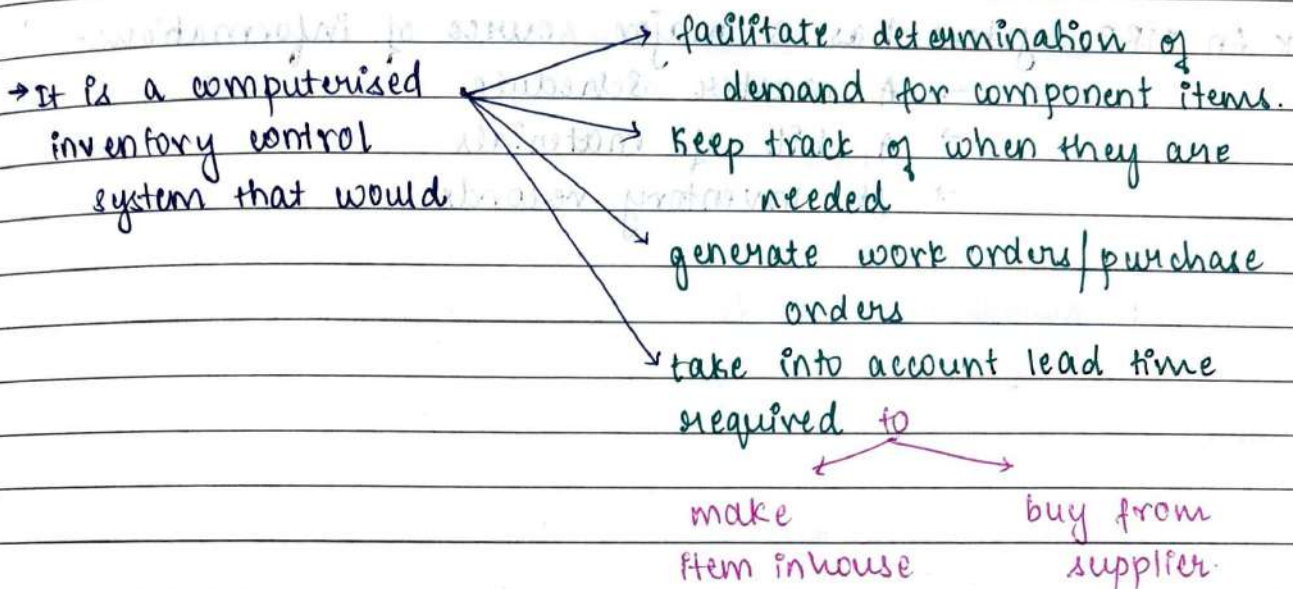


2.5. Material Requirements Planning (MRP)

→ methodology used for planning the production of assembled products.



MRP begins with a Master Schedule?

Master Schedule?

→ Quantity and Completion time of an assembled product
↓
end item.

→ It is translated into → time-phased requirements for

sub assemblies Components R.M.

* Main Objective of Inventory System?

→ Material is available when needed.

→ MRP does this by scheduling items to be ready at time.

* MRP answers 3 Questions :-

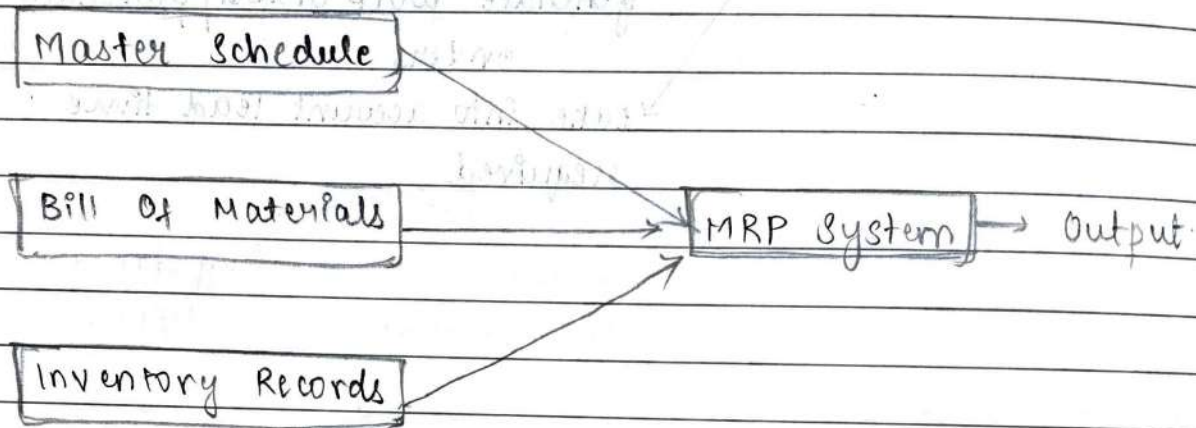
What is
Needed

How much
is needed

When is
it needed.

* An MRP system has 3 major source of information:-

- A master schedule
- A bill of materials
- An inventory records.



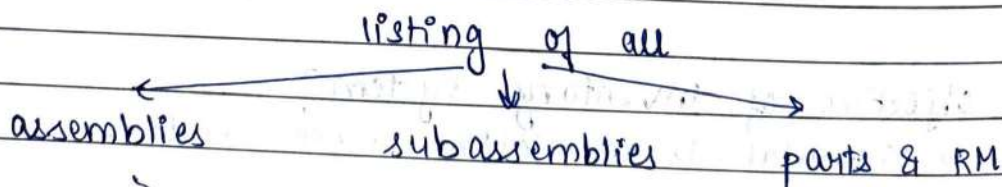
* Master Schedule also called Master Production Schedule states :-

a) which end items are to be produced.

b) when they are needed

c) in what quantities.

* A Bill of Materials contain :-



that are needed to produce one unit of an end items.

** Each type of Finished Product has its own bill of materials.

* Inventory Records Refer to :-
 stored information on the status of each item by
 time periods i.e.

Information on
 Quantities
 on hand

Information
 on Quantities
 ordered.

Information on supplier,
 lead time and
 lot size policy etc.

* MRP Objectives :-

1) Inventory Reduction

2) Realistic delivery
 commitments

3) Increased efficiency

4) Reduction in manufacturing
 and delivery lead time.

* Advantages :-

- Reduced Inventory.
- Reduced Idle time
- Reduced Set Up time
- Ability to change the master production schedule.
- Ability to price more competitively.
- Better customer service.
- Better response to market demands.
- Reduced sales price.

* Disadvantages :-

- 1) Lack of top management commitment.
- 2) Needs high degree of op accuracy for operation.
- 3) Issue of how MRP can be made to function with JIT
- 4) MRP was presented and perceived as a complete and stand alone system to run a firm, rather than as part of the total system.

* Determining total requirements is complicated bcoz



Many products
have

Issue of timing



More components
Complicated Bills of Material

when the components
be ordered

& when must
be included
in Analysis

Before Application of MRP, bill of materials & Inventory Records must be accurate.

MRP is useful for dependent demand items.