Introduction:

Computers are becoming more and more an integral part of our lives with each passing year. They have invaded our place of work, our schools, and our homes. Computers have already revolutionized not only engineering and industry, but also business, education, medicine and space research. Recent last development of computer science and technology has enabled people to live lite of great luxury. Information science and technology has become an important part of human's daily life. These advances make it possible and necessary for engineers to use computers to solve complex engineering problems. People can solve complicated scientific and engineering problems using high technology including sophisticated computer hardware and software, high performance computing on heterogeneous platforms, even network computing through internet and intranet.

Definition of computer:

A computer is a device that accepts information (in the form of digitalized data) and manipulates it for some result based on a program or sequence instructions on how the data is to be processed. Complex Computers also include the means for storing data (including the program, which is also a form of data) for some necessary duration. A program may be invariable and built into the computer (and called logic circuitry as it is on microprocessors) or different programs may be provided to the computer (loaded into its storage by an administrator or user).

A computer performs four major tasks. They are:

i)   Input: Input is a term used to refer the data fed into a computer or computer program. Input can also be an electrical signal or the energy supplied to a device. Any signal going into an electronic system is input. Users enter inputs into the computer through the input device.

ii) Processing: Doing calculations on the data supplied by you. The CPU receives inputs from the input devices. It works on the data as per the input instructions and processes it into meaningful information (or the output).

iii) Output: The meaningful result produced by the computer. Output of processing is given to the users as a soft/hard copy on output devices.

iv) Storage: Storage is the method or action of keeping something for future use. The term storage can also be defined as the maintenance or retention of retrievable data on a computer or any other form of electronic system, or memory.

Data $ Information:

Data is a collection of raw facts and figures, such as values or measurements. It can be numbers, words, measurements, observations or even just descriptions of things. Data are manipulated either as values or variables by encoding them into 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. When

information is packaged or used for understanding or doing something, it is known as knowledge.

DATA	INFORMATION
Data are plain facts.	Information is data that has been processed in such a way as to be meaningful to the receiver.
The word 'data' is plural for 'datum'.	Information is data that has been converted into a more useful and an intelligible form.
Data is the raw material that can be processed by any computing machine.	Information is a set of data that has been organizes for the direct utilization of mankind.
Data can be represented in the form of numbers and words which can be stored in computer language.	It is anything that is communicated.
When data are processed or organized in a given context so, as to make them useful. They are called information.	The information is obtained by assembling items of data into meaningful form.

SPEED: A computer is a very fast device. Inside the system unit, operations occur through electronic circuits. When data, instructions and information flow along these circuits, they travel at close to the speed of light. It can perform a task in a minute that may take days if performed manually. A modern computer can execute millions of instructions in one second. The speed of a computer at performing a single operation can be measured in terms of:

- A millisecond (from mille-and second; abbreviation: MS) is a thousandth (10^{-3} or 1/1,000) of a second. Its symbol is Ms. One millisecond is to one second as one second is to 16.67 minutes.

- A microsecond 1s an SI unit of time equal to one millionth (10^{-6} or 1 / 1,000,000) of a second. Its symbol is us. One microsecond is to one second as one second is to 11.574 days.

- A picosecond is a 51 unit of time equal to 10^{-12} of a second. That is one trillionth, or one millionth 0f one millionth of a second, or 0.000 000 000 001 seconds. A picosecond is to one second as one second is to 31,700 years.

- A nanosecond (ns) is an SI unit of time equal to one billionth of a second (10^{-9} or 1/1,000,000,000 3). One nanosecond is to one second as one second is to 31.7 years.

ACCURACY: The computer operates nearly 100% accurately. They can perform calculating with great accuracy as their circuits have no mechanical parts to wear and tear. They only execute instructions input by man. There may be errors produced by the computers. Sometimes, it is due to the fault in the machine and more often due to 'bugs' in the programs. If the input data are not correct, this may also lead to incorrect output. The computers follow the simple rule of GIGO (Garbage in Garbage Out).

Reliability: Computers have high degree of reliability because they carry out the calculations with high speed and accuracy. Computers do the calculation repeatedly without making mistakes. And their circuits have no mechanical parts to wear and tear like in other machines.

Power of remembering: A computer can store and recall any amount of information because of its secondary storage capability. Every piece of information can be retained as long as desired by the user and can be recalled almost instantaneously. Even after several years, the information recalled will be as accurate as on the day when it was fed.

Diligence: The computer is a machine, does not suffer from the human traits of Tiredness. Nor does it loses concentration even after working continuously for a long time. This characteristics is especially useful for those jobs where same tasks is done again and again. It can perform long and complex calculations with same speed and accuracy from the start till the end.

Storage: The computers have a lot of storage devices which can store a tremendous amount of data. Data storage is an essential function of the computer. Second storage devices like hard disk and USB pen drives can store a large amount of data permanently.

Communication: Most computers today have the capability of communicating with other computers. Computers with this capability can share any of the four information processing cycle operation- input, process, output and storage-with another computer.

Weakness of computer:

I.Q Zero: Computer has no intelligence of its own. Its IQ is zero. It can only perform what is programmed to do? Hence, only the user can determine what tasks a Computer will have to perform. Computers have no sense of meaning, cannot perceive and are only able to make Simple robotic decision about the data they receive.

Lack of decision- making power: Computers cannot decide on their own. They do not possess the decision making power which is a great asset of human beings.

Positive effects of computer:

Computers have impacted the way we live on a large scale. You will find computers in hospitals, libraries, schools and banks, each running tasks that would be difficult for people to do on their own. The computer has been widely considered as one of the greatest inventions of the 21st century, but it also is blamed for many day-to-day problems and even tragic events. As computer technology advances, the effects will continue to change the world for better or worse. Some of the positive points are:-

- A computer has positive effects which include the gaming of a Wide range which include gaining of a wide range of information within minutes and connecting with people of different backgrounds and cultures all over the world. Computers also progress the technical skills in a person in doing research as well as in the use of the computer itself.
- Computers have definitely changed the way society behaves. Computers have had positive impacts on society, benefiting the medical and even the automotive world. Another positive is the ability for more information and learning to be done around the world.

- Computers offer many opportunities to meet new people. There are many social networking sites that let people connect with others. People can communicate in a variety of ways, date people and reconnect with old friends and classmates. The Internet can help people find others with common interests, form bonds with strangers and expand their social network.

Application of computer:

Every day, numerous users rely on different types of computers for a variety of applications whether used to run complex software, connect to network, or perform countless other functions, computers are powerful tools to work and play.

Computers in Education:

The use of computer technology in education makes us prepared for the future. Computers as used in education allows the learners to learn modern tools and knowledge that will make him or her ready for the possible technological changes in the future. Computers are now use in different fields of education. In the field of teaching in particular, the wide use of computers are evident in different school in elementary, high-schools, colleges and universities.

The use of computers in learning provide both advantages and disadvantages in the learning processes. Computers are advantageous in the sense that these machines teach more effectively in technical

sense, they can reach and teach more students and kept students more focus with the subject.

The use of computer technology in learning allows the teacher to individualize the learning instructions as well as the technology grants the students the autonomy and making them to learn with their own.

Computers at home:

An increasingly common item in the home is a desktop computer, which can be used for different purposes by members of family including entertainment, research and education, budgeting and personal financial management, home business management, personal and business communications, Web access and shopping.

Software also provides hours of entertainment. For example, you can play games such as solitaire, chess and monopoly; compose music; make a family tree; or create a greeting card. Educational software helps adults learn to speak a foreign language and youngsters to read, write, count and spell.

Computers for large business:

Computers are used for all aspects of running a business. Computer used in a business enhances productivity and provides results that might not otherwise be possible. Businesses use computers to keep

records, develop budgets and forecasts, prepare marketing documents, research and stay in contact with other employees and customers.

Computers can be used to prepare detailed budgets and corporate forecasts. Inexpensive accounting programs allow even pe0ple with limited computer knowledge to develop detailed budgets that will help keep the company on track. They can also be used to forecast future sales and business expansions. Spreadsheet programs such as Excel can also be used for budgeting and forecasting.

Computers for mobile users:

As businesses expand to serve customers across the country and around the world, more and more people find themselves travelling to and from a main office to conduct business. Such users-who need to use a computer while on the road-are examples of those with mobile computing needs. Mobile users often have laptop it computers, handheld computers, smart phones and other web-enabled devices so that they can work while on the road.

Computers in communication:

Computers are critical for communication and are the centerpiece of information technology. The early 19908 saw the emergence of household Internet use, which eventually spurred common use of email, websites, blogs, social networking, video chat and Voice-Over-internet Protocol. Today, many traditional communication modes including postal mail and landline phones seem obsolete. The World Wide Web, Internet and email revolutionized the way individuals communicate with each other. Social networking sites including Facebook, Twitter and

LinkedIn allow users to rapidly generate content for people in their network to view.

Computers in banking sector:

Computers are used in banks for a variety of reasons. They help bank personal operate more efficiently and effectively. Computers are used to track transactions and they help process other customer information as well. Without Computers, it would be very hard for a bank to offer good customer service day in and day out. Computers help a bank save time and money, and can be used as an aid to generate profits.

Banks use computers to track customer information such as name, address, and phone number, date of birth, Social Security number and place of employment. This information is used to stay in touch with customers and notify them of any changes in bank policy. A customer address is needed to send out statements on a monthly basis. A customer's account number is also stored in the computer, which gives bank employees the ability to access customer information efficiently.