VIDYA BHARTI

PARAM COMPUTER

सा विद्या या विमुक्तये
विद्या भारती

Step By Step

VIDYA BHARTI

School Computer Series

From Basics

4

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PARAM COMPUTER

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2nd Edition

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Preface

This book **'Vidya Bharti Param Computer'** deals with the child friendly IT learning skills. The sole purpose of this series is to make the learning of Computer interesting and comprehensive for the young beginners.

Writing this book made me think a lot more than the material it covers, I considered different innovative ways to present the material and different design method. The language used to explain the contents is simple and lucid. Its practical approach towards the subject will make the computer learning a wonderful experience for the children. Colourful illustrations enhance the feel of learning computers even during their theory class.

In a nut shell, this series is totally dedicated to computer education of the primary students. Initially, when the task of writing the books was assigned by the revered **Sh. Surinder Attri ji and Sh. Ravi Kumar ji** it was like a herculean task but by dint of efforts made by my colleagues it became possible to produce these books. We will welcome suggestions and feedback from the readers and teachers for further improvement of the series.

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Computer Fundamentals

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Hello **S**tudents ! Today's world is an information rich world and it has become a necessity for everyone to know about computers.

COMPUTER

A computer is an electronic data processing device used to work on raw data as per the instruction given by the user, processes them accordingly.

Every computer follows the IPO cycle, which means:

INPUT	PROCESS	OUTPUT
Raw data entered through	Processing through	Useful Information on
Keyboard	CPU	Monitor

DATA : Computer processes the raw information as per the instructions given to it. That information which doesn't make such sense by itself, is called DATA.

INFORMATION : The data is processed as per the instructions, to give us the useful output called INFORMATION.

For example : Your brain also works on IPO Cycle :

Hear	Think	Speak
INPUT	PROCESS	OUTPUT

When your teacher asks you a question, you listen to him/her carefully. You are taking **INPUT.** Then you think for the answer, this is **PROCESSING** and finally you tell the answer to your teacher. The answer is the result of your thinking, this is called **OUTPUT.**

COMPUTER SYSTEM : The computer system mainly consists of two components, i.e. Hardware and software.

HARDWARE : The physical parts of the computer system that we can touch and see are called computer Hardware.

SOFTWARE : Sets of instructions which are used to perform a particular task by the computer are called a Program.

A set of programs that enables the hardware to work in a desired manner is called Software.

NOTE : Hardware and software are equally important for the working of computer system. Hardware is of no use without software and software cannot be used without hardware.

The computer hardware components that carry out the basic operations of a Computer is : - Input Devices, Output Devices and Processing devices.

Now let's have a look at these important components of computer

INPUT DEVICES

Input means to enter data into the computer. But think, how will you enter data into the Computer?

Input and Output Devices are also known as Peripheral Devices.

The device through which the data is entered into the computer is called input device. **For example :** mouse, keyboard, light pen, OCR, OMR, MIRC and microphone etc.

KEYBOARD

- Keyboard is the most common and very popular input device.
- It is used to enter data and instruction into the computer.
- It is classified into many groups based on their functions.
- Keyboard keys are classified to many groups based on their functions : Alphabet keys, Numeric Keys, Function keys, Arrow keys etc.

FACT FILE
Sir Christopher Latham Sholes is regarded as the inventor of QWERTY Keyboard layout.

MOUSE

- Mouse is a popular Pointing Device that is used to give input to the system.
- It has two buttons and a scroll wheel.
- The mouse pointer moves in the same direction as the mouse.
- It is also used to point and select the objects and open files/folders.

FACT FILE
Mouse was invented by Dougles Engelburt in the 1970's

MICROPHONE

- · Microphone is an input device.
- It is used to record voice, music and sound into the computer system.
- Sound card enables the computer to record sound input from microphone connected to the computer.
- It is used in many applications such as telephone, hearing aids etc

MORE INPUT DEVICES :

Touch Screen :

✓ A touch screen is a computer screen which is sensitive to touch.

✓ We can select the objects directly by touching with fingers without using any pointing device e.g. ATM machine, Cell phones etc.

Light Pen :

✓ Light pen is a pointing device.

✓ It is used to select a displayed item or draw pictures on the monitor screen.

✓ It consists a photocell and an optical system placed in a small tube.

✓ Light pen is only used with CRT monitors.

✓ It is mainly used by engineers, Fashion designers or Architects.

Digital Camera :

✓ A digital camera is used to take photographs and record videos.

✓ All the taken pictures/videos are stored in a memory chip inside the camera.

✓ You can plug digital camera into the computer and transfer the images and videos for storing, editing, printing etc.

BAR CODE READER :

✓ Bar Code Reader is a device used for reading bar coded data.

✓ A bar code is a series of light and dark black lines with white space between them.

✓ Now a days, Bar coded data is used in labeling goods, numbering the books etc.

✓ It scans a bar code image and sends the information to the computer.

SCANNER :

- ✓ Scanner is an input device, which works more like a photocopy machine.

- ✓ It is used when some information is available on paper and it is to be transferred to the computer for further manipulation.

- ✓ The most commonly used scanner is Flat Bed Scanner, which has a flat tray with a glass pane and covering lid.

THREE TYPES OF SCANNER

FLAT BED SCANNER	SHEET FEED SCANNER	HAND HELD SCANNER

OPTICAL MARK READER (OMR) :

- ✓ OMR is a special type of scanner used to recognize the type of mark made by pen or pencil.

- ✓ It is specially used for checking the answer sheets of examinations having multiple choice questions.

MAGNETIC INK CARD READER (MICR) :

- ✓ MICR input device is generally used in banks.

- ✓ It is used to read Bank's code number and cheque number which are printed on the cheques.

- ✓ These code and number are printed with a special ink that contains particles of magnetic material that are machine readable.

OUTPUT DEVICE

Output devices are the devices that help to display the result in the form of soft copy and hard copy, e.g. monitor, printer and speakers.

MONITOR

✓ Monitor is the most common output device

✓ It looks like a television.

✓ The output that we get on a monitor is called a softcopy.

✓ There are two types of monitor:-

   1) **CRT (Cathode Ray Monitor)**

   2) **LCD (Liquid Crystal Display/Flat Panel Monitor)**

   3) **LED (Light Emitting Diode)**

FACT FILE

Allen B.Dumant invented the first LCD monitor in 1972

CRT (Cathode Ray Monitor)

✓ Broad and Heavy

✓ Produce Normal Image

✓ Consume more electricity

LCD (Liquid Crystal Display/Flat Panel Monitor)

✓ Thinner and Lighter

✓ Produce Sharp Image

✓ Consume less electricity

SPEAKER

✓ Speakers are output devices that give sound output to listen music and sound effect.

✓ Nowadays we have speakers installed within the desktop monitor and laptop due to the restricted space.

FACT FILE

The Laser Printer was invented at Xerox in 1969 by Gary Stark Weather.

PRINTER

✓ A Printer is an output device that prints out the information on a paper.

✓ The printed copy of output is called the hardcopy.

✓ The most commonly used printer are :-

Dot Matrix Printer	Laser Printer	Inkjet Printer	3D Printer
ADVANTAGES			
• Inexpensive • Widely used • Characters can be printed in Other languages	• Very high speed • Very high quality • Good graphics • Support many fonts and character size.	• High quality printing • More reliable	• No wastage of material • Cheaper then any other manufacturing solution
DISADVANTAGES			
• Slow speed • Poor quality	• Expensive • Cannot be used to produce multiple copies of a document in a single printing	• Expensive • Cost per page is high. • Slow as compared to Laser Printer	• Expensive • Limited size

PROCESSING DEVICE

CPU (Central Processing Unit)

The action required to be performed on data to convert it into result is called processing. CPU is the only processing device of a computer. It is also known as