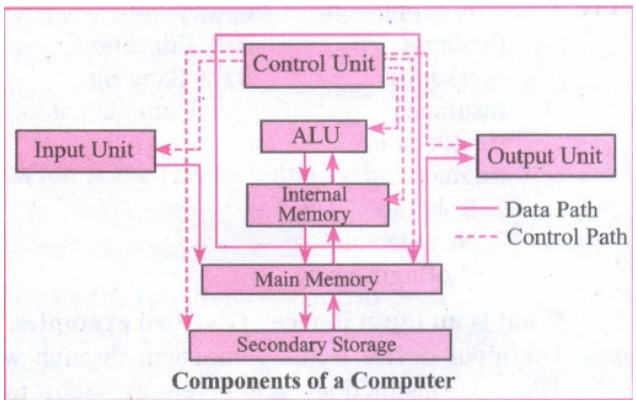
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Answers Key:

5 Marks

1. 

Components of a Computer

(i) Basic components of computer :

The Basic components are I/O Unit, CPU, ALU, Control Unit, Storage Unit.

Input unit:

Input unit is used to feed any form of data to the computer. It can be stored in the memory unit for further processing.

Ex. Keyboard, Mouse, Scanner, Retinal scanner, Track ball.

Central processing unit:

CPU is the major component and it controls the operation of all other components such as memory, input and output units. The CPU has three components namely control unit, Arithmetic and logic unit (ALU) and memory unit.

Arithmetic and logic unit:

The ALU is a part of the CPU where arithmetic operations like addition, subtraction, multiplication, divisions and logical operations will takes place.

Control unit:

The control unit controls the flow of data between the CPU, memory and I/O devices. It also controls the entire operation of a computer.

Output unit:

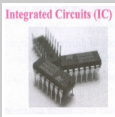
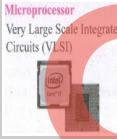
An output device is a hardware component that conveys information to the user in an understandable form.

Ex. Monitor, printer, plotter

Memory unit:

The memory stores everything that computer works with. The memory unit is of two types namely primary memory and secondary memory. The primary memory stores the data and instructions temporarily. Whereas the secondary memory stores the data permanently. The primary memory is volatile and secondary memory is non-volatile.

2.

Computers size was drastically reduced. S.No	Generation	Period	Main Component used	Merits/ Demerits
1	**First Generation**	1942-1955		Big in size Consumed more power Malfunction due to overheating Machine Language was used Eg : ENIAC, EDVAC, UNIVAC
First Generation Computer - ENIAC, EDVAC, UNIVAC 1 ENIAC weighed about 27 tons, size 8 feet x 100 feet x 3 feet, and consumed around 150 watts of power				
2	**Second Generation**	1955-1964		Smaller compared to First Generation Generated Less Heat Consumed less power compared to first-generation Punched cards were used. The first operating system was developed Batch Processing and Multiprogramming Operating System Machine language, as well as Assembly language, was used.
Second Generation Computers IBM 1404, IBM 1620, UNIVAC 1108				
3	**Third Generation**	1964-1975		Computers were smaller, faster, and more reliable Consumed less power. High-Level Languages were used.
Third Generation Computers -IBM 360 series, Honeywell 6000 series				
4	**Fourth Generation**	1975-1980		Smaller and Faster Microcomputer series such as IBM and APPLE was developed Portable Computers were introduced.
5	**Fifth Generation**	1980-till date		Parallel, Processing Superconductors Computers size was drastically reduced. Can recognize Images and Graphics Introduction of Artificial Intelligence and Expert Systems Able to solve highly complex problems including decision making and logical reasoning.
6	**Sixth Generation**	In future		Parallel and Distributed computing Computers have become smarter faster and smaller Development of robotics Natural Language Processing Development of Voice Recognition Software.

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3. **(a) Inkjet Printer:**
(i) Inkjet printer use colour cartridges which combined magenta, yellow and cyan inks to create colour tones.
(ii) A black cartridge is used for monochrome output. Inkjet printer works by spraying ionised ink at a sheet of paper.
(iii) The speed of inkjet printers generally range from 1-20 ppm (page per minute)
(iv) An inkjet printer can spread millions of dots of ink at the paper every single second.
(v) They use the technology of firing ink by heating it so that it explodes towards the paper in bubbles or by using piezo electricity in which tiny electric currents are controlled by electronic circuits.
(b) Multimedia Projector:
(i) Multimedia projectors are used to produce computer output on a big screen.
(ii) These are used to display presentations in meeting halls or in class rooms.
(c) Barcode/ QR code Reader:
(i) A Bar code is a pattern printed in lines of different thickness.
(ii) The Bar code reader scans the information on the bar codes transmits to the computer for further processing.
(iii) The system gives fast and error free entry of information into the computer.
Quick response (QR) code:
The QR code is the two dimension bar code which can be read by a camera and processed to interpret the image.

3 Marks

4. **The Basic characteristics of the computers are:**
(i) High speed
(ii) Stores Huge Data

(iii) They do millions of different tasks
(iv) Very versatile
(v) Accurate
(vi) Diligence

5. Applications of Computer: Banking, Insurance, Education, Marketing, Health care, Engineering design, Communication, Government, Weather forecasting.
6. **Input Device:**
   It is a peripheral device used to provide data and control signals to an information processing system. Eg: Keyboard, Mouse, Scanners, Digital cameras, Joysticks.
7. The three output devices are
   (a) Plotter
   (b) Speakers
   (c) Multimedia Projector.
   (i) Plotter:
   Plotter is an Output device that is used to produce graphical Output on papers. It uses single colour or multi-colour pens to draw pictures.
   (ii) Speakers:
   Speakers produce voice output (audio). Using speaker along with speech synthesize software, the computer can provide voice output.
   (iii) Multimedia Projector:
   Multimedia projectors are used to produce computer output on a big screen. These are used to display presentations in meeting halls or in classrooms.
8.

Optical Mouse	Laser Mouse
It is less sensitive towards the surface	Highly sensitive
Tracking power is less	Tracking power is more
Old technology	Latest technology
This uses the light source instead of ball to judge the motion of the pointer.	This uses Laser light
Optical mouse has 3 buttons	No. of buttons will vary from 3 to many

9. **Impact printers:**
   (i) Impact printer refers to the class of printers that work by banging a head or needle against an ink ribbon to make a mark on the paper.
   (ii) Impact printers are very noisy.
   (iii) These printers can print on multi-part.
   Eg: Dot Matrix, Line printers.
10. (a) Natural Language Processing
    (b) Development of Robotics
    (c) Parallel and Distributed computing
    (d) Artificial Intelligence
    (e) Development of Robotics
11. **Monitor:**
    (a) A computer monitor is an output device which displays information in pictorial form.
    (b) Monitors can be of monochrome which displays text or images in Black and white (or) in color.
    (c) Different types of monitors are CRT, LCD and LED.

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QUESTION BANK 365

2 Marks

12. Computer is an Electronic Machine, capable of performing basic operations like addition, multiplication, division etc. Computer accepts data as input, process it, produce output and stores it for future.
13. **Data Information** Data is a collection of facts from which the information may be derived. It is an unprocessed collection of facts in a manner suitable for communication, interpretation or processing. Information is a collection of facts from the conclusions can be drawn. Information is a processed facts, active, Business based and transformed from data. Eg. 134, 16, Kavitha Does not give meaning. Eg. Kavitha is 16 years old. Conveys meaning.
14. The Components of CPU are (a) Control Unit, (b) Arithmetic and Logic Unit (ALU), (c) Memory Unit.
15. The ALU is a part of CPU where various computing functions are performed on data. ALU performs arithmetic operations such as addition, subtraction, multiplication, division and logical operations.
16. The control unit controls the flow of data between the CPU, memory I/O devices. It also controls the entire operations of a computer.
17. Memory enables the computer to store the program. The memory unit is of two types:
    (i) Primary memory
    (ii) Secondary memory
    The primary memory is used to store data temporarily and secondary memory stores the data permanently.

18.

Input Unit	Output Unit
An input device feeds information to a computer system for processing.	output device reproduces or displays the results of that processing.
Input devices only allow for input of data to a computer.	output devices only receive the output of data from another device.
It is a peripheral device used to provide data and control signals to an information processing system such as computer.	It is a unit which sends data from the computer to another device.
Eg. keyboard, mouse	Eg. printer, monitor

19.

Primary Memory	Secondary memory
It is directly accessed by CPU.	It is not directly accessed by CPU.
The access of memory is done by making use of addresses or data buses.	Here the Memory access is done through the input and output channels.
The Primary memory is embedded with 2 types of technologies. They are RAM and ROM.	The secondary memory are stored in mass storage units like CD ROM, CD, DVD, Floppy disk storage.
Volatile in nature.	Non-Volatile in nature.
Much faster than the secondary Memory.	Slower than the Primary Memory.
Costlier than secondary memory.	Cheaper than the Primary Memory.
It is temporary memory.	Secondary memory is permanent.

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Multiple Choice Question

20. (a) Vacuum tubes
21. (c) RAM
22. (c) Monitor
23. (b) Mouse
24. (b) Plotter
25. (a) Touch Screen
26. (a) Warm booting
27. (d) Power on Self Text
28. (b) RAM
29. (c) Third