

03. Computer

The word 'computer' originated from the English word *Compute* which implies to do calculation. Earlier computer was used for specially numerical calculations and simplifications, but later its working area was extended. Thus, we can say that computer is the system of electronic device through which various types of information are processed on the basis of a definite set of instructions called program and mathematical (numerical) and non-mathematical both types of information are processed.

Development of Computer : The first mechanical computer was developed and fabricated by Blaise Pascal in 1642 and it was called Pascalene. But in 1833, Charles Babbage first time conceived and devised an automatic calculator or computer. But even after 40 years hard core working he could not fabricate it ultimately. Although Charles Babbage is called the father of modern computer, the program of computer was first made available by Lady Ada Augusta. But in 1880 Herman Holereeth succeeded in designing a prototype of modern computer of Babbage model. Herman made an electronic tabulating machine based on punch cards which operates automatically. The discovery of punch card by Herman Toloereeth and a slight modification provided a special contribution in the development of computer. This modified punch card is frequently used in all the computers today.

In 1937, the first mechanical computer mark-I was fabricated by Howard Akeen. The computer science developed extensively during the Second World War (1939-1945) and after it all the main theories and principles of the modern computers were developed. In the field of numerical calculations the first revolution occurred in 1946, when J. P. Acert and John Mosheli invented the first electronic computer *ENIAC-I* (Electronic Numerical Integrator And Calculator) in the world. In this computer electronic valves like diode and triode valves were used as switches. The most outstanding contribution in the development of modern computer goes to John Wan Newmaan who brought the second revolution in the area of computer in 1951. He discovered *EDVAC* (Electronic Discrete Variable Automatic Computer) and utilised the stored program and the binary number system in the computer.

Computer Generations : Till now five various generations of the computers have been developed and the classification of the generations is basically due to the variant switching components.

Generation	Period	Main electronic components	Main computers
I. Gen.	1940-52	Electronic tube (vacuum tube)	EDSAC, EDVAC, UNIVAC, IBM-700, IBM-1401, IBM-1620, CDC-1604, CDC-3600, ATLAS, ICL-1901.
II. Gen.	1952-64	Transistor	

Generation	Period	Main electronic components	Main computers
III. Gen	1964-71	Integrated circuit (IC)	IBM-360, IBM-370, NCR-395, CDC 1700, ICL-2903
IV. Gen.	1971 to update	Largely Integrated circuit (LIC)	APPLE, DCM
V. Gen.	Research is going on	Optical fiber	

Types of computer : Computers are basically categorised on the basis of its sizes and working systems :

(A) Categorisation based on sizes : On the basis of size computers are of four types :

(i) Micro Computer : These are computers which are used by a single person, that's why these are also called Personal Computers (PCs). Such computers can be kept on a small table and these are used in offices, workshops and at various private organisations.

(ii) Mini Computer : These are the computers whose size and working power both are small and even twenty-twenty terminals operate at a time. The working power of such computers are 5 to 50 times greater than micro computers.

(iii) Main Frame Computer : These are the computers which are larger in size and fabricated in the steel frames. These computers have more memory power than earlier micro and mini computers. By a definite composition of time sharing and multi working power more than 100 persons can operate these computers at various terminals at a time.

(iv) Super Computer : This is the most powerful computer which can resolve very quickly to all those extremely complex processes and it has a very large storage capacity. Thus it is the most costly and the fastest working computer.

Developed super computers of the world Super computers in India.

Name	Fabrication Institutions	Name	Fabrication Institutions
Deep Blue	IBM Co. U.S.A.	Cosmos	Cambridge University, U.K.
Blue Gene	IBM Co. U.S.A.	Cray Kis	Cray K Research co; USA
Flo solver	NAL, Bangalore	Mach	IIT, Mumbai
Multi Micro	IIS, Bangalore	Pace	DRDO
Pram-10000	C-DAC, Pune	Anupam	BARC, Mumbai

In super computer 32 or 64 parallel circuits through a microprocessor are connected and on the informations or messages obtained one can work at a time. In it Magnetic Bubble Memories (MBM) or Charge Couple Devices (CCD) are used which have the highest storage capacity and due to these at a very small place the largest informations are compressed and processed in the compact form. A special type of air conditioning is also needed and these computers are used only when unlimited random informations appear

in a very short span of time and all the concerned information and data are processed at a time.

Super computers are today frequently used at various occasions like in weather forecasting and in prediction of space research, satellite projection, in computerised nuclear test etc.

Quantum Computers : Despite the above computers a new breed of computer is in the advance and final stage through which in the fraction of a second extremely complex problems would be solved out. The scientists have claimed that the quantum computer can be so improved and micro modified that this computer can be made more efficient than human brain.

Through the quantum computer very complex problems like Fermat's last theorem can be solved very quickly which takes nearly 300 years by the conventional methods. The Reimann's hypothesis of mathematics which has been remained a unsolved problem can also be resolved by it. All the important applications of the quantum mechanics have been used in the quantum computers. In quantum computers Q-Bit is used on behalf of the Binary Bits which is a complete composition of zero and one.

Types of computers (on the basis of size)

Name	Size	Storage capacity	CPU speed	Examples/Utilities sector
Micro Computer	TV set	Upto 256 KB	1-10 MIPS	Personal (PCs), Home computer, Educational computer, Electronic diary or Briefcase computer.
Mini Computer	Small table	256 KB- 80MB	10-30 MIPS	Insurance company, Bank, Industry, Traffic etc.
Main frame computer	Big steel frame	10 MB- 128 MB	30-100 MIPS	Aircraft services, Railway station.
Super Computer	Very larger size	52 MB- 512 MB	50MFLOPS	COSMOS, DEEP BLUE, BLUE GENE, FLO SOLVER, PRAM, ANUPAM

where; KB — Kilo Byte.

MB — Mega Byte.

MIPS — Mega Instruction Per Second.

MFLOPS — Mega Floating Operation Per Second.

(B) Categorization based on working system :

According to it computers are of five types :

(i) **Digital Computers :** These computers transform all the types of informations into a binary system and then operate. Such computers do all the calculations digitally by algebraic addition and can work in a more powerful manner. The specific characteristic of these computers are excellent and accurate numerical calculations.

(ii) **Analogue Computers** : In an analogue computer informations are resembled by any physical process through the electronic circuits in the form of electric symbols. Like digital computers which do simple numerical calculation, analogue computers similarly measure the computer and on the basis of resemblance these computers work.

(iii) **Hybrid Computers** : In hybrid computers both types of computers, digital and analogue are utilised and these computers are used today in the automatic operating devices (equipments). An equipment Robot through which a versatile (multi-purpose) working activities are completed is basically the composition of the hybrid computers.

(iv) **Optical Computers** : These computers are fabricated in the sequence of computers of fifth generation. In such computers one component is attached with another component through the optical fibres and calculations in such computers are done by an extensive optical system.

(v) **Atomic Computer** : The research and development activities in this regard is going on at Counnergy University in which any particular proton of the atoms can be adjusted and transformed into an Integrated Circuit (IC). Thus such computers acquire an extremely high memory storage capacity and power and have 10, 000 times more power than the present computers.

Functions of the Computer : There are four technical parameters on which any computer works successfully :

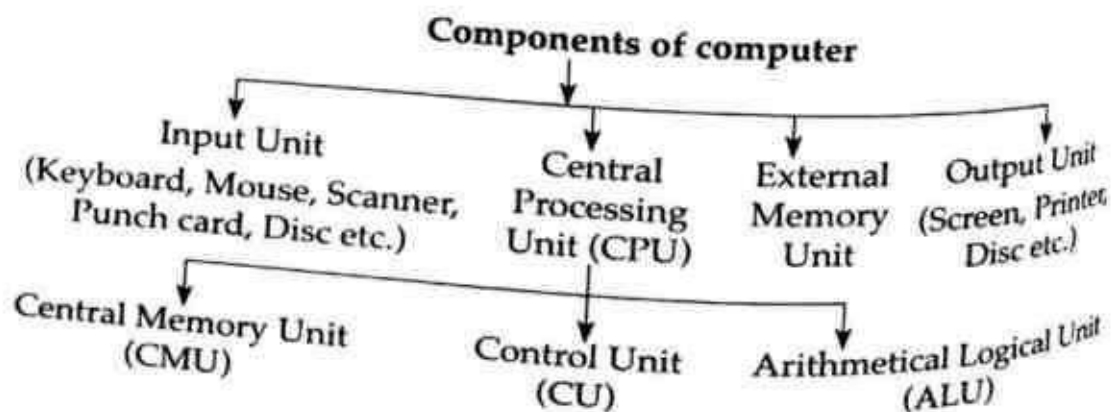
- (i) Collection and composition (input) of data ;
- (ii) Storage of data
- (iii) Processing of data
- (iv) Retrieval or output of the processed informations and data

These informations or data are in the form of written, printed, listened, visible, graphics or in the form of mechanical indications.

Units of computer : There are four main components (units) of a computer :

- (i) Input Unit
- (ii) Central Processing Unit (CPU)
- (iii) External Memory Unit
- (iv) Output Unit

The data are entered through the Input Unit in the computer and data are arranged and processed through the Central Processing Unit with the help of External Memory Unit. Ultimately by the Output Unit these data or informations are issued (released). The CPU of the computer is called brain of the computer and sometimes CPU is also called Micro Processor of the computer.



Parts of Computer : Basically there are two parts in any computer and these are —

(A) Basic Parts :

Computer Unit or Main Computer : All the activities of the Personal Computers (PCs) are directly controlled by the Central Processing Unit (CPU) or regulated by the system of units. The rear (back) part of this unit is attached with a cable through which Key-Board, Monitor, Mouse, Printer etc. are composed. The Hard Disc and Floppy Disc are also attached inside this unit. These are in the form of Desktop type and Tossver type :

Monitor : The monitor of the computer is like a television in which the picture appears in the form of dotted points on the screen and these are called pixels.

Hard Disc and Floppy Disc : To store informations or data, a disc is utilized in the computer and it is of two types—Hard Disc and Floppy Disc. The Hard Disc is the permanent disc in the computers while the Floppy Disc is the disc utilised when data or informations are to be transferred from one computer to another. The Hard Disc is larger in size than the Floppy Disc and operates more efficiently. In the front part of the computer there is a frame like structure in which Floppy Disc is suitably adjusted which is called Floppy Disc Drive.

(B) Optional Parts :

Mouse : The mouse of the computer is like the remote control of TV through which the computer is directly regulated (controlled) without utilising the key-board.

Printer : The printer is a device through which prints of any document is prepared or processed and all the printed informations of the computer are obtained. There are various types of printers like Dot Matrix Printer, Line Printer, Colour Printer, Inkjet Printer, Laser Printer etc. The Laser Printer is the most effective and a fine printing technique among all the computer printers but it is costlier than others. The laser printer is like a photocopier (Xerox) machine but the difference is only that the laser printer uses laser beam on behalf of photograph in making the sketch of the Graphics. Also through the laser printer very smooth and fine prints (printout) of the computer are obtained. Through laser printer, 13,000 lines can be printed out in every minute.

Scanner : The scanner of the computer is a device through which the image of the photograph is stored up or processed informations in the computer is made available. This acts like a photocopier machine but a photocopy in the computer is made on behalf of Xerox on the direct paper.

Computer Systems : Computer operates in two systems— Hardware and Software.

Hardware : In any computer all the components and mechanical equipments are called Hardware. Thus, Central Processing Unit (CPU), Internal Memory, External Memory, Input Unit, Output Unit etc are the components of Hardware.

There are two parts of the Hardware computers and other components of the system, like Modem, Printer, Disc, Tape recorders etc which are collectively called peripheral devices.

Software : The programs and instructions supplied to the computer are called software.

There are various types of software :

(i) **Operating system** : The operating system of the computer is a comprehensive program fabricated and designed for the internal working of the computer and for the consistent regulation of the components of the system.

(ii) **Language processor** : The user of the computer utilises a particular and specific program to run the computer which is called Language processor.

(iii) **Application program** : The programs selected by the computer user and which are conveniently and usefully selected from the commercial program of the computer and which are enlisted at the Menu are called Application program.

(iv) **Subroutine program** : The programs which are repeated again and again and which are small in size are called subroutine programs.

(v) **Utility program** : The programs composed with the operating system of the software computer and which appear again and again in various programs are called utility programs.

Languages of computer : There are various languages of the computer but broadly they can be classified into three :

(i) **Machine code language** : In this language every instruction has two parts— Operation code and Location code; both are represented by 0 and 1. In the earlier days of computer 0 and 1 were used by the programmers to instruct the computer. But this language was time consuming due to which Assembly and others high level languages were started to use.

(ii) **Assembly language** : In this language a code which can be remembered easily was used and it is called mnemonic code like ADD for Addition, SUB for Subtraction, JMP for Jump etc, but this language was used for a definite type of computer. Thus, like machine code language, assembly languages were also called low level languages.

(iii) **High level languages** : The total contribution in the development of high level languages goes to IBM company and the first high level language FORTRAN was developed by this company. Later hundreds of such languages were developed. These high level languages are very similar to other ordinary languages which are spoken and written by human beings.

Some high level languages :

(i) **FORTRAN** : It is an abbreviation of the English letter Formula Translation. This is the first high level language developed by J. W. Backus in 1957 who was a computer personnel in the IBM company. This language was developed for solving the mathematical formulae very quickly and conveniently.

(ii) **COBOL** : It is an abbreviation of Common Business Oriented Languages and this language was developed for the commercial purposes. For the processing of this language a group of sentences is selected which is called paragraph and all the paragraphs composed are called a section, while all the sections composed are called a division.

(iii) **BASIC** : It is an abbreviation of Beginners All Purpose Symbolic Instruction Code. Earlier all the high level languages are used completely or in other words complete program of the respective high level languages were inserted in the computer but in Basic a definite part of the prescribed instruction is only inserted in the computer.

(iv) **ALGOL** : It is an abbreviation of Algorithmic Language. This was basically fabricated and designed for the complex algebraic calculations.

(v) **PASCAL** : It is an amplified and modified form of ALGOL. In it every variable has been defined and it is different from ALGOL & BASIC. Its name was given by Blaise Pascal.

(vi) **COMAL** : It is an abbreviation of Common Algorithmic Language and this computer language is used for the students of secondary level.

(vii) **LOGO** : This language is used for children and kids for drawing Graphic line diagrams.

(viii) **PROLOG** : It is an abbreviation of Programing in Logic. This language was developed in 1973 in France and this language is used for Artificial Intelligence which is capable and equivalent to the logical program.

(ix) **FORTH** : This language was invented by Charles Mure which is frequently used in the all types of works in the computer.

In all the high level languages one resemblance is seen and observed that in almost all English capital letters A, B, C, D, E, etc and Indo-Arbian digits, 0, 1, 2, 3, are used.

Some others high level languages are PILOT, C, C++, Lisp, Unix, Linus, Ada, PL-1, SNOBOL etc.

Main Languages of various generations :

Generation	Languages
I. Gen. (1940-52)	FORTRON - I
II. Gen. (1952-64)	FORTRON - II, ALGOL-60, COBOL, LISP, PL/I, ALGOL-W, ALGOL-68, PASCAL, SIMULA 67, APL, SNOBOL, 4 BASIC, C.
III. Gen. (1964-77)	CLVE, ALFARD, UCLID, REFORMED PASCAL, MODULA, EDA, ORACLE.
IV. Gen. (1971 to update)	Artificial Intelligence Languages.
V. Gen. (Future onward)	

Computer virus : The computer virus is an electronic code which is used in abolishing (eradicating) the inclusive informations or programs of the computer. The computer virus can be injected into the computer through any telephone line and it is in fact a conspiracy through which wrong informations transmit and all the collected and stored programs

of the another computer attached with this network can be completely vanished or destroyed. Such computer viruses can also be spread by floppy exchange and these viruses can be found anywhere in any computer without any identification where they have been residing for many years or months. To check its unwanted spread electronic security zone and arrangement has been developed.

Some important computer viruses are Micheleanjalo, Dork Avangon, kilo, filip, Macmug, Scores, Cascade, Jerusalem, Date crime, Coloumba, crime, Internet virus, Pachcom, Pach EXE, COM-EXE, Marizuana, C-brain, bloody, Chenge Mungu and Desi etc.

Micheleanjalo virus was first seen in 1993. The first computer virus of India is C-brain which appeared for the first time in Chennai in 1988. An eminent company of Bangalore has made a special arrangement to make the computer and its networking safe from the computer viruses.

Computer Networking : The use of computer networking is new but due to its many uses and benefits it has become customary in the computer world. Basically by the composition of computer and telecommunication technique, the networking process has originated. Computer networking is a mutual technique to compose various computers and the powers of these computers are collectively utilised.

There are two types of networkings which usually occur— Local Area Networking (LAN) and Wide Area Networking (WAN). By LAN all the computers of the same building are connected like the computers of the university premises, computers of the offices etc. But by WAN all the computers of a large area are connected like the computers of all the offices of a city or town etc. In India a very large computer network namely INDONET has been installed through which all the main towns and cities have to be interlinked.

Important facts related to computers :

- Charles Babbage is called the father of computers.
- John Wan Newman has made the most outstanding contribution in the development of computer.
- The modern computer was first invented in 1946.
- The great revolution in computer came in 1960.
- In the whole world the total number of computers are the largest in USA and then Japan, Germany, UK and France have their respective positions. India stands at the nineteenth place in this chronological order.
- Computer literacy means— what computer can do and what it can not ?
- Every year 2nd December is celebrated as the computer literacy day.
- In November 1984 the Government of India announced the new computer policy.
- The first computer fabricated and designed in India was Siddhartha and it has been fabricated (manufactured) by Electronic Corporation of India.

- The first computer of India was installed on 16th August, 1986 at the main post office of Bangalore.
- The first computerised post office was installed at New Delhi.
- The first pollution free computerised petrol pump was installed in Mumbai.
- The first computer university of India was Rajiv Gandhi Computer University which is a private institution.
- The first computerised reservation system of India in the railways was started at New Delhi.
- Silicon Valley of India is located in Bangalore.
- The first Indian newspaper available on the Internet is the Hindu, while the first Indian magazine available on the Internet is India Today.
- Among all the political parties in India BJP is the first party which has its own website on the Internet.
- There are three broad categorization of computer— digital, analogue and hybrid.
- The computer which does arithmetical (mathematical) calculations is called digital computer.
- The digital and the analogue computers jointly form the hybrid computer.
- The mini computer is the computer of middle size.
- The super computers are those which work ten times faster than an ordinary computer.
- In a super computer nearly 40,000 micro computers are assumed to be internally composed and in it calculations are done in megaflop.
- The first computer of the world was CRAYK-IS which was fabricated and designed by an American company Cray K Research in 1979.
- The Deep Blue is a computer which can work alone equivalent to 32 computers and through the Deep Blue in 1 second 20 crore multi option in the chess can counter the game plan of the opponent. Deep Blue was the computer through which chess world champion Garry Kasprov was defeated by Vishwanathan Anand.
- The first electronic digital computer of the world is ENIAC.
- The first largest computer network of the world is INTERNET.
- There are five generations of the computer which have till now been developed.
- In first Gen. computer vacuum tube diodes and triodes were used.
- Almost all modern computers use semiconductors in which memory are stored up.
- There are eight composer in the computer board.
- 1 Kilo Byte (KB) = 1024 Byte, 1 Mega Byte (MB) = 1024 Kilo Byte (KB).
- 1 Giga Byte (GB) = 1024 Mega Byte (MB).
- For the search of instructions and processed programs a specific language SNOBOL is utilised.
- Most frequently used operating system is WINDOWS.
- USENET is a technique to compose a system through which all the universities are accessed to each other.

- When a subscriber of Internet network is attached electronically with another network then it is called Gateway.
- The latest microprocessor of the Intel is Pentium IV.
- Trade Nelson was the first person who had written a book on Personal Computers (PCs).
- The author of the computer book *Soul of new machine* Tassi Kecdargot Pulitzer Prize.
- The first computer magazine was *Computer and Automation*.
- According to scientists, the Indian language Sanskrit is the most convenient and suitable for the computer.
- The instructions or programs enlisted in the computer are called Menu.
- The storage of the records is called File.
- The working system of the digital computer is totally based upon the numerical calculations.
- The first practical digital computer is UNIVAC.
- The FORTRON has been developed as the first computer language through which programs were prepared.
- COBOL which is a high level language is like the English language.
- In COBOL the most suitable documentation is possible.
- The assembly language of TRANSLATOR which is converted into the machine code is called Assembler.
- The translated program which is simply the transformation of a high level languages into a lower level language is called compiler.
- The language BASIC is the mastermind of all the languages like FORTRON, ALGOL, PASCAL etc. which can be directly learned from BASIC.
- The microprocessor is the computer of the fourth generation.
- PROLOG is a language of the fifth generation Gen. Computer.
- The Integrated Circuit (IC) chip on which there is a layer (coating) of silicon was developed by J. S. Kilvi.
- The impurity in the computer is called Bug.
- In 1988 C-DAC (Centre for Development & Advanced Computing) Pune was established. The scientists of C-DAC fabricated a computer called Pram-10,000 which can calculate a billionth of billion in a fraction of a second. The outstanding contribution in the development of Pram-10000 goes to Dr. Vijay P. Bhaskar.
- The first super computer FLOSOLVER was developed first in India and fabricated by the National Aeronautics Laboratories (NAL) Bangalore.
- The nuclear tests on the computer are called subcritical test.
- ✓ Laser printer is the most effective and powerful printer among all.
- IBM (International Business Machine) is an American computer company.
- The computer virus is a manmade digital parasite which is also called File infectioner.
- Y-2K problem or year 2000 crisis was a computer problem related to the date and year in which all the rightmost digits became zero. The Y-2K crisis is also called a millenuim bug.

- Modem is a device through which all the computers are attached electronically and it operates on the telephone line.
- The network of internet where a special type of information, program are available is called a site.
- The informations or messages through any network near or far can easily be facilitated on their own network by the modem is called Download.
- But if the informations or messages are sent from their own network to any other network by the modem, then it is called Upload.
- In any computer or in its Hard Disc or in running programs if any discrepancy appears then it is called a Crash in computer.
- The development of the computer began in 1955 in India.
- IISc (Indian Institute of Science), Bangalore has developed a multi languages computer whose touchscreen has been named simputer and through this computer, village to village computer compaign has brought a comprehensive revolution.
- India's first computerium has been established at Bangalore.
- India's first fully computerised village is Bellanad in Thiruvananthapuram district of Kerala.
- Personal Computer (PC), Home computer, electronic diary (Briefcase computer) etc are examples of micro computers.
- Some customary operating system of micro computers are— CP/M, MacOS (Apple), DOS, Pro DOS, MS/DOS/p.c. DOS, XENIX, UNIX, WINDOWS, LINUX etc.
- The speed of CPU is called clock speed.
- The instructions given by the computer user or computer operator is called command.
- The computer networks attached electronically by various networks of the computer of various places of the world through telephone lines or satellites is called INTERNET.
- In the Internet full informations are stored up in the computers and in the technical language it is called web server.
- The inclusive informations of every computer is called Home page.

Computer Terminology :

Application program : A program which is performed for a definite work is called application program. Like work processing or database management or software of Accounting work etc. Here for the word processing MS word, for database visual FOXPRO, for designing Adobe photoshop and for accounting Tally are application programs and these are called softwares.

Bit : The bit is a unit of measurement of the electronic data. One bit is either 0 or 1 but both never. One bit depends on the number which clearly indicates how data can be stored up within it. On composing 8 bits, 1 byte is formed.

Boot : The starting work done by the operating system in any computer to bring the computer in full working condition is called boot.

Bug : Bug is the error in the computer program or system and its eradication is called Debug.

If any computer starts to supply wrong or faulty programs then it is said that there is a bug in the program.

Byte : Total eight bits compose a byte.

Thus, 8 bits = 1 byte.

Cache : This is also a type of memory which is utilised for temporary storage. In it those data are kept which are frequently used. Due to it the processing rate of computer increases. Cache is of various levels and it acts like a bridge between the processor and Ram and through it the speeds of processor and Ram can be balanced.

CD-ROM : A CD like a music CD in which data can be stored substantially is called CD-Rom. In a CD with comparison to floppy disc a lot more data can be stored but one problem in it is that one-time recorded data cannot be deleted or modified. Also on CD to write and to read there is a need of CD-drive and writer.

Chip : It is a thin slice on which by a special mechanism a circuit is designed which is normally made of Silicon. At present on behalf of silicon, Gallium Arsenide (GaA) Chip and Protin chip (bio chip) are being prepared and research and development activities are going on for another.

Computer Program : For the working of the computer the group of instructions written in low or high level computer languages are called computer program.

Compiler : The program which converts high level languages into the languages of machine is called compiler.

CPU : This is Central Processing Unit and it is called heart-mind of the computer. It is basically a chip attached to the mother board of the computer and the complete main processing are confined here.

P-III, P-IV, AMD Athlon etc. are the examples of CPU.

Cursor Key : The button on Key-Board on which there is a symbol of an arrow is called cursor-key. It is used to move cursor on the screen.

File : The collection of data which are saved for a particular name is called File, like salary sheet of any person, any song MP3 etc. are the examples of file.

Database : The collection of data in which from phone book to inventory management of any company are enlisted and enclosed are called Database.

Error Message : The messages displayed by any software in which some error has been detected is called error message.

Floppy Disc : It is like a tape recorder cassette in which data are stored up but it is very small and convenient to carry out. Today the floppy disc has its size of up to 3.5 inch.

Giga Byte : 1024 Mega Byte (MB) is called 1 Giga Byte (GB).
Thus, 1 Mega Byte = 1024×1024 Bytes.

Today the fabricated Hard Discs have the capacity in the order of Giga Bytes.

Graphic User Interface- (GUI) : It is a visual interface in which files, commands, softwares etc. are displayed in the form of icon (graphical trace). These graphical traces are selected and utilised by any mouse like pointing device. Graphical user interface windows is available in atmosphere which operates by clicking through user icons.

Hacker : If anybody damages or produces error in the computer knowingly then this is called Hacking and the person is called Hacker.

Hard Disc : It is a data storage device which is kept inside the cabinet and through it a large amount of data are collected and stored. Also Hard Discs are of different shapes and sizes to enable the user to select it appropriately.

Hardware : The mechanical part of the computer which can be touched physically is called Hardware. Monitor or Key-Board is the example of a Hardware.

Icon : The small graphical traces displayed on the screen which may represent any program, commander file is called Icon.

Mega Hertz (MHz) : 1 Mega Hertz represents 10,00,000 cycle per second. If a micro processor has the working capacity of 200 MHz it means it will run with 200 00 00 00 cycle/second. This also tells us how powerful microprocessor is ? The speed of the microprocessor is measured in clock speed.

Memory System : The place where computer data and program are temporarily kept is called Memory system. Usually memory is implied from RAM.

Modem : The device which converts the digital signals into the analogue signals and vice-versa is called Modem. In fact this device (Modem) is utilised in connecting computer through the telephone lines. Modem is also utilised in the connection of internet.

Mother Board : Inside the cabinet of the computer there is a board on which CPU, Memory etc. circuits are connected. It is called Mother Board and on it some other cards may also be attached.

Network : The net of various computers in which computers are interconnected by cable or any medium is called Network. The main advantages of Network is user file can be utilised or shared by another user.

Operating System : The software which is capable of doing work by some fundamental means is called operating system. In the fundamental system operations all the activities like to read, to write about data, resources management etc. are assumed under the operating system.

Peripheral : The Hardware devices which are attached to any computer additionally are called peripheral. Basically these are not parts of the original computer.

Pixel : The smallest part of any image is called pixel. A pixel of a monitor is represented by a very small dot (.). Such various dots compose an image. At a particular place if there are a large number of pixels then the quality of the image will be fine.

Pointer : The component in the form of an indicator which is attached to the mouse and controlled through it, appears on the computer screen is called pointer. The pointer moves in the direction in which the mouse pad moves.

Port : This is basically a connector which connects external devices through the mother board. In a particular computer there may be different types of ports, like parallel port or serial port or USB port.

RAM : It is Random Access Memory (a place) where processed data are kept temporarily and it is a unstable memory. As power is cut through the computer its contact is automatically ended and the memory is lost. Memory is also measured in Megabytes.

ROM : It is Read Only Memory and it is stable or non-volatile memory which doesn't end if power stops.

Reboot : The Booting means to start computer from the rest while Rebooting means to start computer once again which is not in rest. Usually the process of Reboot occurs when the computer automatically stops due to any reason or any software is installed along the parallel etc.

Sound Card : It is a card which is attached with acousting working in the Personal Computer (PC).

Scanner : It is a device through which graphic image is transformed to the digital image and the scanners are of usually two types : one is desktop and another is hand operating.

System unit : The box like cabinet part of desktop PC is called system unit and inside it mother board and another chips are attached.

Touch Screen : The computer in which by touching monitor, instructions are given on behalf of Key-Board.

Virus : A software which is fabricated to damage data by any means is called computer virus. Normally virus tends to damage the files by entering through the operating system.

Abbreviations related to computers

ALU	Arithmetic Logic Unit.
ALGOL	Algorithmic Language.
✓ASCII	American Standard Code for Information Interchange.
✓BASIC	Beginner's All Purpose Symbolic Instruction Code.
BCD	Binary Coded Decimal Code.
✓BIOS	Basic Input Output System.
CPU	Central Processing Unit.
CAD	Computer Aided Design.
CAM	Computer Aided Manufacturing.
CAT Scan	Computerised Axial Tomography Scan
COBOL	Common Business Oriented Language.

<i>CD</i>	Compact Disk
<i>C-DOT</i>	Centre for Development of Telematics.
<i>COMAL</i>	Common Algorithmic Languages.
<i>DOS</i>	Disk Operating System.
<i>DTS</i>	Desk Top System.
<i>DTP</i>	Desk Top Publishing.
<i>E-Commerce</i>	Electronic Commerce.
<i>E-Mail</i>	Electronic Mail
<i>ENIAC</i>	Electronic Numerical Integrator And Calculator.
<i>FAX</i>	Facsimile Automated Xerox.
<i>FLOPS</i>	Floating Operations Per Second.
<i>FORTRAN</i>	Formula Translation.
<i>HLL</i>	High Level Languages.
<i>HTML</i>	Hyper Text Markup Language.
<i>IBM</i>	International Business Machine.
<i>IC</i>	Integrated Circuit.
<i>ISH</i>	Information Super Highway.
<i>LAN</i>	Local Area Network.
<i>LDU</i>	Liquid Display Unit.
<i>LISP</i>	List Processing.
<i>LLL</i>	Low Level Language.
<i>MICR</i>	Magnetic Ink Character Recognizer.
<i>MIPS</i>	Millions of Instructions Per Second.
<i>MOPS</i>	Millions of Operations Per Second.
<i>MODEM</i>	Modulator-Demodulator.
<i>MPU</i>	Micro Processor Unit.
<i>NICNET</i>	National Information Centre Network.
<i>OCR</i>	Optical Character Reader.
<i>OMR</i>	Optical Marker Reader.
<i>PC-DOS</i>	Personal Computer Disk Operating System.
<i>PROM</i>	Programmable Read Only Memory.
<i>RAM</i>	Random Access Memory.
<i>ROM</i>	Read Only Memory.
<i>SNOBOL</i>	String Oriented Symbolic Language.
<i>UPS</i>	Uninterruptable Power Supply.
<i>VDU</i>	Visual Display Unit.
<i>VLSI</i>	Very Large Scale Integrated.
<i>WAN</i>	Wide Area Network.
<i>w.w.w.</i>	World Wide Web

Objective Question

1. Who is called the father of computer ?
 (a) Herman Holerith (b) Charles Babbage
 (c) Wales Pasle (d) Wan Newmaan
2. The most outstanding contribution in the development of computer is given to —
 (a) Herman Holerith (b) Charles Babbage
 (c) Wales Pasle (d) Wan Newmaan
3. The most outstanding contribution in the development of the blue print of the first digital computer goes to :
 (a) Herman Holerith (b) Charles Babbage
 (c) Wales Pasle (d) William Buros
4. The first modern computer was invented in :
 (a) 1946 (b) 1950 (c) 1960 (d) 1965
5. What is the full form of e-mail ?
 (a) Electronic mail (b) Electric mail
 (c) Electromagnetic mail (d) None of these
6. The written material (recorded in the chip), which is required for the operation of computer like employed program, direction and other computer related activities is called :
 (a) Software (b) Hardware
 (c) Network (d) Firmware
7. The controlling unit of the computer is called :
 (a) Printer (b) Keyboard (c) CPU (d) Hard disc
8. The brain of the computer is called :
 (a) Memory (b) Keyboard (c) CPU (d) Hard disc
9. What can be sent through video mail ?
 (a) Graphics (b) Video clips
 (c) Video messages (d) All of these
10. The computer hardware which can store a very large amount of data is called :
 (a) Disc (b) Chip
 (c) Magnetic tape (d) None of these
11. Who developed the integrated circuit chip ?
 (a) C. V. Raman (b) Robert Nayak
 (c) J. S. Kilvi (d) Charles Babbage
12. The layer on the integrated circuit chip (IC) is made of :
 (a) Silicon (b) Nickel (c) Iron (d) Copper
13. The layer of the magnetic disc is made of :
 (a) Iron oxide (b) Phosphorus penta oxide
 (c) Magnesium oxide (d) Sodium peroxide
14. The length of the word through which computer does the measurement :
 (a) Byte (b) Bit (c) Meter (d) Milimeter

15. Which one of the following is measured in Megabyte :
 (a) Intensity of the earthquake
 (b) Population density
 (c) The capacity of power expenditure
 (d) The memory power of the computer
16. The process of carrying out commands is called :
 (a) Fetching (b) Storing (c) Decoding (d) Executing
 [MPPCS (Pre) 2011]
17. One kilobyte (1 KB) is equivalent to :
 (a) 1000 byte (b) 1024 byte (c) 10000 byte (d) 100000 byte
18. Which of the following is not a search engine ?
 (a) Google (b) Altavista (c) Science direct (d) Orkeet
 [MPPCS (Pre) 2011]
19. The memory word of the computer is associated with :
 (a) Logic (b) Control (c) Input (d) Storage
20. Computer hardware which can store very large amount of data is called :
 (a) magnetic tape (b) disc
 (c) both of these (d) None of these
21. Size of virtual memory depends on :
 (a) Address lines (b) Data base (c) Disc space (d) All of these
 [MPPCS (Pre) 2011]
22. The digital computer operates on the principle of :
 (a) calculation (b) measurement
 (c) electricification (d) logical
23. The fastest printer in the computer is :
 (a) Laser printer (b) Jet printer
 (c) Thermal printer (d) Dazy wheel printer
24. Super computers are different from other computers in respect to :
 (a) extremely high cost (b) airconditioning problem
 (c) simplification capacity and large memory storage
 (d) multipurpose use
25. The system used in the modern digital computer is called :
 (a) binary digital system (b) decimal digital system
 (c) analogue calculation system (d) none of these
26. Which one of the following is the scientific language of the computer?
 (a) BASIC (b) COBOL (c) FORTRAN (d) PASCAL
27. The computer language FORTRAN is frequently used in the area of :
 (a) business (b) graphics (c) science (d) commerce
28. The computer language COBOL is useful for :
 (a) the business work (b) the graphics work
 (c) the scientific work (d) None of these
29. The computer language which is specially used in the commercial activities is—
 (a) FORTRAN (b) BASIC (c) COBOL (d) PASCAL

30. The first computer language developed for the program is :
 (a) FORTRAN (b) PASCAL (c) COBOL (d) BASIC
31. The high level computer language like English language is :
 (a) FORTRAN (b) PASCAL (c) COBOL (d) C++
32. Through which one of the following computer languages most useful documentation is possible ?
 (a) FORTRAN (b) COBOL (c) PASCAL (d) C++
33. The language which is necessary to learn the language like FORTRAN, ALGOL, PASCAL etc. is
 (a) C++ (b) BASIC (c) COBOL (d) None of these
34. The program language used for the computer scientific calculations is :
 (a) BASIC (b) FORTRAN (c) COBOL (d) PASCAL
35. Which one of the following work can be done through the use of BASIC language?
 (a) commercial activities
 (b) scientific calculation
 (c) teaching the children
 (d) understanding the simple language at initial stage
36. The language which the computer understands and through which the processing in the computer occurs is called :
 (a) American language (b) Machine language
 (c) Secretly decoded language (d) None of these
37. Who was the inventor of computer language JAVA ?
 (a) IBM (b) Microsoft
 (c) Sun Microsoft (d) Infosystem
38. Most of the computers can understand :
 (a) high level instructions
 (b) BASIC which resembles like English
 (c) any language (d) none of these
39. The computer grid is :
 (a) a hardware component of the computer
 (b) a software inner structure in which a number of calculative systems are attached
 (c) a primitive prototype of the super computer
 (d) a hardware component of long hydron assembly for the nuclear research
40. The software windows software has been fabricated (manufactured) by :
 (a) IBM (b) Apple corporation
 (c) Wipro (d) None of these
41. The Oracle is :
 (a) an operating system (b) a word processor software
 (c) a database software (d) None of these

42. Which one of the following software is used in the word processing:
 (a) Pagemaker (b) Word star (c) M.S. word (d) All of these
43. The password provides a protection to the computer which :
 (a) safeguards the oldness came in the hardware
 (b) safeguard the discrepancies came in the software
 (c) safeguards the unauthorized entry of the system
 (d) none of these
44. The system through which the data by the means of telephone and with the help of binary signals are transported is called :
 (a) Modem (b) Monitor (c) Mouse (d) OCR
45. The inability came in four digit system of data storage of the computer is called :
 (a) Y-2K problem (b) data bug
 (c) 4D problem (d) computer bug
46. What do you understand by hacking ?
 (a) Searching (b) Security
 (c) Both (a) and (b) (d) None of these
47. The computer literacy day is celebrated on—
 (a) 1 December (b) 2 December (c) 19 December (d) 22 December
48. The fastest super computer developed by NASA is :
 (a) Kalpna Chawla (b) Columbia
 (c) Blue gene (d) Param
49. Microsoft word is an example of :
 (a) an operation system (b) an input device
 (c) a processing device (d) application software
- [MPPCS (Pre) 2011]
50. The world's first electronic digital computer is :
 (a) ENIAC (b) Sidhartha
 (c) Param (d) Deep
51. The first computer which had been fabricated and developed in India is—
 (a) Sidhartha (b) Param (c) Megha (d) Cyber
52. Microsoft is an :
 (a) institution where microchip is prepared
 (b) institution where the softwares are developed
 (c) institution of micro engineering
 (d) institution where the hardwares are developed
53. The word MB is used for :
 (a) Magnetic Bits (b) Mega Bytes
 (c) Mega Bits (d) None of these
- [Uttarakhand PCS (Pre) 2008]
54. Which one of the following is a computer virus—
 (a) Fungi (b) Bacteria
 (c) IC 7344 (d) Software program
- [UPPCS (Pre) 2010]

55. Which one of the following is called *Information Gateway* :
 (a) E-mail (b) Pager
 (c) Cellulor phone (d) Internet
56. Who is called the father of E-mail ?
 (a) Bill Gates (b) Timothy Bill
 (c) Linkan Golitsberg (d) Rey Tomlinson
57. The first computer in India was installed at :
 (a) IIT Delhi in 1973 (b) IISc Banglore in 1971
 (c) IISCO in 1965 (d) ISO Kolkata in 1955
58. Which one of the following is permitted under the bluetooth technology ?
 (a) Wireless communication between the equipments
 (b) Only Signal transmission on the mobile phones
 (c) Mobile phone communication through landline
 (d) Satellite television communication
59. Through which one of the following the speed of the processor of the computer is measured ?
 (a) BPS (b) MIPS (c) BOD (d) Hz
 [CDS 2010]
 [SSC Graduate Level 2010]
60. The full form of www is :
 (a) web working window (b) window word wide
 (c) world wide web (d) world working web
61. What is the meaning of RAM in the context of a computer ?
 (a) Recent And Ancient Memory (b) Random Access Memory
 (c) Read And Memory (d) Recall All Memory
62. CPU implies :
 (a) Control and Primary Unit (b) Central Processing Unit
 (c) Computer and Process Unit (d) None of these
63. CAD implies :
 (a) Computer Algorithm for Design
 (b) Computer Added Design
 (c) Computer Application in Design
 (d) None of these
64. The full form of IBM is :
 (a) Indian Business Machine
 (b) International Business Machine
 (c) Italian Business Machine (d) Integral Business Machine
65. The CD-ROM stands for—
 (a) Core Disc – Read Only Memory
 (b) Compact Disc – Read Only Memory
 (c) Circular Disc – Read Only Memory
 (d) None of these
66. Which one of the following products is sold in the market by the name of pentium brand :
 (a) Mobile chip (b) Computer chip
 (c) Computer (d) Microprocessor

[UPPCS (Pre.) 2004]

67. Who was the inventor and founder of www ?
 (a) Bill Gates (b) Lee N. Fiyong
 (c) N. Russel (d) Timbernus Lee
[UPPCS (Pre.) 2004]
68. Yahoo, Google and MSN are :
 (a) Internet sites (b) computer brand
 (c) watches made of Switzerland (d) the ring of the planet Saturn
69. In the computer dictionary the word CD stands for :
 (a) Compact Disc (b) Compressed Disc
 (c) Computerized Data (d) Compressed Data
70. Which one of the following is not a computer language ?
 (a) BASIC (b) C
 (c) FAST (d) FORTRAN
[41st BPSC (Pre.) 1996]
71. Which one of the following terms is not associated with information technology ?
 (a) Cyber space (b) Upload
 (c) Light storage (d) Modem
[UPPCS (Pre.) 2001]
72. The fastest computer of the world is :
 (a) T-3A (b) Yenha-3 (c) Param-10,000 (d) J-8
[UP Lower Sub. 1998]
73. What is Anupam ?
 (a) a research Institute (b) a super computer
 (c) a newly designed missile (d) a computer software
[CPO, AC 1994]
74. A supercomputer *Param* has been developed and designed in India by :
 (a) C-DAC, Pune (b) IIT, Kanpur
 (c) BARC, Mumbai (d) IIT, Delhi
[RAS/RTS 1992]
75. The smallest unit of computer data is—
 (a) byte (b) bit (c) record (d) file
[IAS (Pre) 1987]
76. The Michele Anjelo Virus is :
 (a) a cancerous virus (b) a cancer protective virus
 (c) viruses spread in rats (d) a computer virus
[MBA Entrance R.U. 1994]
77. Which one of the following is applicable to all the computers ?
 (a) BASIC (b) COBOL
 (c) Machine language (d) FORTRAN
[MBA Entrance AMU 1995]
78. The APPLE is :
 (a) a fruit
 (b) a computer of fourth generation
 (c) a computer network
 (d) a computer language
[MPPCS (Pre) 1993]

79. The system which transforms the data into impulses and these impulses are sent from a terminal to a computer and from a computer to a terminal in a compressed way is called :
 (a) Magnetic disc (b) Micro computer
 (c) CD-Rom (d) Modem
80. The fastest computer of the world which would follow the working mechanism of the human's brain is :
 (a) Supercomputer (b) Quantum computer
 (c) Param - 10,000 (d) IBM chips
81. Which one of the following has been developed as a Supercomputer Project by the Bhabha Atomic Research Centre (BARC) ?
 (a) Param Padam (b) Flosalver Mark
 (c) Chips (d) Anupam [UPPCS (Pre) 2004]
82. The memory of a computer is usually expressed in kilobyte or megabyte; one byte is basically composed of :
 (a) 8 binary digits (b) 2 binary digits
 (c) 8 decimal digits (d) 2 decimal digits [IAS (Pre) 2000]
83. A popular windowing Environment, windows - 3 issued in :
 (a) 1985 (b) 2000 (c) 1995 (d) 1990
84. The computer :
 I. is a capable system in which data are stored up
 II. is capable in performing excellent analysis of the data
 III. is able to have the secrecy of something
 IV. is affected sometimes by the viruses
 Select the correct answer from the following :
 (a) I & II (b) II & III (c) I, II & IV (d) All of these [Uttarakhand PCS (Pre) 2005]
85. In an arrangement of computerization there is a need of :
 I. a great willpower to perform
 II. an associated financial resource
 III. a trained manpower
 IV. a ultramodern installed configuration
 Select the correct answer from the following :
 (a) I & II (b) II & III (c) I, II & IV (d) All of these [Uttarakhand PCS (Pre) 2005]
86. The working function of an assembler is :
 (a) to transform BASIC language into a mechanical language
 (b) to transform a high level language into a mechanical language
 (c) to transform an assembly language into a mechanical language
 (d) to transform an assembly language into a high level language [Uttarakhand PCS (Pre) 2005]
87. The supercomputer Deep Blue and Blue Gene are developed and fabricated by :
 (a) IBM Co. USA (b) Combridge University, UK
 (c) BARC, Mumbai (d) None of these

20. The main component of the fifth generation computer is :
 (a) Integrated circuit (IC) (b) Largely Integrated Circuit (LIC)
 (c) Optical fibre (d) None of these
21. The abbreviation of ENIAC is :
 (a) Electronic Numerical Integrator And Calculator
 (b) Electronic Numerical Integer And Calculator
 (c) Electronic Not Integrator And Calculator
 (d) None of these
22. The supercomputer Flo Solver of India was developed and designed by :
 (a) NAL, Bangalore (b) C-DAC, Pune
 (c) BARC, Mumbai (d) None of these
23. The Central Processing Unit (CPU) which is called the brain of the computer, is sometimes also called :
 (a) Microprocessor (b) Processor
 (c) Mini processor (d) Mini computer
24. Which one of the following is not the component of a computer ?
 (a) Input unit (b) CPU
 (c) External Memory Unit (d) Internal Memory Unit
25. Which one of the following is a part of Input Unit ?
 (a) Keyboard (b) Mouse
 (c) Punch Card (d) Printer
26. The language 'C' used in the computer is a :
 (a) Low level language (b) High level language
 (c) Machine code (d) Conjugation level language
[SSC Graduate Level 2010]
27. The inventor and propounder of www was :
 (a) Bill Gates (b) Lee. N. Feyong
 (c) N Russel (d) Tem Burners Lee
[UPPCS (Pre) 2004, IAS (Pre) 2007]
28. Which one of the following languages of the computer has been developed from a pure business point of view ?
 (a) COBOL (b) BASIC
 (c) FORTRAN (d) None of these
29. The first Computer University of India is :
 (a) Rajiv Gandhi Computer University
 (b) Indira Gandhi Computer University
 (c) Jawahar Lal Nehru Computer University
 (d) None of these
30. The first pollution free computerised petrol pump has been installed at :
 (a) New Delhi (b) Chandigarh
 (c) Mumbai (d) Noida

99. The first main post office of India where a computerised system begun to work—
 (a) New Delhi (b) Bangalore
 (c) Chandigarh (d) Noida
100. The political party which has opted firstly its own website in India is:
 (a) BJP (b) INC
 (c) DMK (d) AIADMK

Answers

- | | | | | | | | |
|---------|---------|---------|----------|---------|---------|---------|---------|
| 1. (b) | 2. (d) | 3. (b) | 4. (a) | 5. (a) | 6. (a) | 7. (c) | 8. (c) |
| 9. (d) | 10. (b) | 11. (c) | 12. (a) | 13. (a) | 14. (b) | 15. (d) | 16. (d) |
| 17. (b) | 18. (c) | 19. (d) | 20. (c) | 21. (a) | 22. (a) | 23. (a) | 24. (c) |
| 25. (a) | 26. (c) | 27. (c) | 28. (a) | 29. (c) | 30. (a) | 31. (c) | 32. (b) |
| 33. (b) | 34. (b) | 35. (d) | 36. (b) | 37. (c) | 38. (a) | 39. (b) | 40. (d) |
| 41. (c) | 42. (d) | 43. (c) | 44. (a) | 45. (a) | 46. (c) | 47. (b) | 48. (b) |
| 49. (d) | 50. (a) | 51. (a) | 52. (b) | 53. (b) | 54. (d) | 55. (d) | 56. (d) |
| 57. (d) | 58. (a) | 59. (b) | 60. (c) | 61. (b) | 62. (b) | 63. (b) | 64. (b) |
| 65. (b) | 66. (d) | 67. (d) | 68. (a) | 69. (a) | 70. (c) | 71. (c) | 72. (a) |
| 73. (b) | 74. (a) | 75. (b) | 76. (d) | 77. (c) | 78. (b) | 79. (b) | 80. (b) |
| 81. (d) | 82. (a) | 83. (b) | 84. (d) | 85. (d) | 86. (c) | 87. (a) | 88. (c) |
| 89. (a) | 90. (a) | 91. (a) | 92. (d) | 93. (d) | 94. (b) | 95. (d) | 96. (a) |
| 97. (a) | 98. (c) | 99. (b) | 100. (a) | | | | |

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