

# Final Revision

# Computer and information technology



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prepared by

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## Important notes in chapters

# Unit one lesson one

### **What is a Computer**

It is an electronic set which has the ability to store data and process them reach certain results {**information**} by doing logical and mathematical processes.

### **Computer Shapes**

- a- Personal computer
- b- LapTop
- c- Smart devices

### **Elements of a Computer System:**

A computer system is a set of **four** elements.

- (i) Hardware
- (ii) Software
- (iii) Humanware
- (iv) Data & Information

### **A) Data & Information**

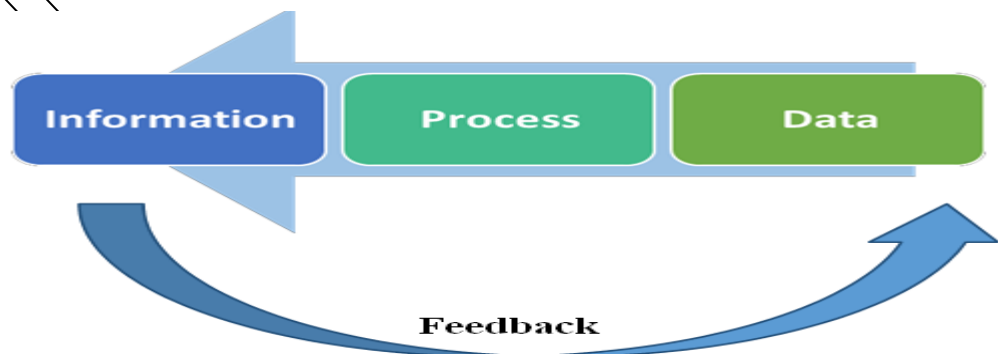
#### **Data:**

They are set of facts that can be obtained by observation or watching.

These data can be text ,number ,character, image , video ,audio..etc .

#### **Information**

Data are processed by classifying, organizing and analyzing to have sense to achieve certain goal (objective). They may be in the form of reports, tables and charts ..... etc.



**B) Hardware:-**

Hardware is the actual content of the computer device which can be observed and touched.

**Input unit:** The devices and units which are responsible for inputting different data into the device.

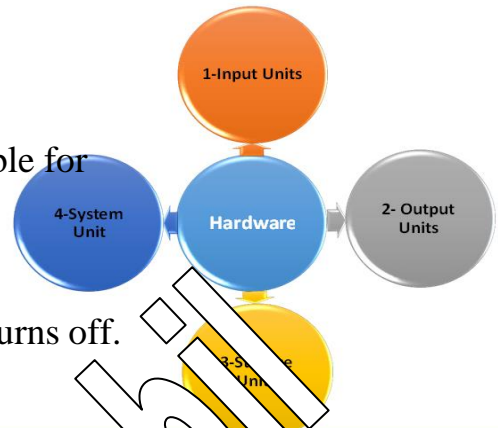
**Output unit:** The devices and the units which are responsible for outputting and displaying information

**Storage unit:** It is used to store data  
The contents can't be lost when the electricity turns off.

**System unit:**

The most important components the system unit:

- The main memory unit
- Processor
- Motherboard

**Main memory**

- **RAM:** RAM stands for **R**andom **A**ccess **M**emory. This memory holds the information you are working with while the computer is turned on. Once you turn the computer off all the information that was in **RAM** will be gone.
- **ROM:** ROM stands for **R**ead **O**nly **M**emory. This memory holds information that you can only read, but not erase. Information in ROM is built in and is always there even when the computer is turned off.

**Central Processing Unit (Processor)**

-It is the brain of computer.

-Processor *contains:*

**(A) Arithmetic and Logic Unit (ALU):**

Responsible for processing data and convert it to information. All data are stored as numbers. It's responsible for performing the arithmetic and logic process to convert it into information.

**(B) Control Unit**

Note: Processor, RAM and ROM are located in motherboard.

**What are the units to measure storage unit?****Bit**

It is the smallest unit of capacity Bit  
could be 0 or 1

0 if there is no electric path

1 if there is passing electric path

**Byte**

can be used in most computer systems as a unit of measuring data.

-8 bits make 1 Byte

- Every letter, number or symbol needs a byte to be saved on the computer's memory.

**KiloByte**

1 KB = 1024

1 MG = 1024 KB

**GigaByte**

1 GB = 1024 MB

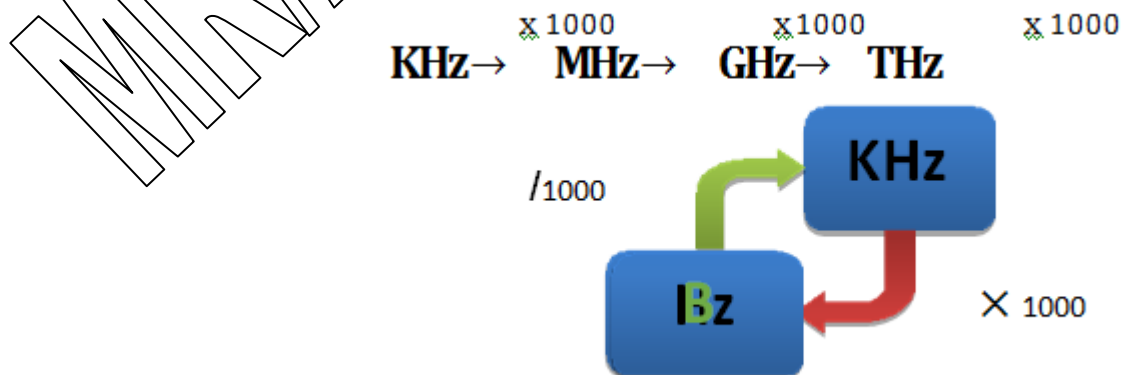
**Tip:**

When you change from Bit into Byte divide into 8

When you change from Byte into Bit you multiply to 8 and so does the rest of changes (/) means division process instead of (÷) in arithmetic system.

**What are the units to measure processor speed?**

(HZ) and its doubling is the unit of measuring the processor speed.



**C)Software:-**

Software is a set of programs used to operate the computer and employ it to do different tasks.

**What is the difference between open source program and closed one?****Closed Source Programs:**

A type of programs where you can't read its source code. It is only available for programmers or designers;

**Open Source Programs:**

They are the programs of source code available for use, editing, development and distribution.

**- Software is divided into three types according to the copy rights:****1- Freeware:**

The responsible company lets the user make full use of it for free.

**2- Shareware:**

Shareware is an experimental copy for the original software with limited abilities or limited time and when time is up/over, shareware must be bought.

**3- Software that can't be used except by buying the original copy.**

It is protected by ID.

**D)Humanware:-****Consists of**

- a-User
- b-Designer
- c-programmer
- d-analyst

# End of lesson one

## Unit one lesson Two

### **What is Operating System?**

It is a set of programs responsible for managing the hard ware of the computer. On one hand it is a means between the user and his programs and the hard ware on the other hand.

### **What are the things that Operating system responsible for?**

- Computer hardware
- Applications
- Command prompt is where the user can prompt commands to operating system or through graphical user interface (GUI).

### **What is command prompt?**

It is called "Terminal" in some operating systems where the user prompts commands to the operating system from command prompt using the keyboard.

### **How can user send commands to OS?**

#### The user can prompt commands in two ways:

- Command prompt
- GUI

### **What are the functions of OS?**

- manage storage units and the other components of computer (printer – scanner).
- organize the software dealing with memory.
- transmit data among the different units and save them on storage.
- secure (password – different user validity).
- provide interface for users through which the user can deal with computer.

### **What are the Kinds of OS?**

#### Closed source operating systems:

- Mac OS X is an operating system specified for apple Mac devices that is attractive and easy to use.
- Windows : One of the most famous operating systems and more common for personal computer.

**- Open source operating system:**

Linux: Open source operating system

**Mobile phones operating systems:**

There are open and closed source operating systems for mobile phones

. Android is one of the open-operating systems. It is not only used in Mobile phones but also in tablets.

**What are the characteristics of GUI?**

It provides the user with graphic user interface which allows:

- Showing programs in the regular window frames.
- Using simple drop down menu and tool bars.
- The capability of operating several programs at the same time.
- The capability of using Arabic and other languages as application interface.
- Provide web browsers for web sites pages.

• **Tip:**

The computer can contain more than one operating system but on starting, choose one of them to be loaded.

## Unit for lesson two

### **Unit one lesson Three**

**What is the file?**

Is a set of data which are stored in storage devices with different extensions?

**What are the most important file types??**

- a-Image files
- b-video files
- c-system files
- d-Text files

**What are the steps to create and save file?****file creation:**

- open one of the text editor programs
- Write one of the text phrases

**File saving:**

- Open file menu.
- Chose save as, *save as* dialogue box appears.
  1. Write the file name in the specific place.
  2. Define the place in which file be saved.
  - 3–Click save

You can use the short keys in the keyboard (CTRL+S) to save the file.

**What are the file components?**

1-file name

2-file extension

ex:- MR-Abanoub.txt

**Compare between Save and Save as?**

SAVE AS	Save
Used on creating the file at the first time	Used on creating the file for the first time.
Used on changing the name of the file or saving the file after modification and with a desire to save the file with different extension	Used on modifying the file with a desire to save the modification at the same file and with the same name as it is.



**How we can search for the files?**

You can search for the file in different ways:

**A-Search** by file name.

Write part of the file name or the full name in the search bar then file names appear including the file name.

**B-search** by file extension.

This can be done using the symbol (\*) instead of the file origin name and write the file extension and they can be separated with a dot (.) in the following example, means search all files with extension PNG.

**What is folder?**

It is a place inside a storage device which contains a file or more and also other folders called sub-folder.

**What are the steps to create folder?**

- ❑ Click the mouse in the place where you need to set up the folder. Click the right button of the mouse, the context menu appears as found in the following shape.
- ❑ Select the New folder command
- ❑ write the folder name.
- ❑ Click "create".

**Tips**

- The folder may contain files or sub folders.
- One of the folder properties is to identify its size and the number of its contents (items).

**How we can copy and cut folder?**

**Cutting The folder**: to move the folder from its current place to a new place at the same storage unit or any other storage unit.

**Copying The folder**: make another instance to get spare copy of the file either at the same storage unit or any other.



# Unit one Lesson Four

## What is Computer nets?

A **network** is a collection of computers connected to one another allowing for data to be shared and used. A great example of a network is the **Internet**, connecting millions of people all over the world together.

## What is the importance of networks?

It is a connection between two sets or more through a wire or wireless means to share the resources (sets and data).

## What are the benefits of networks ?

- a- The possibility exchanging data and programs among the net sets
- b- Sharing the Hardware such as (printer, scanner, different storage units.....etc.)
- c-Data centralization

## What are the types of networks?

### a-Local Area Networks (LANs)

It is a limited network area inside a building or several near buildings. It is used at small institutions, schools, universities or at home.

### b-Wide Area Networks(WANs)

It is used to connect devices separated by long distances like cities, states or continents, so other methods are used to connect devices that are different from the local network.

**The Internet** is considered a special type of the wide area networks

## What is a file Sharing?

Sharing files is the process of spreading digitally stored information, such as documents, electronic books, computer software or multimedia (audio files, video or photos).

## How to share file in Windows OS?

To share a file or a group of files in Windows Operating system the following steps are to be followed:

- Add the files in a folder.
- Select the folder to be shared (for example the folder, **Books**),
- right-click the mouse then select **Share with** from the context menu.
- Select the option "**Specific people**", a dialogue box **File Sharing** appears (the following numbered pictures guide towards identifying the steps).



## Important Questions in unit one

**Question one:- : Mark (✓) on the right statement and (x) on the wrong one:**

- 1-Touch screen is input unit only ( )
- 2-RAM is better than ROM ( )
- 3-We measure processor speed with BYTE. ( )
- 4-1kByte = 1024 bit. ( )
- 5- Operating system must be installed on the computer to be able to operating the rest kinds of different programs and applications. ( )
- 6-The user can prompt commands and instruction of O through command prompt ( )
- 7-MAC OS X is one of the open source Operating systems ( )
- 8-Android is open source operating system ( )
- 9-The type of the file can be identified through the icon or extension ( )
- 10-The permanent delete on trash can be stored again ( )
- 11-Cut and paste the folder mean to repeat it ( )
- 12-File can be saved using (SHIFT+S) ( )
- 13- Linking devices together within a computer network gives the possibility of sharing the data only ( )
- 14- The Internet is considered a special type of wide area networks ( )
- 15- The wide range network uses different methods than that of the local network to maintain connectivity( )
- 16- To share folders, your device must be connected to the network to help other users to reach it. ( )
- 17- To share files in Windows Operating System, It is not necessary to be added in a folder. ( )
- 18- Specifying the user **Everyone** to share a folder in Windows Operating System means allowing all users to share it ( )
- 19- The **Computer** icon is used to access the shared folders in Windows Operating System. ( )
- 20- Sharing files in the Fedora Operating System is to be implemented through allowing the network users to access a folder **Document** ( )
- 21- To make the process of sharing files accessible in Fedora Operating System, the **sharing** setting must be set upon an **Off** position. ( )

**Question two:- : Choose the correct answers:**

1. Touch screen is one of ..... units.

- |                     |                          |
|---------------------|--------------------------|
| A) Input only       | C) output only           |
| B) Input and output | D) None of all mentioned |

2. .... is one of the output units.

- |              |               |
|--------------|---------------|
| A) Printer   | C) Keyboard   |
| B) The mouth | D) Microphone |

3. .... is the memory which keep data temporarily.

- A) RAM  
B) Flash Memory  
C) ROM  
D) All mentioned

4. Three Kbytes is equal to..... bytes.

- A) 3 X 1024  
B) 3 X 1000  
C) 1024 X 1024 X 1024  
D) nothing of what was mentioned
- 

**Question three:-Answer the following :**

- 1-Define three functions of operating system?
  - 2-Show the most important advantage of (GUI) graphical user interface?
  - 3-What is the main function of self-test program?
  - 4-Why is the permanent unit called so?
  - 5-What do you mean by open source programs?
  - 6-Show the difference between: freeware – shareware
  - 7-Mention the most important benefits of computer networks?
  - 8-The type of network differs according to the geographical area it occupies. Mention two types of networks range?
  - 9-Using the **Read/Write** option may cause a problem to users when sharing folders. **Explain**
  - 10-Why is the temporary unit called so?
- 

**Question four:-Complete the following :**

1. .... are examples of computers
  2. .... are computer system elements or components.
  3. .... are of the output units.
  - 4..... is the unit of measuring the processor speed
  - 5..... is the unit of measuring he data.
-

**Question five:-Rearrange the following:****to share a folder in Windows Operating System:**

- ( ) Choose the user allowed to share the folder.
- ( ) Choose the option **Specific people** then a dialogue box **File Sharing** appears.
- ( ) click **ADD to** add this user to the list of users who are allowed to share.
- ( ) open the context menu of the folder to choose the command **Share with**.
- ( ) Press **Share** to complete sharing the folder.

**Question six:-complete the following using the words in practices:**

(files - size - data - users - the name - research - devises)

1. One of the most important benefits of the network is centralizing .....
2. The local network is a limited network in the .....
3. Sharing ..... is a process of spreading digitally stored information.
4. Searching for accessing required device on the network is to be through .....
5. It is possible to other ..... to access the files that you shared through accessing your folder **Public**.
6. The term **Sharing** is written in the ..... dialog box to access the **Sharing** icon.

**Question seven:-What is the differences between:**

- (1) File and folder
- (2) Save and save as
- (3) Delete and Delete from Trash

**Question seven:-Write the scientific term:**

- (1) Files belong to operating system and components connected to computer never play with it. ....
- (2) A collection of data which is stored in the storage units in different extension. ....

**End of revision of chapter 1**

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**Waiting revision of chapter two**

