WEEK 2

Topic: Booting the computer

Subbtitle: Meaning of booting the computer

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Define booting the computer

2. State the types of booting

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

MEANING OF BOOTING

booting is the process of starting a computer. It can be initiated by hardware such as a button press, or by a software command

Types of Booting

1) Warm Booting: when the System Starts from the Starting or from initial State Means when we Starts our System this is called as warm Booting. In the Warm Booting the System will be Started from its beginning State means first of all, the user will press the Power Button , then this will read all the instructions from the ROM and the Operating System will b Automatically gets loaded into the System.

2) Cold Booting: The Cold Booting is that in which System Automatically Starts when we are Running the System, For Example due to Light Fluctuation the system will Automatically Restarts So that in this Chances Damaging of system are More. and the System will no be start from its initial State So May Some Files will b Damaged because they are not Properly Stored into the System.

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Define booting the computer

2. State the types of booting

WRAP UP(CONCLUSION) Teacher goes over the topic once again for better understanding.

Assignment:

1. Define booting.

2. State the 2 types of booting.

WEEK 3&4

Topic: Booting the computer

Subbtitle: Meaning of booting the computer

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Define booting the computer

2. State the types of booting

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

TYPES OF BOOTING

Cold Boot: when the user switches on a computer after it has been power off completely,

Warm Boot: when the user restarts the computer.

When the booting process takes place, it copies kernel and important instructions of an operating system from hard disk to main memory (RAM). The kernel is the most important part of the operating system that manages memory and devices, maintains computer clock, starts applications.

It assigns compute resources like devices, programs, data, and information also. The kernel also remains in memory permanently when the computer starts.

Steps In the Booting Process

Booting is a process of switching on the computer and starting the operating system. Six steps of the booting process are BIOS and Setup Program, The Power-On-Self-Test (POST), The Operating System Loads, System Configuration, System Utility Loads and Users Authentication.

booting process

1: BIOS and Setup Program

2: The Power-On-Self-Test (POST)

3: The Operating System (OS) Loads

4: System Configuration

5: System Utility Loads

6: Users Authentication

Step 1: BIOS and Setup Program

ROM (read-only memory): it is a permanent and unchanging memory also

BIOS (basic input/output system): the part of the system software that includes the instructions that the computer uses to accept input and output

Load: to transfer from a storage device to memory. The ROM loads BIOS into the computer's memory

Setup program: a special program containing settings to control hardware. Furthermore, the program can only be accessed while the BIOS information is visible

Step 2: The Power-On-Self-Test (POST)

POST (Power-On Self-Test): a series of tests conducted on the computer's main memory, input/output devices, disk drives, and the hard disk.

BIOS conducts Power-On-Self-Test to check the input/ output system for operability.

The computer will produce a beeping sound if any problem occurs. An error message will also appear on the monitor

Step 3: The Operating System (OS) Loads

BIOS searches for the operating system.

Setting in CMOS: complementary metal oxide semiconductor determines where to look for the operating system.

In this step, the operating system's kernel is also loaded into the computer's memory.

The operating system takes control of the computer and begins loading system configuration information.

Step 4: System Configuration

Registry: a database to store information about peripherals and software

Peripheral: a device connected to a computer

Drive: a utility program that makes peripheral devices function properly

The operating system's registry configures the system.

In this step, drivers are also loaded into memory.

Step 5: System Utility Loads

System utilities are loaded into memory.

Volume control

Antivirus software

PC card unplugging utility

Step 6: Users AuthenticationAuthentication or user login occurs

Username

Password

After all this process, the user interface starts, enabling user interaction with the computer and its programs also.

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Define booting the computer

2. State the types of booting

WRAP UP(CONCLUSION) Teacher goes over the topic once again for better understanding.

Assignment:

1. Define booting.

2. State the 2 types of booting.

WEEK 5

Topic: Data

Subbtitle: Meaning and Types of data

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Define data

2. State the type of data

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

DATA

Data is a raw facts that need to be processed. it is called raw and unorganized facts. It is useless until it is processed and well organized.

TYPES OF DATA

1 numerical data**: These are mainly numbers such as 0,1,2,3,4,5,6,7,8,9**

2. Alphabetical data: These are mainly letters A_Z and other words formed these letters e.g father,mother, aunt, sister,friend etc

3. Alphanumeric data: Alphanumeric means numbers, alphabet and special characters.

Examples are:

2004 General election

Russia 2019

2019/2020 Academic session

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Define data

2. State the type of data

WRAP UP(CONCLUSION) Teacher goes over the topic once again for better understanding.

Assignment:

1. Define data

2. State the type of data.

WEEK 6

Topic: Data

Subbtitle: Meaning and Types of data

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Define data

2. State the type of data

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

MEANING OF INFORMATION

Information is stimuli that has meaning in some context for its receiver. When information is entered into and stored in a computer, it is generally referred to as data. After processing (such as formatting and printing), output data can again be perceived as information

TYPES OF INFORMATION

- **Oral information**
- **Written information**
- **Electronic information**

ELECTRONIC INFORMATION SYSTEM: A system which stores information from internal and external sources to facilitate better decision making. The data is collated in a database and the user can access the files to glean better information as a basis for decision. The system may include fiscal, social, economic, scientific or technical data geared to support a firm's operations

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Define data

2. State the type of data

WRAP UP(CONCLUSION) Teacher goes over the topic once again for better understanding.

Assignment:

WEEK **7&8**

Topic: Data

Subbtitle: sources of information

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Define data

2. State the sources of information

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

SOURCES OF INFORMATION

Information can come from virtually anywhere — media, blogs, personal experiences, books, journal and magazine articles, expert opinions, encyclopedias, and web pages — and the type of information you need will change depending on the question you are trying to answer. Look at the following sources of information.

Books

Encyclopedias

Magazines

Databases

Newspapers

Library Catalog

Internet

Television

Radio

Computer.

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Define data

2. State the sources of information

WRAP UP(CONCLUSION) Teacher goes over the topic once again for better understanding.

Assignment:

1. Define data

2. State the sources of information

WEEK 9

Topic: Computer as an IPO system

Subbtitle: Input and output system

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Describe the computer as input process and output IPO system

2. Input data into the system using keyboard and mouse

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

COMPUTER AS AN IPO SYSTEM

A computer is an electronic machine that works under the instructions given by us. In order to perform any work, a computer follows three steps: Input - Process - Output. It can accept data (Input), manipulate the data according to specified rules (Process) and produce results as information (Output). To put it more clearly: 1. The computer accepts the data that we feed into it through an input device like the keyboard or mouse. 2. The computer processes the data into information through a processor called Central Processing Unit (CPU). 3. The computer displays the information through an output device like the monitor or the printer.

Input Devices

Input :- Input is the raw data entered into a computer from the input devices. It is the collection of numbers, letters, images, etc. Keyboard, Mouse, scanner, webcam, etc are some examples of the input devices.

Devices which transfer data, programs, or signals into a computer systems are called input devices. These devices are used to give raw data to the computer to perform the specific tasks. Firstly, the data, programs, a signals are fed into the input devices in a suitable form, and are then converted by the device into electrical signals from human-readable format that are transmitted to the central processing unit of the computer

Input

(raw data)

input devices

> Mouse

> Keyboard

> Scanner

> Webcam

> Digital camera

> Microphone

> Joysticks, etc.

Output Devices

Output devices are used to get final result from the computer. Firstly, output is displayed on monitor. Then we can print out these outputs on a paper with the help of printer. The purpose of the output devices is to translate data and informations from electrical impulses to human-readable format.

The output device, which is necessary for the computer to display messages to the user, is a monitor. If we want to keep the copy of the work on paper, we used printers. Plotters are devices that are more suitable for the large scale outputs like engineering drawings and high quality graphics.

output devices

> Monitor

> Speaker

> Printer

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Describe the computer as input process and output IPO system

2. Input data into the system using keyboard and mouse

WRAP UP(CONCLUSION) **Teacher goes over the topic once again for better understanding.**

WEEK 10&11

Topic: Computer as an IPO system

Subbtitle: processing data(Central Processing Unit)

Learning Objectives:At the end of this this lesson,pupils should be able to:

1. Demonstrate the use of computer as IPO to processing data.

Resources and materials:

Scheme of work

Online information

Instructional material: A functional computer system.

Building Background/connection to prior knowledge: pupils are familiar with the topic in their previous classes.

CONTENT

The Processing Device

The Processor

Process :- Process is the operation of data or information as per given instruction. It is totally internal process of the computer system. CPU (Central processing Unit) is the main processing device of the computer

The main unit inside the computer is the CPU. This unit is responsible for all events inside the computer. It controls all internal and external devices, performs arithmetic and logic operations. The CPU (Central Processing Unit) is the device that interprets and executes instructions.

The operations, a microprocessor performs are called the instruction set of this processor. Processors differ from one to another by the instruction set. If the same program can run on two different

computer brands they are set to be compatible. Programs written for IBM compatible computers will not run on apple computers because these two architectures are not compatible.

Mainframes and early mini computers contained circuit boards full of integrated circuits cards implemented the central processing unit. Today's single chip central processing units, called microprocessors, make personal computers and workstations possible. The CPU has the ability to fetch, decode, and execute instructions and transfer information to and from other recourses over the computer's main data-transfer path, the bus. By definition, the CPU is the chip that functions as the brain of a computer. In some instances, however, the term encompasses both the processor and the computer's memory or, even more broadly, the main computer console.

All processors use transistors as switched to produce signals, much like a light switch, which digitizes the information and breaks them up into small chumps. If you have one transistor you can perform two signals-on and off. If you have two transistors you can perform signals-both on, both off, first on, second off, first off, second on. This is interpreted in binary, such as: 00111001 – 0 for off, 1 for on.

Strategies& Activities:

Step :Teacher revises the previous topic.

Step 2:Teacher introduces the new topic.

Step3:Teacher explains the new topic.

Step4: Teacher welcomes pupils questions.

Step5: Teacher evaluates the pupils.

Assessment & Evaluation:

1. Demonstrate the use of computer as IPO to processing data.

WRAP UP(CONCLUSION) Teacher goes over the topic once again for better understanding.