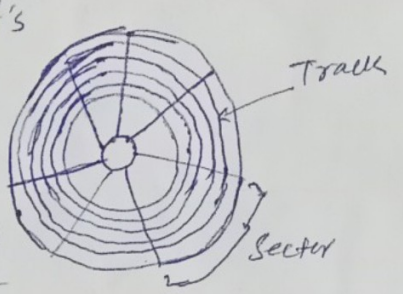
Magnetic Memory

The magnetic memory is Permanent memory. It is not volatile. It is used as a secondary in computer System. The following types of magnetic memory are used

(i) Hard disk. (ii) Floppy disk (iii) Magnetic tape.

Hard DISKS :- Hard disks are used as secondary memory for mass storage of information permanently. A hard disk is made of aluminium base with thin coating of magnetic material (iron-oxide) over it. Digital information is stored on the magnetic coating (film) by applying current pulses of suitable polarity to the magnetizing coil of the read/write head. The Logic 1 or 0 depends on the direction of magnetisation of very small area of the magnetic film which comes under the read/write head.

A hard disk is a surface device. It's surface is divided into a number of concentric tracks, and each track is divided into a number of sectors as shown in figure Tracks and sectors donot have physical existence on the surface of a disk. They are logical things. To increase the storage capacity, several hard disks called platters, are mounted on a common drive to form disk pack. Data bits are stored serially on each track.



Seek time :- The time required to move the read/write head to the specified track is called seek time. This depends on the initial position of the head relative to track specified in the address.

~~Latency Time :-~~

Latency Time :- The Latency time is the time required to locate the specified sector under the head.

Access Time :- The sum of seek time and Latency time is called access time.

Some features of hard disk drives are

Storage capacity of hard disk drives : a few GB - 2000 GB

Storage capacity per platter : a few GB - 500 GB

Speed : 3600 rpm - 15000 rpm

Data transfer rate : 25 - 100 MB/s

Access time : 5 ms - 20 ms

Disk Partitioning :- Disk partitioning or disk slicing is the creation of one or more regions on secondary storage, so that each region can be managed separately. These regions are called partitions.