**University Badji Mokhtar -Annaba- Module: English Sidi-Ammar**

 **What does a computer consist of?**

 Computers are electronic machines that can accept data in a certain form, process the data, and give the results of the processing in a specified format as information. Three basic steps are involved in the process. First, data is fed into the computer's memory. Then, when the program is run, the computer performs a set of instructions and processes the data. Finally, we can see the results (the output) on the screen or in printed form.

 Information in the form of data and programs which is known as software, and the electronic and mechanical parts that make up a computer system are called hardware. A standard computer system consists of three main sections: the central processing unit (CPU), the main memory, and the peripherals.

 Perhaps the most influential component is the central processing unit. Its function is to execute program instructions and coordinate the activities of all the other units. In a way, it is the ‘brain’ of the computer. The main memory holds the instructions and data which are being processed by the CPU.

 The peripherals are the physical units attached to the computer. They include storage devices and input/output devices. Storage devices (floppy, hard or optical disks) provide a permanent storage of both data and programs. Disk drives are used to handle one or more floppy disks.

 Input devices are data to go into the computer's memory. The most common input devices are the mouse and the keyboard. Output devices enable us to extract die finished product from the system. For example, the computer shows the output on the monitor or prints the results onto paper by means of a printer. On the rear panel of the computer, there are several ports into which we can plug a wide range of peripherals - modems, fax machines, optical drives, and scanners. These are the main physical units of a computer system, generally known as the configuration.

**Reading Comprehension**

**Say whether the following statements are True or false and correct the false ones**

1. Computers are mechanical machines that cannot process data electronically. False

Computers are electronic machines that process data electronically

1. The central processing unit (CPU) is responsible for coordinating the activities of other units in a computer.

True

1. Input devices provide a means to extract finished products from the computer system.

Input devices provide a means to input data into the computer's memory

1. Output devices display results on the computer monitor or print them onto paper.

True

**Read the text then answer the following questions**

1. What is a computer?

A computer is an electronic machine that can accept data in a certain form, process the data, and give the results of the processing in a specified format as information

1. What are the three basic steps involved in the processing of information?

The three basic steps involved in the processing of information are: feeding data into the computer's memory, executing a set of instructions to process the data, and viewing the results on the screen or in printed form.

1. What are CPU’s main functions?

The CPU's main functions include executing program instructions and coordinating the activities of other units in the computer

1. What are peripherals?

The peripherals are the physical units attached to the computer.

1. What are the functions of input devices? Which of them can you name?

Input devices provide a means to input data into the computer's memory. Such as the mouse and keyboard.

1. What are the functions of output devices? Which of them can you name?

Output devices display results on the computer monitor or print them onto paper. Such as monitors and printers

**Try to answer these questions with a partner.**

1. How many digits does a binary system use?

The binary system uses two digits : 0 and 1

1. What is a 'bit?

a bit is the smallest unit of data which can hold either 0 or 1

1. What is the difference between binary notation and the decimal system? Give some examples.

The difference between binary notation and the decimal system is that binary notation contains only 0 or 1 and the decimal system contains digits from 0 to 9

1. What is a collection of eight bits called?

A collection of eight bits is called a byte. for example, A has 8 digits.

1. One kilobyte (IK) equals 1,024 bytes. Can you work out the value of these units? (kilo -: one thousand) 1 megabyte = bytes/1,024 kilobytes (mega-: one million) 1 gigabyte = bytes/1,024 megabytes (giga-: one thousand million)

Binary: 1010 represents (1 \* 2^3) + (0 \* 2^2) + (1 \* 2^1) + (0 \* 2^0) = 10 in decimal

. Decimal: 357 represents (3 \* 10^2) + (5 \* 10^1) + (7 \* 10^0) = 357.

1. What does the acronym ASCII stand for? What is the purpose of this code?

It stands for American Standard Code for Information Interchange

The purpose of the ASCII code is to establish a standard way to represent different characters (letters, numbers, symbols, etc.)

**Now read the text and check your answers**

**basic units of memory:** Information is processed and stored in computers as electrical signals. A computer contains thousands of electronic circuits connected by switches that can only be in one of two possible states: ON (the current is flowing through the wire) or OFF (the current is not flowing through the wire). To represent these two conditions we use binary notation in which 1 means ON and 0 means OFF. This is the only way a computer can 'understand' anything. Everything about computers is based upon this binary process. Each 1 or 0 is called a binary digit or bit

**Bytes and characters** 1s and 0s are grouped into eight-digit codes that typically represent characters (letters, numbers, and symbols). Eight bits together are called a byte. Thus, each character in a keyboard has its arrangement of eight bits. For example. 01000001 for the letter A, 01000010 for B, and 01000011 for C.

**The ASCII code** The majority of computers use a standard disk system for the binary representation of characters. This is the American Standard Code for Information Interchange, known popularly as ASCII (pronounced 'ask-key'). There are 256 different ways of combining 0 and 1 bits in a byte. So they can give us 256 different signals. However, the ASCII code only uses 128 bytes to represent characters. The rest of the bytes are used for other purposes. The first 32 codes are reserved for characters such as the Return key, Tab, Escape, etc. Each letter of the alphabet, and many symbols (such as punctuation marks), as well as the ten numbers, have ASCII representations. What makes this system powerful is that these codes are standard.

**Kilobytes, megabytes and gigabytes** In order to avoid astronomical figures and sums in the calculation of bytes, we use units 18 30 such as kilobytes, megabytes and gigabytes. One kilobyte is 1,024 bytes (210) and it is represented as KB, or more informally as K One megabyte is equivalent to 1,024 KB, and one gigabyte is 1,024 MB. We use these units (KB, MB, GB) to describe the RAM memory, the storage capacity of disks and the size of any application or document

**writing**

Imagine you are tasked with explaining the basic components of a computer to someone who has never used one before.

Write a short paragraph that breaks down the key elements of a computer system, including the central processing unit (CPU), main memory, and peripherals. Be sure to explain the functions of each component and how they work together to process information. Additionally, discuss the role of software and hardware in a computer system, and provide examples of common input and output devices. Finally, conclude by emphasizing the importance of understanding these components for anyone using a computer in today's digital age.