12 The Electronic Brain:Computer

- Do you ever use mobiles?
- What functions does it perform?
- Can you operate it?
- Do you know any other electronic machine?

(The science teacher of a local higher secondary school goes to the Principal to report about the elections of the Science Club)

Science Teacher : Sir, the elections of the Science Club are over.

Principal : Oh, good. Who has been elected the secretary of the club?

Science Teacher : Shyam of class X-A, Sir.

Principal : That's fine. He is an intelligent and sincere boy. Convey him my congratulations.

Science Teacher : I will certainly do, sir. The members of the Science Club want it to be inaugurated soon.
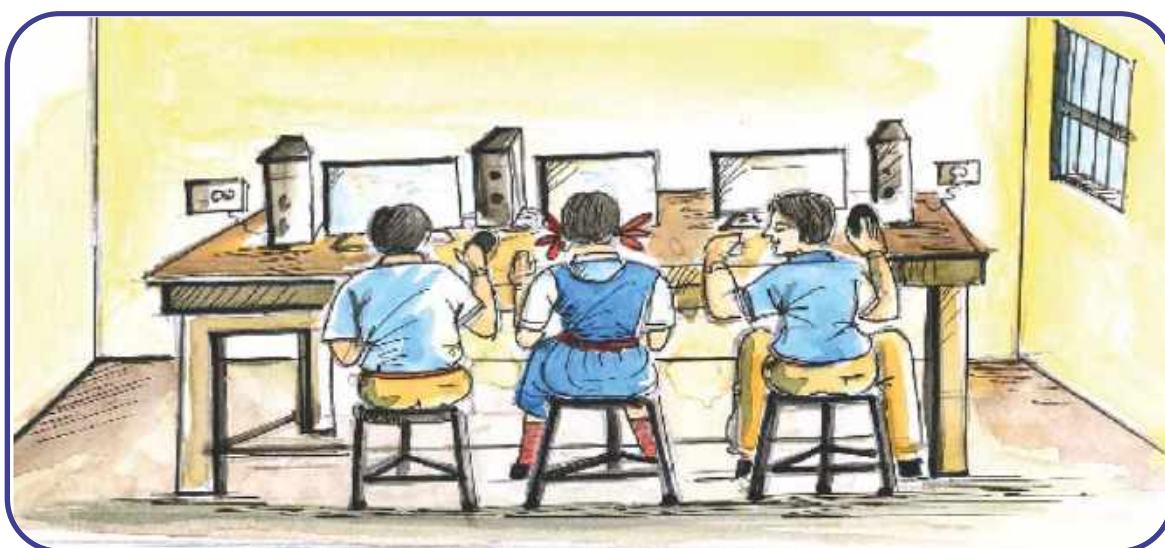
Principal : Well, that is but natural. And I think Dr. Ashutosh is the right man for this. He has recently returned from America after advanced training in computer science. Ask Mohan to get in touch with Dr. Ashutosh and request him to inaugurate the club on Saturday, if convenient.

Science teacher : Thank you, sir.

(On Saturday, after the inauguration of the Science Club, the students and teachers asked Dr.Ashutosh questions about computers.)

Mohan : Will you please tell us what a computer is?

Dr. Ashutosh : A computer is an electronic device which stores information on a magnetic tape and analyses it and produces information as required from the data on the tapes. It is really a high powered 'memory' machine that has all answers - or almost all.

Rajesh : What does it look like, Sir?

Dr. Ashutosh : It looks like a cabinet. Inside the cabinet are hundreds of wires and transistors, as in a television set, only much more complicated.

Ashok : By whom was the first computer made, Sir?

Dr. Ashutosh : The first computer was made by Herman Hollerith in 1946.His machine was called the 'Electric Tabulating System'.

Naveen : Dr., will you please tell us about the different types of computers?

Dr. Ashutosh :   Certainly. The main types of computers are the digital and the analog.

A digital computer works like an electric light it is either on or off. An analog computer works like a thermometer. It does not jump from one number to the next –it slides along

Pankaj :   What are the main parts of a computer?

Dr. Ashutosh :   Both the digital and analog computers have five main parts. They are-input, control, memory, arithmetic and output devices.

Seema :   How much time does a computer take in doing simple computations?

Dr. Ashutosh   It takes very little time. It can add, subtract, multiply and divide with lightning speed and perfect accuracy. It can multiply two ten digit numbers in 1/1,000 second-a problem that would take an average man five minutes to do with pencil and paper. Some computers can work 5,00,000 times faster than a man.

Shalu :   How does a computer gather information?

Dr. Ashutosh :   A computer is given a programme –that is information or the worked out set of questions is given to it by a technician, trained in computer language

Saroj :   How does a computer help the people in business and industry?

Dr. Ashutosh :   The computer prepares factory inventories, keeps track of sales trends and production, needs mails, dividends, cheques, makes out company pay roll and keeps bank account up to date. It not only gathers and stores information but also solves complicated problems.

Science Teacher :   Can a computer function like a human being?

Dr. Ashutosh : Yes, at times, it can. It can read letters, translate scientific papers, play chess, compose music, write plays, prepare horoscopes and even design other computers.

Abhishek : In which countries are computers used?

Dr. Ashutosh : Well, I think they are used all over the world.

Principal : Thank you very much, Dr.Ashutosh, for coming here and giving us all this interesting information. But before we end this meeting, I too have a question to ask.
Can human beings be replaced by computers?

Dr. Ashutosh : Oh, no. Of course not. Our brain has more than ten billion cells whereas a computer has only a few hundred thousand parts. Thus a human brain is much more complex than a computer. So there is no danger in the near future at least-of the computers replacing human beings.

GLOSSARY:

inaugurate : to officially open a new building start an organization with a special ceremony

cabinet : a piece of furniture with doors, drawers and /or shelves, that is used for storing or showing things

complicated : complex; made of many different parts

computation : an act or the process of calculating something

replace : take the place of somebody/something

Activity - I

A. Tick the correct alternative

I. Ask Mohan to get in touch with Dr.Ashutosh and request him to inaugurate the club on Saturday, if convenient. Here the phrase get in touch with means:

    a)   to communicate with somebody especially by writing or telephoning them.

    b)   to try to touch somebody if possible

    c)   to know what is happening in a particular area or subject

    d)   None of the above

II. "It looks like a cabinet."Here the word 'it' stands for

    a)   Transistor

    b)   television

    c)   computer

    d)   science club

III. Computers cannot replace human being because:

    a) they are memory machines

    b) they are non- living things

    c) they are given a programme by a technician

    d) human brain is much more complex.

B.   Say whether the following statements are true or false.

I.   Anyone can operate a computer. ....

II.   Computers are more complex than our brain. ....

III. Computers are very useful to the people in business and industry...

IV. The scientific papers cannot be translated by computers. ....

V.   There are five types of computers. ,,,,,,,,

VI. A computer has ten billion parts. ....

VII.   Shyam is the secretary of Science Club. ....

VIII. Mohan is an intelligent and sincere student. ....

C.   Answer the following questions in 10 to20 words.

I.   Who invented the first computer?

II.   When was the first computer invented?

III. What name was given to the first computer?

IV. What are the five parts of a computer?

V.   Who can multiply faster, a computer or human beings?

VI. How can a computer work like a machine?

VII. Why did the principal thank Dr. Ashutosh?

D.   Answer the following questions in 30 to 40 words.

 I.   What is the difference between a digital and an analog computer?

 II. What is meant by a programme?

Activity - II

A.   Give one word for each group of words.

 I. A computer can do sums with prefect ac_____ (without any error)

 II. Ranjeet's father works in a watch factory.He is a tec_____ (a highly skilled mechanic)

 III. Pt. Ashok Ameta is an astrologer. He prepared my horo_____ (the chart of a person's planetary position, used for telling future)

B.   Write the appropriate form of the words provided in the brackets.

 I.   Dr. Ashutosh has_____ come from America. (recent)

 II. Mr. Girdhari has undergone a_____. (train)

 III. Who did you get this_____ from? (inform)

 IV. He bought a_____ yesterday. (calculate)

 V. Will the climate of cold country _____you. (suitable)

C.   Read the following words and try to understand their meanings with the help of dictionary.

model	-	modal
see	-	sea
our	-	hour
fair	-	fare
shown	-	shone
sell	-	cell

Activity - III

A. **Read the following sentence from your text.**

I. Who has been elected the secretary of the club?

II. Who was the first computer made by?

III. The first computer was made by Herman Hollerith.

> These sentences are said to be used in passive voice. Passive construction is used to make the language more impersonal and formal. The construction of passive affirmative is-object + Aux + past participle + by + doer.

Example :- 1. My friend helped me.

I was helped by my friend.

2. Everybody praised Seema for her good performance.

Seema was praised for her good performance.

Now change the following sentences into passive voice -

I. Children like ice-cream.

II. She learns a few words everyday.

III. Mr. Sharma teaches us English.

IV. Anjana broke this beautiful cup.

V. Aruna helps poor children.

VI. Anushka encourages the students.

VII. Mr. Gupta praises hard-working students.

Here are some more exercises for changing into passive voice.

Example :-

Do people speak English all over the world?

Is English spoken all over the world?

I. Does your grandmother read the Ramayana everyday?

II. Has man conquered the space ?

III. Did Sushma grow roses in her garden?

IV. Will Hema write a letter to her sister?

V. Were the villagers digging a well?

VI. Can you solve this problem?

Activity - IV

English is a foreign language and it has its own way of expressing the ideas/concepts. Sometimes individually we know what a word mean but in group it is somewhat different. Read the following expressions with their meanings provided against each expression. After getting the meaning, use them in your own sentences to bring out the meaning clearly.

I.   get in touch with: to meet, to contact
II. keep track of (sales trends) : keep a record of whether sales are, good or bad
III. find fault with: to criticize, to find a fault or weakness in something/somebody.
IV. feel your age: to realize that you are getting old.

Activity - V

You are the Secretary of the Science Club of your school.

Write a letter to Mr. Gupta, an eminent scientist of your area, requesting him to inaugurate the Science Club and to give a talk on computers. You may use the following clues.

Dear Sir,

You____ pleased to know_____Science Club_____ purpose_____ increase the knowledge_____ develop scientific attitude ____ request inauguration_____ address _____ speak on computers_____ hope, accept,
Thanking you
Yours faithfully
Signature (name)
Secretary