Input output and memory devices

One marks

1. What is cache memory
   The very high speed memory present between CPU and RAM
2. Expand the term OCR
   Optical Character Recognition (Recognizer)
3. Expand the term MICR
   Magnetic Ink Character Recognition
4. Name any one output device
   Printer, Monitor
5. Name any one input device
   Keyboard ,Mouse
6. Where the L1 cache resides
   Inside CPU
7. Where the l2 cache resides
   On motherboard
8. Expand DDRRAM
   Double Data Rate Random Access Memory
9. How many bits are there in a byte
   8 bits
10. What is ROM and RAM
    These are primary memory
11. **Define resolution of a monitor**
    The number of dots per inch(DPI)

Two marks

1. **Explain different types of RAM**
   EDO RAM (Extended Data Output RAM): It is used to improve the speed of reading data
   Static RAM (SRAM): Static RAM retains the stored information as long as power supply is on
   Dynamic RAM (DRAM): Dynamic RAM loses its stored information in a very short time even though the power supply is on
   Double Data Rate Ram (DDR): It is very fast computer memory it will work for both pulse of clock signal. It again categorized in to DDR1, DDR2, DDR3 based on the processing sped
   Synchronous Dynamic RAM (SDRAM): It will work based on the clock pulse. If the clock signal is given then only it will transfer the data.
2. **Give different types of RAM**
   EDO RAM
   Dynamic RAM
   Static RAM
   DDR RAM
   SDRAM

3. **What is the difference between static and dynamic RAM**

Static RAM	Dynamic RAM
1) Stores Information as long as the power supply is on.	1) Dynamic Ram loses data in very short time(Every 2 milliseconds
2) Consumes more power	2) Consumes Less Power
3) Expensive	3) Less Expensive
4) Does not required refreshing circuit	4) It require refreshing circuit

4. **Give the difference between hard copy and soft copy**

   The programs and data present in the memory or Screen is called as soft copy. It can be stored till power supply is on. Example: Content displayed on monitor.

   The programs and data present on the paper are called as hard copy. Example: Printout

5. **Mention the different types of printer**

   Impact printer and nonimpact printer

6. **Give the example for impact and non-impact printer**

   Impact printer Example: Dot matrix, line printer

   Non-impact printer example: inkjet, laser, thermal

7. **Name any four secondary storage**

   Hard disk, Floppy disk, Pen drive, CD, DVD

8. **Compare input and output unit**

Input unit	Output unit
Give the data and instruction to the computer	View the results of operation
Key board, MOUSE	Monitor, printer

Three marks

1. **What does MOUSE Stands for ? Mention its types**

   Mouse stands for "**Mechanically Operated User Serial Engine**

   There are 3 types of Mouse:-

1. **Mechanical**
2. **Optomechanical**
3. **Optical**

2. **Write a short note on a floppy disk**

   Floppy Disk Drive (FDD) is used to read and write the floppy. The floppy is made by a circular flexible plastic coated with magnetic material. A disk is logically divided into a concentric circle and is called **track** and is divide into smaller unit is called **sector.** It can be classified into 4 types

Type	Size in inch	Capacity
Single side single density	5.25	360 KB
Single side double density	5.25	1.3 MB
double side single density	3.5	1.44MB
double side double density	3.5	2MB to 2.88MB

3. **Explain different types of MOUSE**

   1. **Mechanical**:- This mouse has a small hard rubber ball underneath that moves against

two roller as it passes across a flat surface. Mechanical sensors detect the movement of the rollers as an 'X' and 'Y' axis and the cursor on screen is moved accordingly.

2. **Optomechanical**:- This mouse works on the same principle. The rollers have wheels on the end of them with evenly spaced holes. As the wheels spin, a light-sensitive optical device counts the number of holes that pass by and convert those numbers to an 'X' and 'Y' axis.

3**. Optical:**- This mouse more accurate or perfect and has no moving parts. It uses a laser to detect movement and has to be paired with a special mat that has an embedded optical reference grid.

5. **Give the applications of OCR, OMR, MICR**

   OMR: The main use of OMR devices is to recognize certain pre-specified types of marks such as marks made by pencil or pen. These types of scanners are normally used in grading objective type tests.

   OCR: The main use of these devices is to recognize alphabetic and numeric character printed on paper. OCRs are used in applications such as credit card billing and reading of pin code numbers in large post offices to sort mail geographically.

   MICR: device is normally used to assist the banking sector in processing the cheques that are issued by the customers every day. Special font has been set for these characters by American Banking Association.

6. **Compare volatile and nonvolatile memory**

Volatile	Non volatile
Information lost when power supply is off	It retain information even after power off
Less storage capacity	More storage capacity
Costlier	Cheaper
Example RAM	Example secondary storage unit

7. **Write the difference between RAM and ROM**

ROM	RAM
Read only memory	Random Access Memory
Non Volatile in nature	Volatile in Nature
Information retains till power supply is on	Information is permanent in nature

8. **Explain keyboard**

   Keyboard is an input device used to feed data into a computer. It is commonly used input device. They are designed to input text and characters, as well as to operate a computer. Physically keyboards are an arrangement of rectangular buttons or "keys". Keyboard have alphabetic keys to enter letters, numeric keys are used to enter number, punctuation keys used to enter comma, period, and semicolon etc. functional keys to perform some specific functions.

9. **What are the characteristics of non-impact printers?**
   Characteristics:

- Print high quality graphics
- They are quite
- It is not possible to take multiple copies at a time
- Speed is measured by Pages Per Minute (PPM)
- The quality of printout is measured by Dots Per Inch (DPI)
- The printing speed is high
- We can take color printout also

10. **Write a note on inkjet and laser printer**
    Inkjet printer: It contains a nozzle through which ink is forced through producing droplets of ink, passed through deflection plates which makes drops as a character. Resolution of the printer is 300 dots per inch. Printing speed varies from 1 Page per minute to 12 PPM. Can print the color image.
    Laser printers: These are page printers. A page of text or picture is printed at a time. It utilizes a laser beam. The laser exposed area attracts an ink powder that attaches itself to the laser generated charges on the page. The resolution of printing varies from 300 to 1200 dot per inch (DPI).These are fast printers and the speed ranges from 10 to 200 pages per minute. It produces a high quality output.

11. **Explain hard disk in detail**
    a) **Hard Disk**: It is a main storage unit of a computer It contain physically composed a series of flat magnetic material coated plates arranged on a spindle and also contain a set of **read write head to read and write the information from and to the disk** on each plate. A disk is logically divided into a concentric circle and is called **track** and is divide into smaller unit is called **sector.** The concentric track of each plate is called **cylinder**. Using this we can store more number of information and its storage capacity is varies from 2GB to 750 GB. We can connect the HDD to the computer by 4 different types and are
    a) SCSI HDD: These drives for high end users with high speed
    b)　IDE HDD: Is seen in today's computer
    c) SATA: Serial Advanced Technology Attachment: Has very large capacity and fast transfer rate
    d) USB Hard disk: Used to connect externally

12. **Mention the characteristics of impact printer**
    Characteristics:

* There is physical contact with paper and printing mechanism
* We can take multiple copies
* These are very noisy
* Printing speed is slow
* Speed is measured in Character Per Second (CPS)

13. **Explain impact printer with example**
    There will be a physical contact between printing mechanism and paper. These are slow and it prints character at a time. The main example of impact printer is Dot matrix printer, Line printer.
    Dot matrix printer: This printer contains a print head which is a matrix of short pins arranged in rows and columns. On receiving instructions from the computer the pins which are required to form that character comes forward from the matrices, these pins strikes the ink ribbon which is held in between the print head and the paper. When the pin strikes the ribbon, they press ink from ribbon onto the paper. The more pins that a print head contains the higher will be the printer's resolution. The lowest resolution printers have only 9 pins and highest resolution printer have 24 pins. The speed of the printer is measured in characters per second (cps). Printers speed range from 30 to 300 cps.

14. **Write the advantages of OCR**

   Advantages of OCR:-

   a) OCR eliminates the human effort of transcription.

   b) Paper work explosion can be handled because OCR is economical for a high rate of input.

   c) Since documents have only to be typed or handwritten, not very skilled staff is required.

15. **Explain different types of ROM**

   PROM- It stands for Programmable Read Only Memory. Here the user decides the content of the ROM. The user can store permanent programs using special equipment's but PROM is once programmable.

   EPROM- It stands for Erasable Programmable Read Only Memory. Exposing PROM to high intensity ultraviolet light for about 20 minutes can erase the stored data in EPROM. The technique of erasing content is not easy and convenient; since all the contents will be erased we cannot select a portion of the content for erasing.

   EEPROM-An Electronically Erasable Programmable Read Only Memory can be programmed through the use of special electrical pulses. It is possible to integrate the circuit into the computer, so that EEPROM does not have to be removed from its socket for programming.