**UNIT 3**

**WHAT IS A COMPUTER?**

A computer is a machine with an intricate network of electronic circuits that operate switches or magnetize tiny metal cores. The switches, like the cores, are capable of being in one or two possible states, that is, on or off; magnetized or demagnetized. The machine is capable of storing and manipulating numbers, letters, and characters (symbols).

The basic idea of a computer is that we can make the machine do what we want by inputting signals that turn certain switches on and turn others off, or magnetize or do not magnetize the cores.

The basic job of computers is processing of information. For this reason computers can be defined as devices which accept information in the form of instructions, called a program, and characters, called data, perform mathematical and/or logical operations on the information, and then supply results of these operations. The program, or part of it, which tells the computers what to do and the data, which provide the information needed to solve the problem, are kept inside the computer in a place called memory.

It is considered that computers have many remarkable powers. However, most computers, whether large or small, have three basic capabilities.

First, computers have circuits for performing arithmetic operations, such as: addition, subtraction, division, multiplication and exponentiation.

Second, computers have a means of communicating with the user. After all, if we couldn't feed information in and get results back, these machines wouldn't be of much use. Some of the most common methods of inputting information are to use terminals, diskettes, disks and magnetic tapes. The computer's input device (a disk drive or tape drive) reads the information into the computer. For outputting information two common devices used are: a printer, printing the new information on paper, and a cathode-ray-tube display, which shows the results on a TV-like screen.

Third, computers have circuits which can make decisions. The kinds of decisions which computer circuits can make are not of the type: "Who would win the war between two countries?" or "Who is the richest person in the world?" Unfortunately, the computer can only decide three things, namely: Is one number less than another? Are two numbers equal? And, Is one number greater than another?

A computer can solve a series of problems and make thousands of logical decisions without becoming tired. It can find the solution to a problem in a fraction of the time it takes a human being to do the job.

A computer can replace people in dull, routine tasks, but it works according to the instructions given to it. There are times when a computer seems to operate like a mechanical 'brain', but its achievements are limited by the minds of human beings. A computer cannot do anything unless a person tells it what to do and gives it the necessary information; but because electric pulses can move at the speed of light, a computer can carry out great numbers of arithmetic-logical operations almost instantaneously. A person can do the same, but in many cases that person would be dead long before the job was finished.

1. **Study the vocabulary. Put down the following words into your notebooks:**

intricate – сложный, запутанный;

electronic circuit – электронная цепь/схема;

to operate switches – приводить в действие переключатели;

to store numbers – запоминать числа;

to manipulate – управлять/преобразовывать;

to input / to feed in – вводить (информацию);

to turn on = to switch on – включать;

to turn off = to switch of – выключать;

to process data – обрабатывать данные;

to supply – вводить/обеспечивать;

addition [s'difn] – сложение;

subtraction – вычитание;

division – деление;

multiplication – умножение;

exponentiation – возведение в степень;

user – пользователь;

input device – устройство ввода;

disk drive – дисковое запоминающее устройство, дисковод;

tape drive – запоминающее устройство на магнитной ленте;

cathode-ray tube – электроннолучевая трубка;

to make decisions – принимать решения;

instantaneously – мгновенно.

1. **Answer the following questions according to the text:**
2. What is a computer?
3. What are the main functions of a computer?
4. In what way can we make the computer do what we want?
5. What is the basic task of a computer?
6. In what form does a computer accept information?
7. What is a program?
8. What are data?
9. What is memory?
10. What three basic capabilities have computers?
11. What is the function of an input device?
12. What devices are used for outputting information?
13. What decisions can the computer make?
14. **Find English equivalents in the text and put it down:**
15. cложная сеть электронных цепей;
16. приводить в действие;
17. хранить (запоминать) числа;
18. обрабатывать символы;
19. размагничивать сердечники;
20. обработка информации;
21. символы, называемые данными;
22. выполнять математические операции;
23. сложение, вычитание, деление, умножение;
24. возведение в степень;
25. устройство ввода;
26. дисковод;
27. нудная рутинная работа;

14)электрические импульсы.

1. **Write the names under the correct pictures:**



