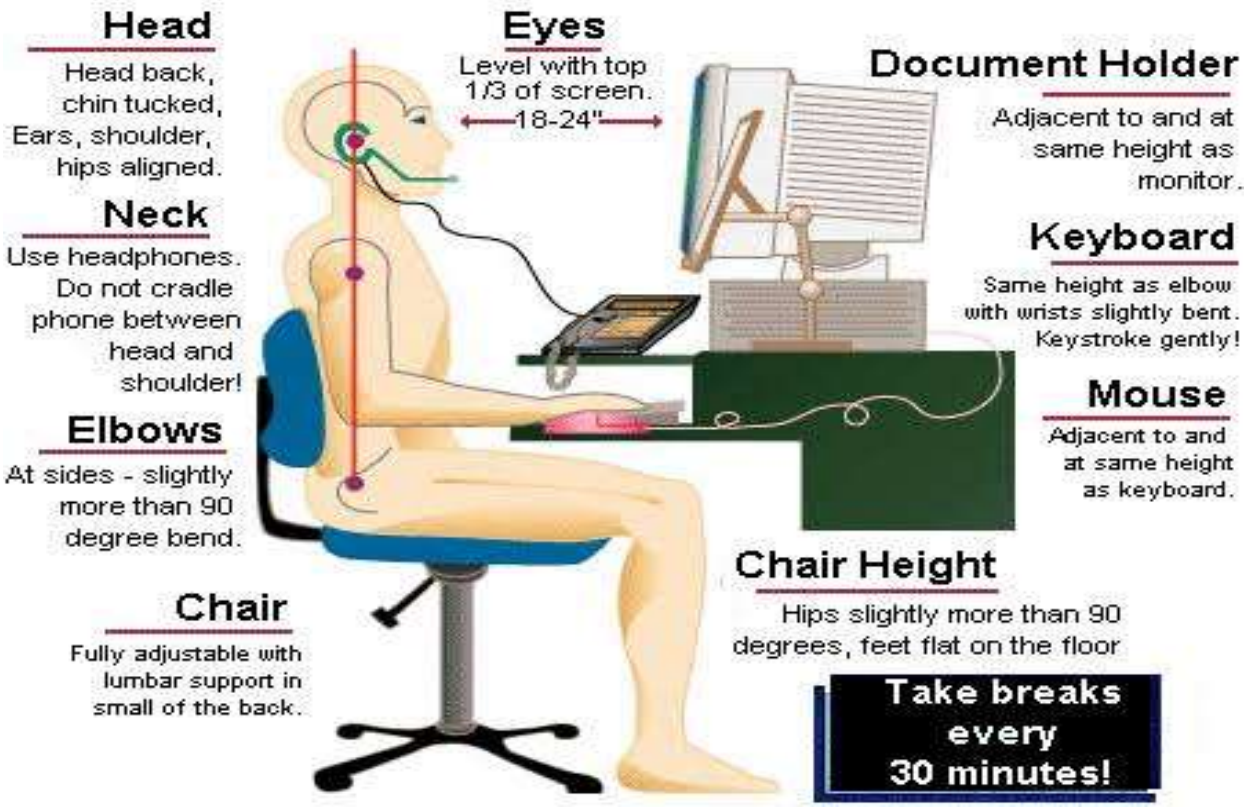


Figure 1. Ergonomics information

Self-Check -2	Written Test

Directions: - Answer all the questions listed below. Use the Answer sheet provided in the next page

1. Write the desired features computer chairs setting up on your work station.6 points.
2. Write the tips for Reducing Computer Discomfort

Note: **Satisfactory rating - 15 points Unsatisfactory - below 15 points**

You can ask your teacher for the copy of the correct answers.

Score = _____

Rating= _____

Name: _____ Date: _____

Answer sheet

List of reference and materials

https://www.mydr.com.au/pain/office-ergonomics-workstation-comfort-and-safety

https://www.publichealthnotes.com/ergonomics-and-its-10-principles/

NO	TTLM developer Name	Back ground Qualification	College Address	College Name	Cell Phone	E-mail
1	Deribow Gonfa	Plant science(Bsc)	Oromiya	Fitche PollyTVET	0912774688	gonfad24@gmail.com
2	Tesfaye Tekola	Agronomy (Msc)	Benishangul Gumuz	Assosa ATVET	0910550651	tttekola@gmail.com
3	Berhanu Mammo	Horticulture (BSc)	Mizan ATVET	Federal	0912676883	birehanmammo@gmail.com
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6	Tadesse Yasin	Horticulture (BSc)	Amhara	Kombolcha PollyTVET	0921626541	-
7	Zewde Paulos	Agronomy(Msc)	SNNPR	Sodo ATVET	0921004814	Zedpa2013@gmail.com
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