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# INDUSTRIAL PRODUCTION MANAGEMENT

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# ABSTRACT

Industrial production plays a vital role in the present generation, where as every person is in need of goods which are produced by the factory, because all the products are not able to manufacture for the utility by the people by themselves due to some material deficiency or some external things, and the main reason for using all the factory outlets are of to save the time and to not make any effort in order to prepare them by undergoing such process, each and every people are busy in their work now a days due to the busy life leading by the people where they doesn't have time to travel so these people are habituated for the out sourcing products which instantly clears the needs of them by the products which are produced by the industries.

As we are busy day to day the people need a medium to full fill their necessity, buy not wasting time on them thus, the utility of the products in the market has a greater demand due to this the industries are undergoing a greater pressure in order to supply the goods to the market to full fill the demand processed by the customers, as the industries are working more and more time by paying extra wages for the workers in order to produce goods and services in a given date. So, to reduce the effort for the industries we made some changes in the process of production to get rid of stress processed by the market and to supply the goods to the level of demand in the market.

Keeping all the drawbacks in list we are going to produce a optimal solution process which reduces production risk to produce goods.

As we are well known about the processes of production in which are going to modify the systematic process so that the maximum amount of raw materials are used and the rate of production increased in a specified time thus, we can improve the demand for the products in the market by producing them with low cost and more quality for the produced product.

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# CHAPTER 1

# INTRODUCTION

## BACKGROUND OF THE STUDY

We live in a world that is always advancing, In this modern generation the utility of the products are more as compared to earlier now the people are coming out for small type of products which are generally homemade item, for such small type of products which are able to produce at home were also purchasing in the market to the betterment and comfortable life as every people thought that they should be very comfortable to lead a luxurious life by not undergoing to do all such things in order to prepare they choose a choice of purchasing them from the market so that would be an easiest way to get rid of all stress under gone through to make those products, we all know that each and every product which is available in the market is unable to produce at our home so that to full fill all our needs of our daily life factories work together to produce goods and services for leading a comfortable life.

For every year millions of people are increasing across the world for this daily rapid production has been going on or the production in order to supply goods for every individual to full fill their needs, as we know that large population has been growing up in order to supply goods number of industries are also increasing more and more in every sector.

## INDUSTRIAL DEVELOPMENT

By the increase of utility of products the number of industries are also simultaneously increasing to full fill the supply in the market by various brands this industrialization generates an opportunity for the employment of people who are good at their own professions, it helps the people to educate more and more by working, industrial development helps the people to enhance their knowledge and evacuate all the innovative ideas of the individuals who are working there and helps to utilize more features in the sector it help to increase the economy of our country as well as, it helps thousands of people and their families to live by providing the employment opportunities, these industrial development helps to increase the mass production in the market thus the goods will be produced more for the same unit of time more techniques are utilized for the products to produce so that technology increases day to day .

Production process is defined as the process of figuring out the raw material of a component to a finish or a final good for the utility and to fulfill the needs of the customer, as the people are of good enough they acquire all the needs by the industrial made , so to fulfill the necessity of

the consumers the industries are working with more and more effort to fulfill the desire estimation by the market as the peoples main aim is to save TIME in order to save time for their

own earning purpose all of them are addicted to the instants which helps to get off the things which are needed for them, production system is the main unit where each and every product is to be finalized by undergoing this production process where n number of machining process should carried for the ultimate utility product .

For the production of goods by the industries we are implementing a new method of production system by eliminating unnecessary method of processes in order to save time, capital, labour etc.., this method of innovative process in each and every method of applicable process such that this helps to produce more and more goods in a specified time, this method helps the companies to rid off all the risk and to produce more quality products than before , this is how the method implements more charecteristics for the better development of production facility to supply effective goods for the consumers.

## NEED OF THE STUDY

Defects of the production process are described by each and every section of the elements which are involved in the process of manufacturing this was a major loss to the company which no one resembles it and it seems to be as a scrap, while the production has its own importance which helps the firm to achieve its sales in the market and the objectives which the industry has to implement better for the advanced methodology which creates a greater difference in the production of goods and services as we all know that for the following product it must undergoes many number of operations to make it a complete product , in every company there is a department called research and development which deals with the advancement of the company to be positioned where it has to implement new ideas what are the things gonna to be changed for the better implementation of the working process thus the company should gets high amount of returns in the name of profits by creating a greater demand in the market

As we made a survey on manufacturing process there are number of operations which are taken place to made the raw material into the finished product there is lot of processes which each and every product should undergo where, a single mistake can collapse the product so, each and every processes is under supervision in order to resist the mistakes happening in the time of production.

## RESEARCH STATEMENT

A study to accesses the effective working procedure of the production department and to increase the awareness of the updating market in the production field, this thesis is carried to improve the assembly line and the type of production to be implemented in the production unit to get the optimum results and to increase the majority of demand as well as to increase the profits of the company.

## AIM OF THE STUDY

To improve the accessibility of the production unit for the better production process in order to improve the accessibility of the products to the market to the upgraded level of demand, and to reduce the max amount of wastage by utilizing the maximum amount of raw materials by applying different methods this creates an intrest for the upcoming younger entrepreneurs for the better development of the industrial development.

## OPERATIONAL DEFINITION

- Accesses
  Accesses id to determine or evaluate the accessibility of the product
  Or accesses is the ability to determine the value of a product.
- Effectiveness
  It is the ability to produce or to implement a new method for the existing process by considering all the measurements and ebilities.
- Production line
  The process of operations arranged in a sequence by the process of effective production for the better results of the product

## ASSUMPTIONS

- Raw material which are required for the production are available in proper time of production
- Workers are good at their working skills
- Each and every worker and employee of the industry works with effordable effort for the better development
- Required capital and required essentials are given in time for the people of industry

## CONCEPTUAL FRAMEWORK

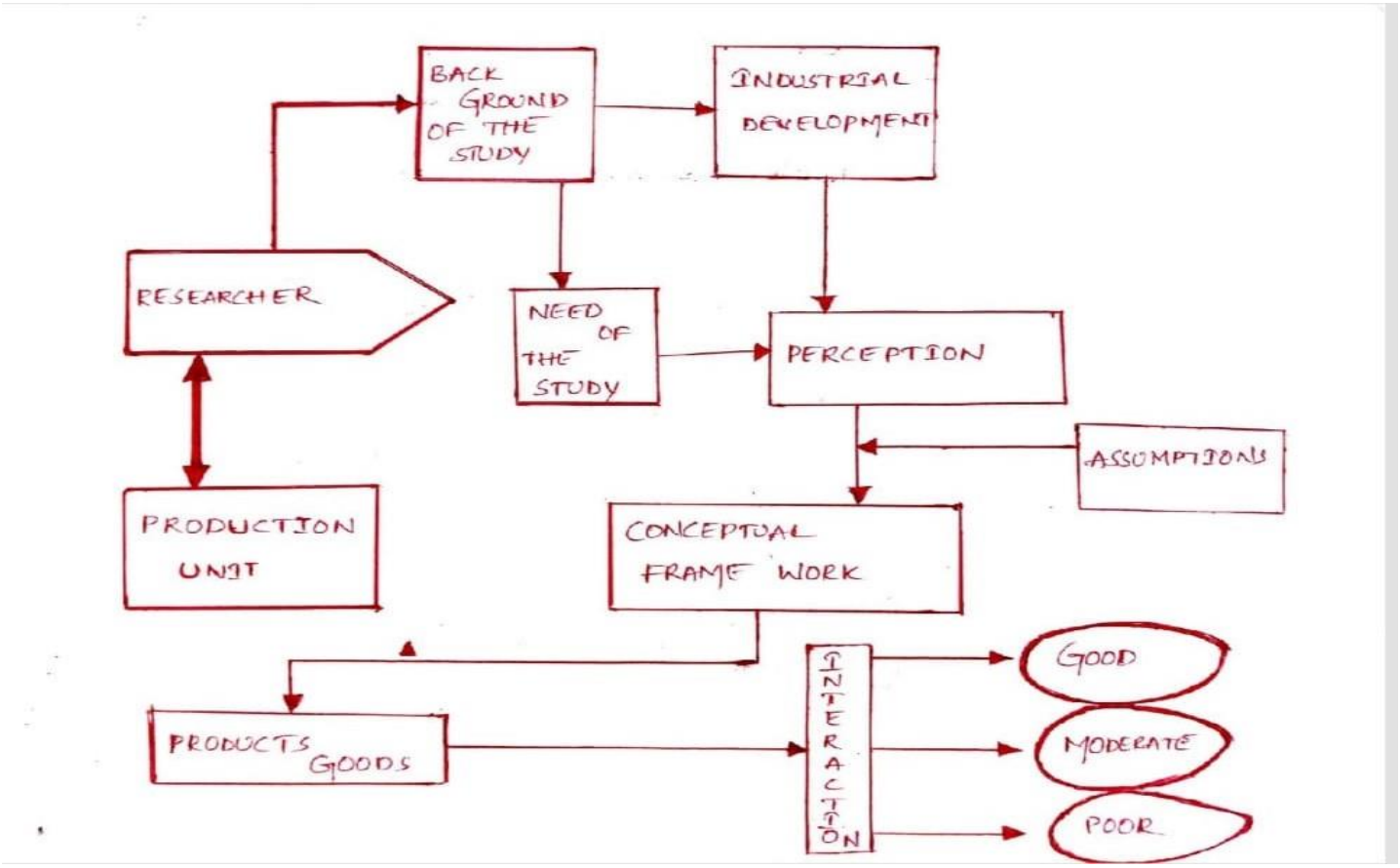
According to the research work it is stated as the developmental ideas or the ideal work which is carried on a particular unit in order to define it is different from the existing work.

As we are all working on the better production line of unit which creates a better working processes so, that we can make more amount of products within a given time for the large amount of demand created by the consumer.

## INTERACTION

It defines that at what percentage of our goods are available in the market for the demand of the consumers and knowing the feed backs of the consumers after consuming the products which are produced by our company if the company products are good enough to the consumers desire, then probably we are getting high returns as profits if nit we have to improve the parameters which are feed backed by the consumers

## FLOW CHART R A SAMPLE IDEALIZATION OF PRODUCTION



## SUMMARY

This chapter deals with the introduction to the production unit and the process of planning the methodology process and helps to find a clear and optimum way to perform production buy determining pros and cons of the existing method of production, where a the main theme of this thesis is to implement an optimal solution in order to reduce the risk for the company.

# CHAPTER 2

# REVIEW OF LITERATURE

Review of literature is the most important parameter or a step to be followed in the research paper or a thesis, this review shows that what we have already learnt in the existing processes and what are the methods that are already in existing fore the process of production in industrial sector. The main theme of the literature review is to convey the work already done and the method of knowledge which are already applicable in some of the industries in some of the topics of research.

This review is a proof of the accounts which are already established the ideas of the applications which are implemented in the process of production, on a publication of research ideas on a phenomenon.

## Definition

Review of literature is stated as the process of ideal and a broad research which has been already existing in the upgrading world, and it is a comprehensive and a depth study of the topics which are been published , this reviews are front forwardly known as the articles which are innovative ideas published by some researchers which are existing now.

The main purpose of this reviews are to gain some amount of knowledge by the implementations which are made by some other researchers in an account of small considerations which may be an ideal case which helps us to improve the knowledge some more and helps to make a research more better than the knowledge we have, this is what a review helps for the better development of knowledge.

The overall purpose of this review is to establish a good information for the better results in the following research to the author, as there are number off authors who had written some of the research articles in their own likely stream of production engineering so by undergoing these research papers written by the followed authors we can know the some addition information which we had never known as this info helps to investigate the research of our themed article in a deeper way so that we can achieve many innovational ideas so that we can get an optimal solution for the process of production.

In the methodology of thee production unit there are numerous activities which a material has to undergo to become a final goods, this methods are to be investigated by conducting research

and by undergoing the literature review s of the authors who had written related research papers to the field of production.

This reviews helps us to improve and create an motivation to do research in a followed manner so that every script has to be under checked detailed thus. This improves us to gather more and more info about the production unit and the delegations which occurs while the process are going through.

The literature review of the recent study has been organized and studied under follows

1. Literature related to the production unit

2. literature related to the manufacturing process

3.literature related to the relationship between the manufacturer and the consumers

LITERATURE REVIEW RELATED TO PRODUCTION UNIT

1. R m lathe investigated the convectional machining process which is a time taking process where major amount of time is required for the machining process this increases the major amount of capital for the production unit it costs for labor and the machining time electricity etc.., most of the parameters are to be increased by this convectional machining process. In order to prevent this type of external effecting capital for the industry he made an innovation of attaching a electric motor to the shaper machine so that the process has been decreased the stress bared by the people of working there, he developed electro pneumatic process for performing machining operations on the shaper machine. And the machine is automated for the return stroke so that the time for machining the material takes less as compared to the convectional machining process.

2. S. Ravindran implemented an immortal study on a planner and shaper machine of the production unit ,he studied and made a research on the power consumption as well as the energy conservation and the productivity of the planner and shaper machine the quick return mechanism which is used to run the shaper and planner machines are the time wasting mechanism which consumes more amount of energy for the ideal stroke of return stroke in both the machines due to this ideal stroke the most of the energy is wasted , so in order to waste the energy consumption he made an innovation of arrangement of two clapper box which reduces the power consumption and the more amount of energy is utilized for performing the process of machining like metal cutting to made the raw material into the desired shape and size for the next operation.

3. Darwa Chaitanya crithikumar he investigated that the energy is the most important factor for the development of the production of goods and services where the maximum amount of energy is wasted for some other works in order to resist the wastage of energy which was carried among the operations he made a survey on the energy consumption system of production he made some research and estimated and determined that some other amount of energies are to be utilized like conventional energy so that the power determined energies are reduced in utilization so that reduces the power consumption of the production unit.

4.varun segal

As we all known that the improvement of industrial sector has been developing from the last decade, we know that there are many number of implementation has been made in the system of production,. There are many number of industries which are small scale medium scale, and large scale, these are the three categories of industries which are implementing now a days these are to be motivated to introduce the advanced manufacturing technology which helps to increase their production by investing low amount of capital in order to serve the goods for the needs of the customers in the market. He developed the system of introducing latest techniques in the small scale industries which helps them to reduce the amount of risk to be taken while production.

5. Goudian

A german resercher has been made a research related to the development of the products which are new to the market ,this method are of very interested to know by the literature review it helps us a lot for the methods of research to be followed under the process of the a of the study.

He made a research on the process of implementation of products which are manufactured for the first time it means aa product which had been arrived new to the market those products are to be designed with some amount of care and methods those are implemented by this person in his research.

SUMMARY

As the studies of literature review illustrate that the process which are implemented in the modernization of the industrial development and what are the major factors that are to be focused more for the better development of the process of production plant, this literature review helps me a lot for the better investigation that I am going to make in the production METHODOLOGY.

It helps me to demostrate that the research that I am doing in a brief point for the better understanding of the concept which ever we use these type of techniques it helps us a lot in the process of production for the lower investment of capital.

# CHAPTER 3

# RESEARCH METHODOLOGY

Research methodology is a way of determining the solutions for the problems this research methodology includes many sub elements

- Research approach
- Research design
- Setting
- Consumers
- Development of ideas
- Reliability
- Procedure of data collection
- Planning
- Implementation

The methodology indicates the overall working functions which are carried across the process of research, this methodology indicates the answers to the problems arised in the research paper and it helps to understand the method of ideas which are carried in the process of research.

This researcher adopts the best method of processes among all the carried process test or a research in every criteria.

RESEARCH APPROACH

As we all known that performing research resembles the process of carrying an unknown thought which was not in the existing processes.

Research approach involves the description of the method involved in the investigation of the phenomenon of quantitative and qualitative or combination of both quantitative and qualitative approach.

Quantitative approach has more importance in the developing industries because more number of ideas can implement the process of production with a low investment of capital.

In the present study we are going to perform a research thesis on the quantitative approach.

## RESEARCH DESIGN

Research design is defined as the overall plan of the carrying work. In this research design every implementation of the work study has been taken control.

Research design is also called as the blue print of the carrying research where each and every corner of the process known cristal clearly, is is interlinked with the research methodology where the experimental work has very little grip for the researcher due to the process of innovation is very new for the first time. As we know that the process of performing experiment has more number of sub divisions which are not perfectly assumed by the researcher. Due to this the experimental work of the conducting research has more complexity and lower grip among the experiment.

| group | Pre-test | invention | Post-test |
|---|---|---|---|
| Sub-group | $T_1$ | X | $T_2$ |

SCHEMATIC DIAGRAM OF HOW TESTS ARE CARRIED

KEYS

$T_1$ = tests which are conducted by using the existing processes to compare the results after testing the innovated process.

X = is is the innovated technique which is going to implement for the existing process for getting the better results.

$T_2$ = the advanced or the innovated process test which gives the better results as compared to the existing technique.

SETTING (STUDY)

Setting of the study is defined as the place or a location which we are going to collect the raw materials and the illustration of process to be modified is called as setting of study.

Population or the consumers are the most important factor among all the processes because the goods which the industries are producing are for the sake of consumer needs.

In the present days the people are having their own needs which are to be known by us directly by making a relationship by this we can easily find the problems which are facing by the customers so that we can implement our new method of process for the betterment of production in the industries.

CONSUMERS

Consumers are the main character for the implementation goods and services,

As to make a survey we are going to make a batch of people in order to known the problems facing by the customers.

By conducting a survey among the people we can identify the loop holes of the products so that we can implement the products with more care and without any drawbacks for the product.

DEVELOPMENT OF IDEAS

Idea development plays a crucial role in the process of research, where every step is to be taken by the process of idea.

Make a brief study about the process to be implemented.

Make a brief knowledge about the problem which we are going to demonstrate and then think off the possible ides which are applicable for the development of the product this creates an optimal solution for the product.

RELIABILITY

It is the degree of consistency and the accuracy with which products are measured in every aspect for which the product is designed to measure.

In the present days content reliability was checked by 10 members so that the research which was done carried by us is an innovative idea has been proved by the reliability check of the carried check.

The procedure of process taken place in the production unit has been analized by the supervisions on their aspects and they compare the results on every criteria thus the research made by us has to be one that never happened in the evolution history of industries.

## COLLECTION OF DATA

Research data is collected by undergoing a deep idealization of the problem statement.

Statistical analysis makes a big quantitative research among the production unit. This statistical analysis enables the researchers to summarize, evaluate, interpret, and communicate the process of production process applied in industrial applications for the production of goods.

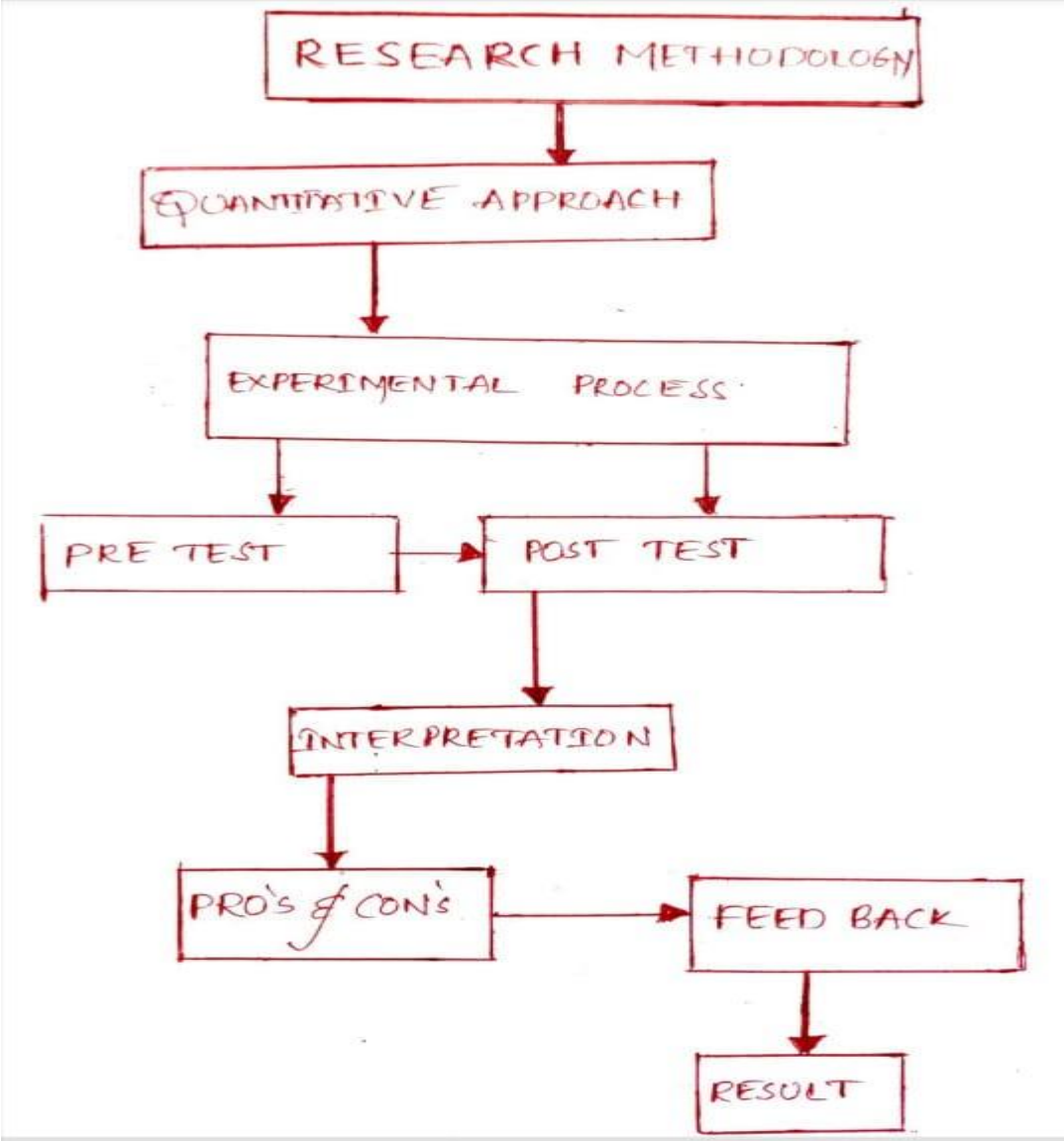
The data which was collected is analyzed and formatted in the form of objectives of the study of statistical information, the plan of the collected data was established or imprinted by the technician direction of attention in order to prevent damage while the tests are in progress.

## PLANNING

Statistical analysis helps researchers make some sence of quantitative information statistical procedures this enables the researcher to summarize, organize, evaluate the statistical data which is gathered from the research data.

As the data was planned by the following steps

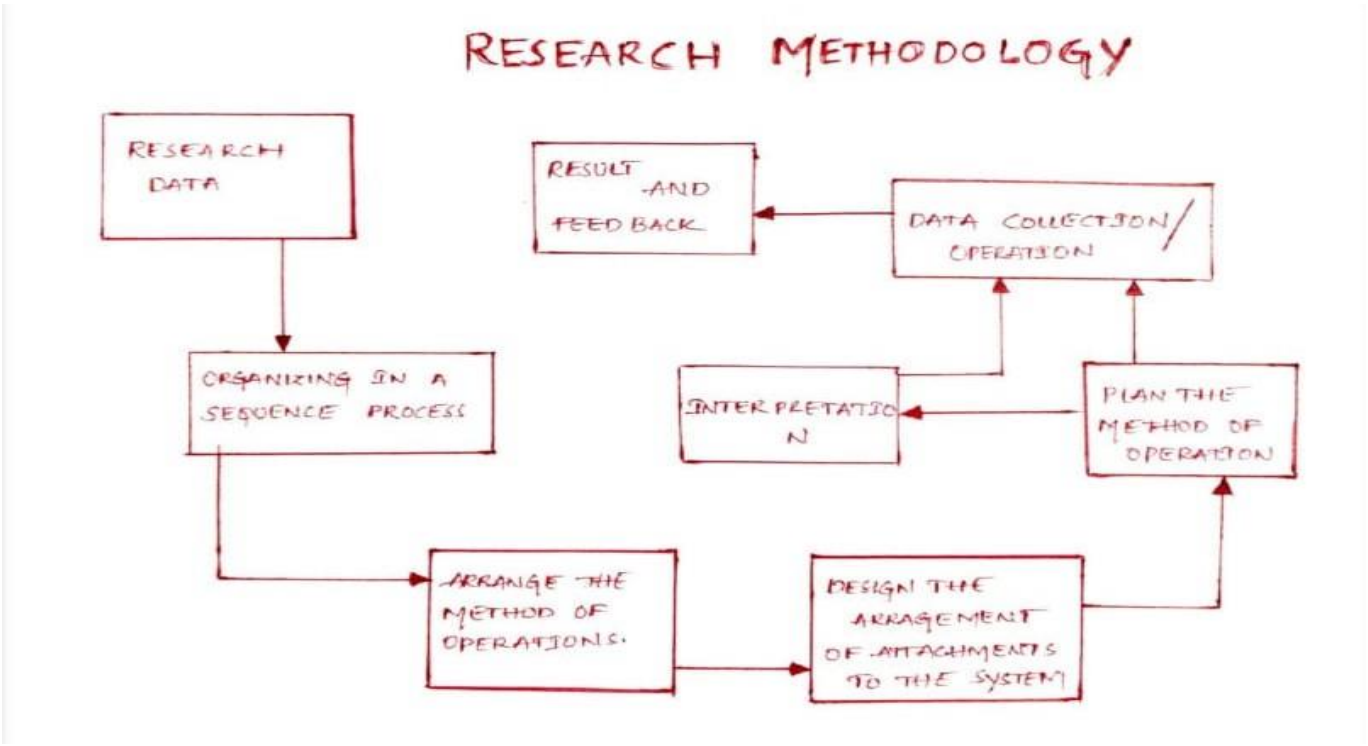
- Organizing the data in a master sheet in the computer
- Analyze the statistical information of the research data and divide it into sub elements or a classification.
- Arrange the sequence of operation in a proper manner so that it is available for easy convention improvement of the implementation.
- Calculate the amount of time, rate of production, material used etc..,
- Represent the data in tabular form.

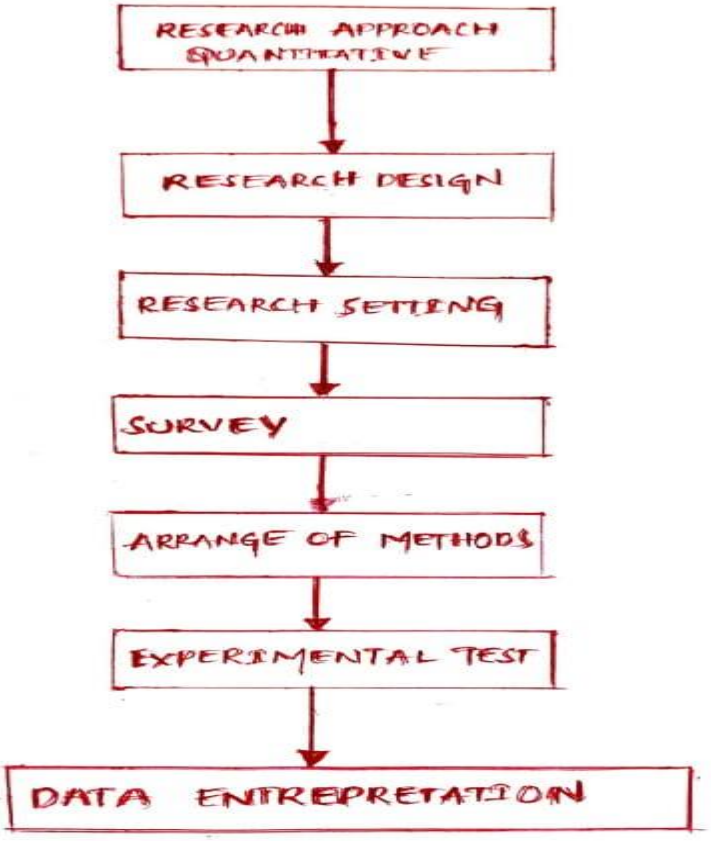



SUMMARY

This chapter deals with the research approach, research design, research setting, selection, planning, development of ideas are been understand by this chapter.

In this chapter we can understand that there are more number of processes that are arranged and known clearly.


RESEARCH METHODOLOGY
RESEARCH DATA
RESULT AND FEED BACK
DATA COLLECTION/ OPERATION
ORGANIZING IN A SEQUENCE PROCESS
INTERPRETATIO N
PLAN THE METHOD OF OPERATION
ARRANGE THE METHOD OF OPERATIONS.
DESIGN THE ARRAGEMENT OF ATTACHMENTS TO THE SYSTEM


RESEARCH APPROACH QUANTITATIVE
RESEARCH DESIGN
RESEARCH SETTING
SURVEY
ARRANGE OF METHODS
EXPERIMENTAL TEST
DATA ENTREPRETATION

# CHAPTER 4

# PRODUCTION CYCLE ACTIVITIES

## INTRODUCTION

Production is defined as the process of developing the raw materials into the final goods is called as production.

Production cycle is defined as the period during which the raw materials are formed to finished goods the time required for the whole process of converting raw materials to the finished goods is called as production cycle.

As we know that the production plays a vital role in the development of industrial sector, to compete the daily needs of the consumers now a days the industries are working extra hours to produce more goods for supplying sufficient goods to the rated demand in the market.

There are many type of production systems are implemented in different sectors which the production has to be carried out to their own specifications for the betterment of their companies demand in the market.

Industrial production is defined as the measurement of the output of the industrial sector of the economy ,where the industrial sector includes each and every element like manufacturing, mining, gathering raw materials from different sectors, in this era of modern civilization there are more number of new advanced products are producing for the development of the economic life of the people thus the products are producing with more utility for lower costs which makes the production profitable, it seems like the products are producing less than the cost of sales thus we can make a statement that the products are producing more lesser than the sales cost of a single product.

As to compete our product in the upgrading market we have to make some special chareteristics in the product so that it makes the consumers to attract to our product this helps the organization to increase the demand for the produced product.

The process of production is basically a arrangement of different operations in a single unit where each and every section is to be clearly observed if not the produced goods may differ from the main elements or main theme of product in order to compete all these sections in a major element called production unit we are making this production total process into some sub elements or sub groups which each and every sub has their own specific operations and

observations each and every sub units have to take control on their own inputs and outputs of the production system so that helps us to have a clear grip on the production process though having number of operations we can implement a major grip where each and every minute elements are observed so this helps the organization to avoid major mistakes which are regularly happening in the organization.

As the processes are developed and in this research area we are implementing a major number of elements which analyze the elements are helps to detect the unwanted processes which are increasing the cost of production by considering all the parameters, due to this the amount of production has come to an simplest form.

In the following information we are going to discuss the processes involved and what are the advancements which we are made for the development of industrial production.

As the production of goods are carried by the major resource or factor called factors of production, now we are going to discuss about the factors of production.

**FACTORS OF PRODUCTION**

The factors of production are defined as the essentials which are required for the process of production, those factors describes the whole industry as the factors of production are classified into four they are

- Land
- Labor
- Capital
- Entrepreneur

These are the four major factor which runs the production unit.

Factors of production are the inputs where these inputs helps the raw material to become finished goods, those inputs are also called as the major elements which works for the industry to produce goods and services for the consumers demand.

1. LAND

The sufficient area or a place where every sector has been established for the needs of production, and helps the organization to stroke the raw material as well as storage for the produced goods unless or until the goods may transported.

As the land plays a vital role for the clear and proper stage of production if not the process of production has to be attain complex stage it would leads to the adjustment of the work area and no proper maintain of things, it leads to the adjustment in every sector thus the process will become more complex.

2. Labor

Labor plays a vital role in the process of production when takes risk for their lives and work with the heavier machines under a greater temperature where to produce goods, as the labor has be skilled before going to perform operation under the machines.

As the labors are more prominent to work now a days as the industries are developing more and more the need of labor is increasing day to day to perform some operation where without those operations the production process will not run for unit time too. In order to attain the labor for the company they are paying more amount than they required for the working of industry

As industries are increasing in number each and every industry requires large number of workers in order to complete the work in time. This is how labors are most important for the industrial working processes.

Labors re defined as the persons who are getting paid for their daily work those kind people are called as labors.

3. CAPITAL

The 3rd factor of the factors of production is capital think that machines, buildings, humans used for the production are known as capital.

Some common examples of capital includes

- Hammers
- Forklifts
- Robots
- Computers
- Conveyer belts
- Transport vans etc..,

Capital is defined s the asset for a company for example a hunter having a stone as well as a arrow assume both of stone and arrow are called as asset thus these assets are capital for the hunter.

Capital are of two kinds renewable and non renewable these are the two kinds of capitals which are included in the industries.
Renewable capitals are defined as the method of investments which are available for the utility of needs as the capitals which are invested they cannot stay forever like if we pay wages to the labor the invested capital is converted to the labor payment that payment we cannot get back and that is not in the noms of company.

Nonrenewable are differed as the land bought for the industry it has its own structure it wont change for their life time and it was not a product to sale it will be with the company until the company lasts.

## 4. ENTREPRENEUR

The last factor is known as entrepreneur

Entrepreneur is defined as a person who setup a business or a businesses, by carrying financial risks in the hope of profits, as the person doesn't know weather the products which are produced by his industry will be profitable or not, he is the creator of new business in order to introduce a new kind of product in to the market by undergoing most of the risk related to work pressure, financial crisis.

He is the one who called as innovator who creates a new setup of business by undergoing a greater research of the product he does.

He is the creator of film which aggregates capital and labor in order to produce goods and services for getting profits.

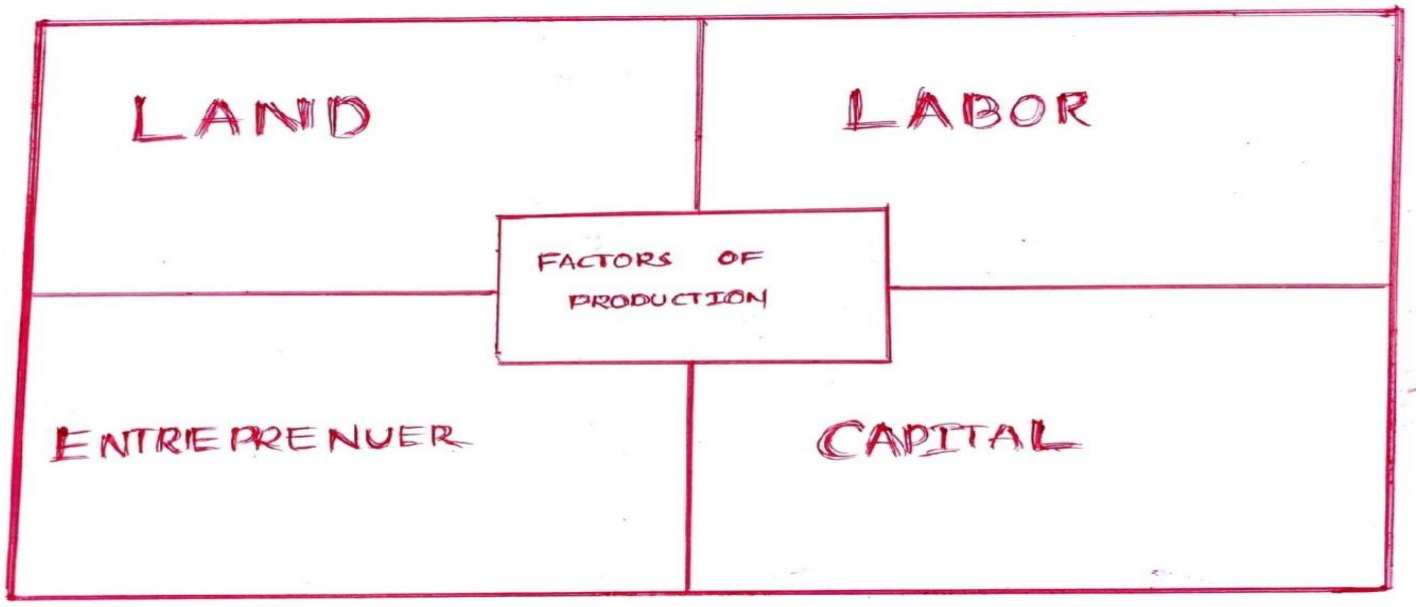
WORKING OF ENTREPRENEUR

He is the person who takes care about the whole organization, he makes a supervision on the processes carried out in the organization.
The most three elements which are to be faced by the entrepreneur are:

- Overcoming bureaucracy
- Hiring talent

- Obtaining financing

These are the three most elements where the entrepreneur has to be bear while processing of setting a new business.




BLOCK DUAGRAM OFF FACTORS OF PRODUCTION

## PRODUCTION CYCLE

Production cycle is defined as the process of defining the whole processes carrying under the process of production.

Production cycle is stated as the comprised of all activities related to the conversion of raw materials to the final goods and services as the production cycle is divided into many sub elements.

### INTRODUCTION

This cycle is defined as the activities develop to transfer all the inputs into the process in order to get the profitable outputs like finished products, good quality, customer needs, demand in market.

As the cycle involves that all the assembly parts of the individual converted raw materials into semi finished products before the section of assembly.

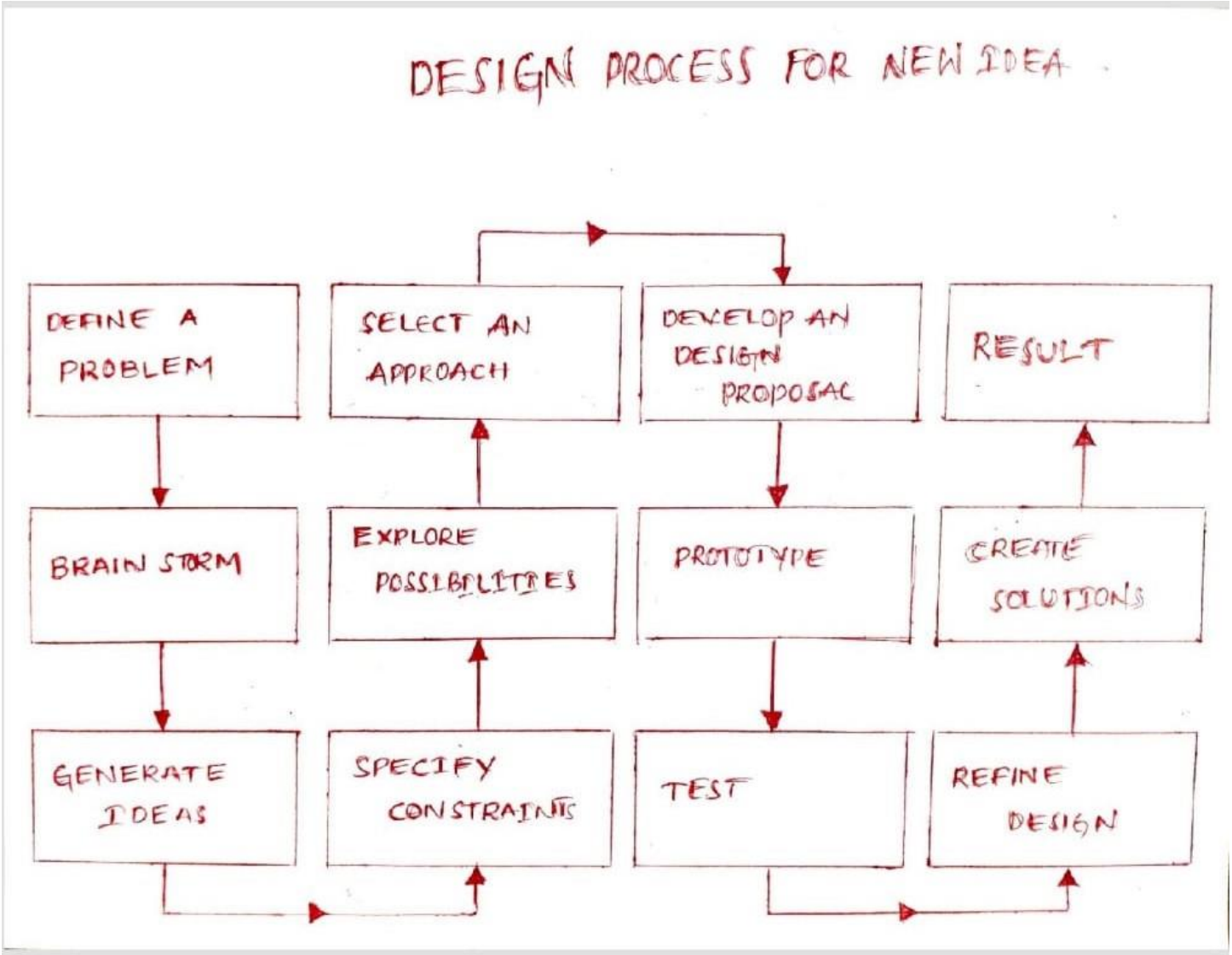
The major classification of production cycle are

- Design
- Planning and scheduling
- Operation
- Cost accounting

DESIGN

As design of a product plays a crucial role for the better development of demand in the market for the industry or a company.

BLOCK DIAGRAM OF DESIGN PROCESS



As design of a product is carried out several steps they are

1. Brain storm

In the very first step which formally delivers all kind of possible ideas for the idea which we are going to work, as we know that the idea which we are working for is the new evolution in the industrial evolution. As the idea should be followed some followed conditions where he product should not exceed the limits of production.

The brain storming consists of three phases they are

- Define the problem
- Idea generation
- Selection of most suitable idea

In the above three phases the process of getting the idea foe an optimal solution is clearly observed by following this process we can implement the best and the optimal idea for the better development of the problem

2. DEFINE PRODUCT

After conducting the brain storm, we need to mention some necessary needs of chareteristics which have to be inserted while operating the product to final design.

As a result the output of the product should be abstracted, as a result of listing all the resources we will find the optimal solution for the development of the give problem in a suitable way by considering all the necessary elements for the final product

After under going above process the people are going to get a clear idea about how the product should be designed and what are the required elements to be introduced in the list of design sketch.

This sketch plays a crucial role in the development of the layout of the product or the layout of unit design where each and every element is considered and separate section has to be altered for the production of goods securely.

3. Prototype

Creating a prototype of the developed design is the major role of he new product which helps us to understand the clear information about the idea which was generated by our team this

prototype is tested by the machine by considering many factors which helps the company to analyze the product ebilities which it can perform activities.

4. Sample testing

Sample testing is stated as the process of measuring the product, which includes every parameter, this was done before the product is begin an expensive implementation.

This s ample testing differs the feed back of the product which is designed by the innovative ideas of the problem statement The process of observing the prototype of the design which was made by our innovative thought is called as samples testing. In this method of testing we are going to observe all the possible paramters or the chareteristics of the product that possess for the paramters like durability strength hardness type of work that undergoes.

As the testing is carried out by changing the formation of the product it means the product is tested untill it breaks or dis mantilled by the action of force which helps to find the maximum amount of parameters that the product is going to bear by considering all these parameters the product is designed for a factor of safety under observed conditions.

Due to this method of sample testing it helps us to find the designed product is a good product for production as well as does it fills the needs of the customer or not and it shows how much demand it can be offerable in the market so that what are the profits what we are going to get by this production unit.

PRODUCTION

Production of the given material by considering the product is good enough to get possible profits by selling it in the market, after considering all these parameters the process is defined for the optimal. production of goods so that the process of production takes less amount of capital thus we can produce the product with low cost this enables the consumers to attract for the product and the product becomes more popular by this the demand of the product in the market will increases as the demand of the product is increased then the need of goods are also increases this the production of goods should be increased due to this we are find some other methods to satisfy the needs of the customers.

Production of goods which are designed is to be listed the type of operations it need and arrange the operations in a sequence manner so that it reduces the required time for the production and the rate of production also increases.

QUALITY ASSURANCE

The products are produced by the process which we are implemented thus the product should be qualify the testing of quality assurance which enables the consumers more trust on the product where I'd the product quality is not much as good then the production is waste of capital, now a days the people are looking for the products which processes good quality as well as they are concentrating on the quantity of the product. As the optimal processes are implementing there is no chance of quality less products we are decreasing the unwanted time by eleminating the unwanted operations so that the time acquired by the unwanted works is utilised to perform more and more quality assurance work among the products so that the quality of the production are increasing more Than the products which are already existing in the market this we can create a new brand on the customers by our product.

PLANNING AND SCHEDULING

Planning is reffered to the process of finding the type of operations that the product is to be performed by the machines and it defines the type of operation and what are the requirements of those operations for the products.

Scheduling defines the further processes that are to be instructed by one another this method helps to find the next among the processes which are to be performed to complete the process of production.

Planning selects type of operations to be followed by one another at a time of production as we know that the production is done by one after the other processes multiple operations are not worked together if it works there is a chance for breaking the product.

Planning defines the type of operations to be followed and what are the steps to be followed by the workers for the preparation of raw material to the final one

As the sechduling makes the planned article is to be followed correctly without any drawback by the workers it helps to guide the method of planning for the preparation of outputs.

SECHDULEING SKILLS

1. Plan for the lowest skill required skill level
2.prioritize daily or weekly sechdule
3.sechdule based on the avaliable time for the production of goods



4.assign work like no any other avaliable time should not be wasted

5. Develop the daily sechdule two days in advance

6.measure the results by the performance and make a feed back to the organisation.

OERATIONS

Operations is defined as the process of changing the shape size of the material to the required level of design is called as operation simply operation is stated as the processes which are carried for the betterment of the raw material to the finished goods is called as operation.

Where there are several operations which the materials has to undergo to transfer its form to other useful product, as operations are carried by heating and some are carried at room temperature depends upon the type of operation the type of processes are to be carried by the materials for the change of shape and to get the desired level of quality as well as quantity.

In the era of business the operations are to be worked very finite because a small amount of dimensional change leads to the great default in the product sometimes the product is completely disposed for no use so by keeping all these points the operations has to be done carefully with skilled labor and the controlled machines which are working for the betterment of the industries.

The operations and their modifications are discussed clearly in the following chapters.

## COST ACCOUNTING

Costs accounting is defined as to determine the amount of cost required for the production of a single unit. And what are the types of coats that are included for the production of products and it describes the amount of costs for which we are purchased for the complete production of the units.

As the costs are classified into two they are

1. Fixed costs

2. Variable cost

Fixed costs are defined as the price of the things which we have does not change for the short term of the period.

Fixed costs does not vary by the outputs of the products that we are produced.

Example

1. Rent

2. Office salaries

3. Insurance

4. Depreciation etc..,

These are some of the examples of fixed costs. These type of costs which we are going to pay does not change by the outcomes of the product as the profits are more and vice versa.

Variable cost

Variable costs varies with the outputs of the production where the variable costs are directly proportional to the outcomes of the products which we are produced in that period. I'd the cost of the products which are produced becomes double the variable cost also get doubled if the variable cost is low then the produced costs are also low.

Examples

1. Direct labor

2. Raw materials

3. Packing costs

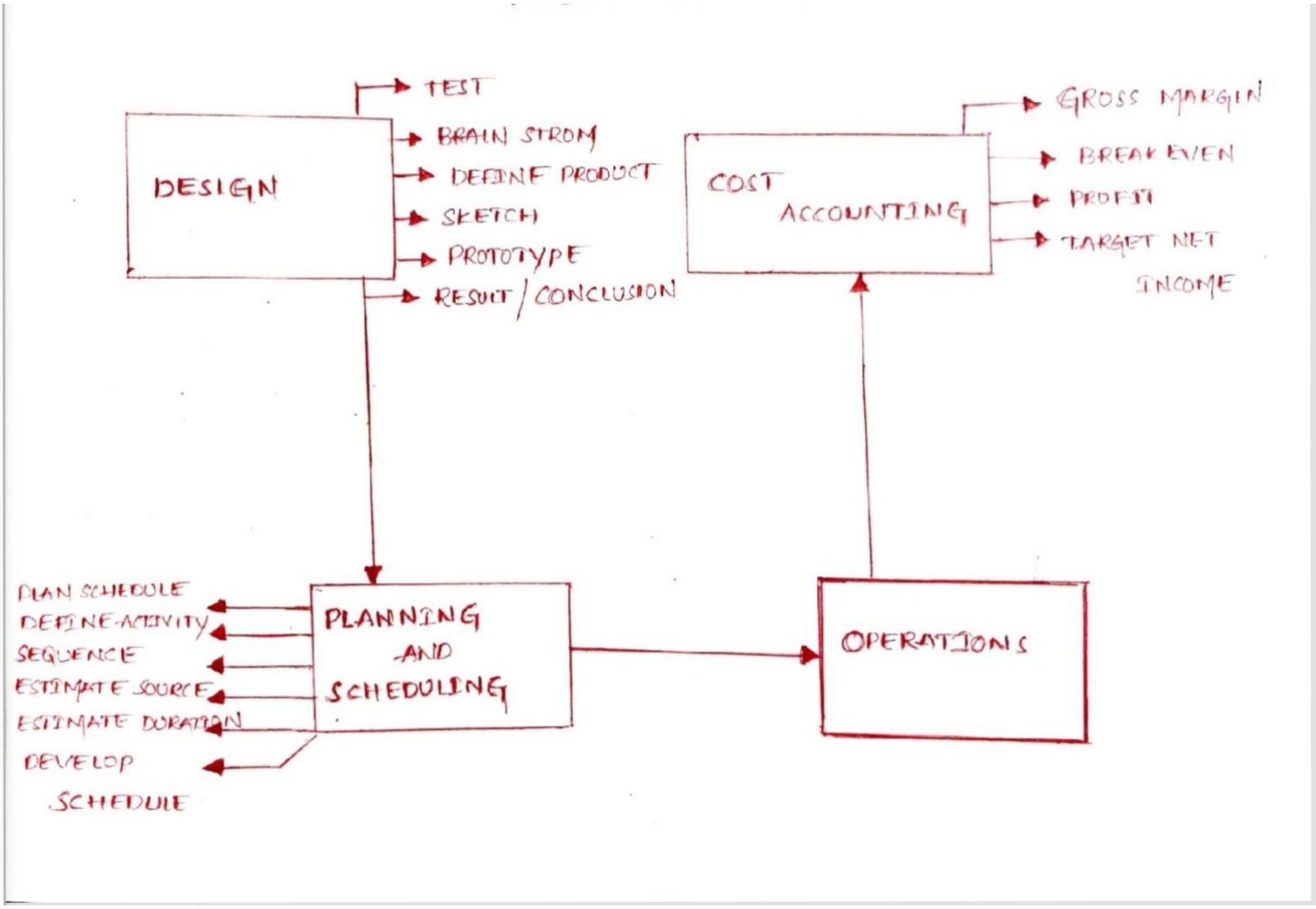
4. Transport cost

5. Royalties

These are the few examples of variable cost which differ from the outcome of the products.

These are the major classification of cost which are considered in the process of cost counting and some other many different types of costs which are included in the cost counting for calculating the actual cost which a unit product costs.

# BLOCK DIAGRAM OF PRODUCTION CYCLE




## SUMMARY

In this chapter it is clearly descried that how production cycle works, where the process of production cycle has these kind of four major elements and those four major elements are again classified in to some sub elements, we clearly notified that how a design cycle of the production unit works for the better ideas of production to get more profits, and we observed the processes involved in the methods of planning, scheduling, operations, cost counting. These are all parameters we discussed in this chapter.

# CHAPTER 5

# RAW MATERIAL IBVENTORY STRATEGY

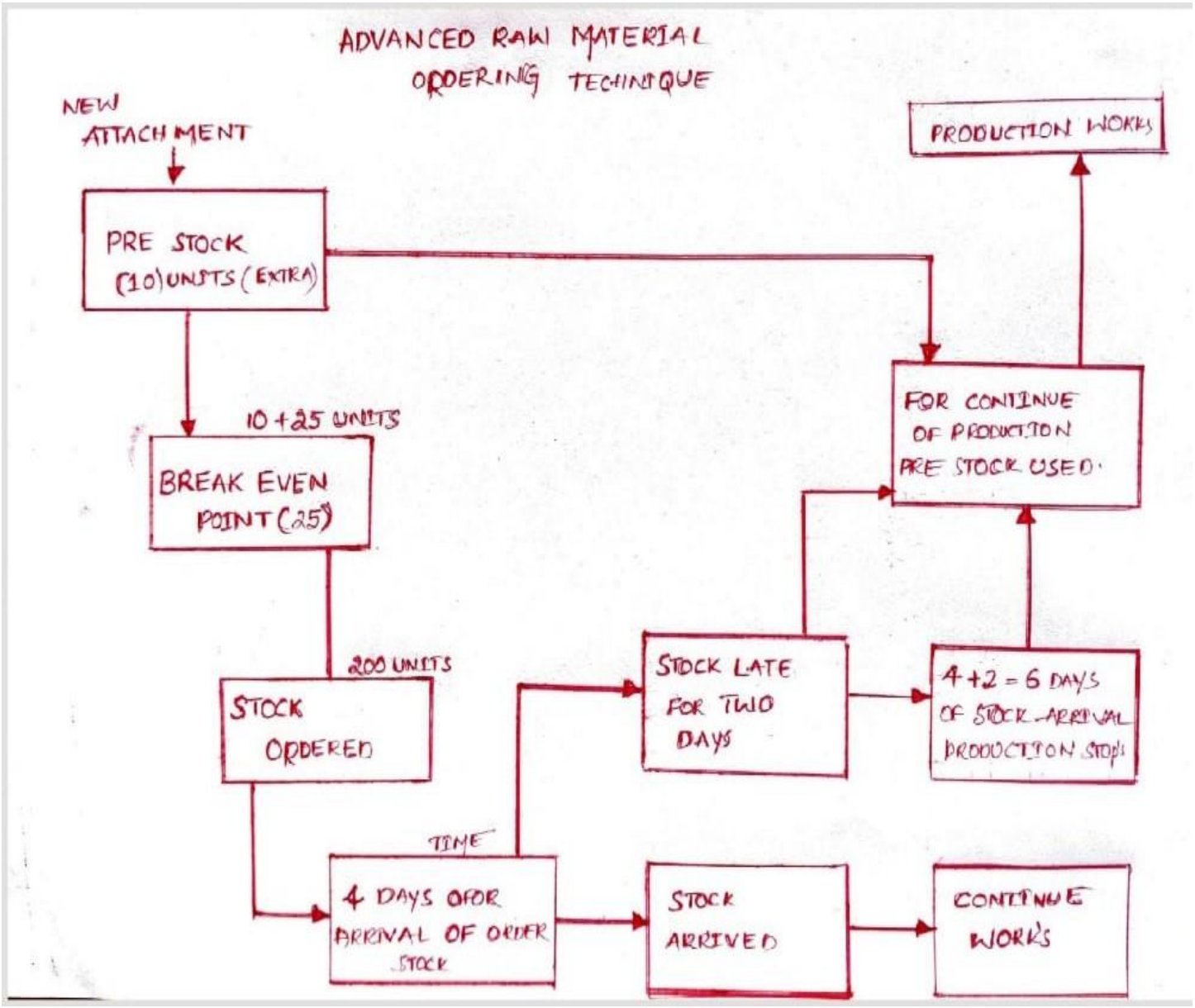
## RAW MATERIAL

Raw materials are first essential factor for thee production of products as the raw materials are considered as a variable factor which does not lasts with the factory, it starts reducing the volume of raw material proportional to the amount of products that we are producing daily as the products are produced by the consumption of raw material ie.., raw materials are the other form of products or final goods thus we need to make an order of raw materials before it going to end of the previous ordered raw materials so that we should be very care full when to order the raw materials and how much amount of material should be ordered at a time so that the factory gets more profit excesses amount of raw materials is also top dangerous because if it get damaged or get some other problem then the raw material which was ordered extra will totally become waste so that keeping in mind what are the amount of materials that we need to order and the products that are producing by that materials are in profits are not these parameters are also we need to check because the products of those raw materials in the market does not have any demand then the production of those products leads to the great loss for the company.

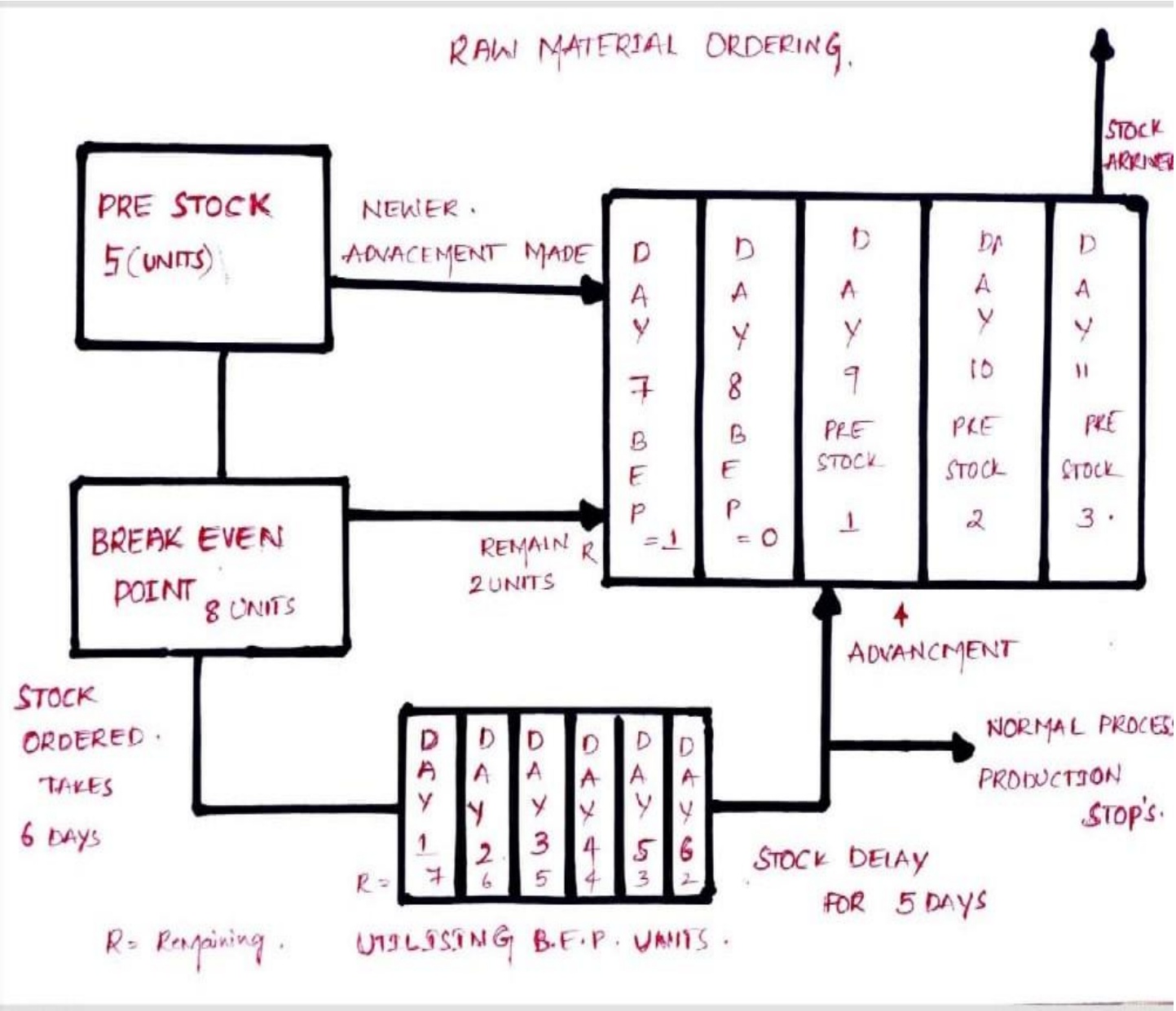
There are many technique which many companies are working on for ordering of the raw materials for the continuous production in order to get more profits, majority of the industries are following break even analysis for the ordering of raw material when the level of raw materials stock in the storage touches the breakeven point of their inventory they immediately order the quantity of raw materials that their store can fill, thus sometimes there will be many practical problems which acquires the raw materials to deliver late as the products below the breakeven point will be useful for the production untill the new stock arrives but the raw material does not arrives with in the time of expected analysis for such reasons the production of the company has to be kept idle untill or unless the raw materials arrives to the company in order to compete with this problem we are arranging a new step of method which helps the industries when it was in those kind of situations.

We are implementing a new analysis of pre stock in the industry where it was like a safe box which helps in the major critical conditions.

We are storing some amount of raw material in the pre stock section which is not meant for operations as the breakeven point stock also going to be end and there is no arrival of the new stock to the industry thus we can use the pre stock which was secured by our method helps the industry to not stop the production of the goods as this pre stock raw material can sustain the production for some more days so that as that days are enough to get back the new stock to the industry thus this makes a major help for them to do work continuously and makes the company to relive more losses and risk arrived by these kind of situations.



As the raw materials are purchased by some calculations where the cost of the raw materials are varying regularly which is not a good sign for the purchaser's because the cost of the raw material may increase from a price to a price this makes the industry to a panic stage they doesn't change the product cost suddenly by some extent rupees as the raw material prices rises this makes the company to get less profits when the cost of raw material increases.




BLOCK DIAGRAM OF REAW MATERIAL INVENTORY STRATEGY (ADVANCED)

For this the raw materials are to be ordered for a short period of time as the short period goes on the prices may varies as the price of the raw material has a greater value for a time we need to purchase less amount of raw materials so that helps us to pass the time for the change of cost of raw materials as we need to have patience for the decrease the value of raw materials as the price of the raw materials got lower value it means the profits getting high at a some value of purchased raw material then make a sence of production strategy and occupy maximum amount of raw materials form the market so that helps the company to increase the profits as it helps the production for a longer time then as for time intervals we need to order the materials before it going to end as this process has to be continued as long as for the betterment of the quality quantity and price of the product should be likely to the market so that consumption of the products increases this helps to create a demand in the market of the product as well as the company.

In the era of evolutionary development of industries the major element is raw material which is the key of production we made a new method of ordering technique of raw material

## SUMMARY

In this chapter we discussed about what I meant by raw material what is the importance of raw material in the life of industry for production of goods, we discussed the existing method of ordering the raw materials and the advanced ordering of raw material which the technique was new method of ordering raw material which is introduced by me for the better development.

The new advanced method of ordering raw materials was introduced in this thesis by under going several research this chapter describes about the method of ordering the raw material for continuous production carried across the unit.

# CHAPTER 6

# CLASSIFICATION OF PRODUCTION

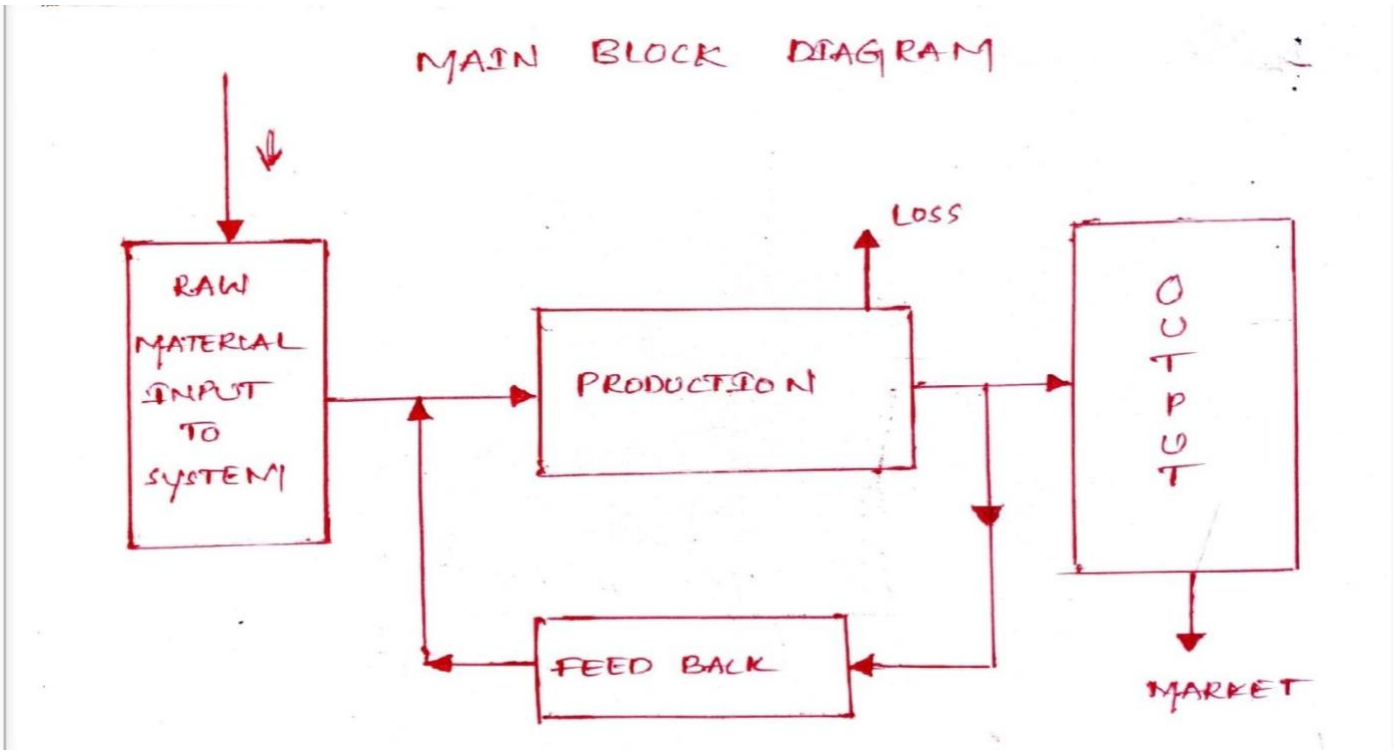
The change of state of raw materials to the finished goods are defined as production.

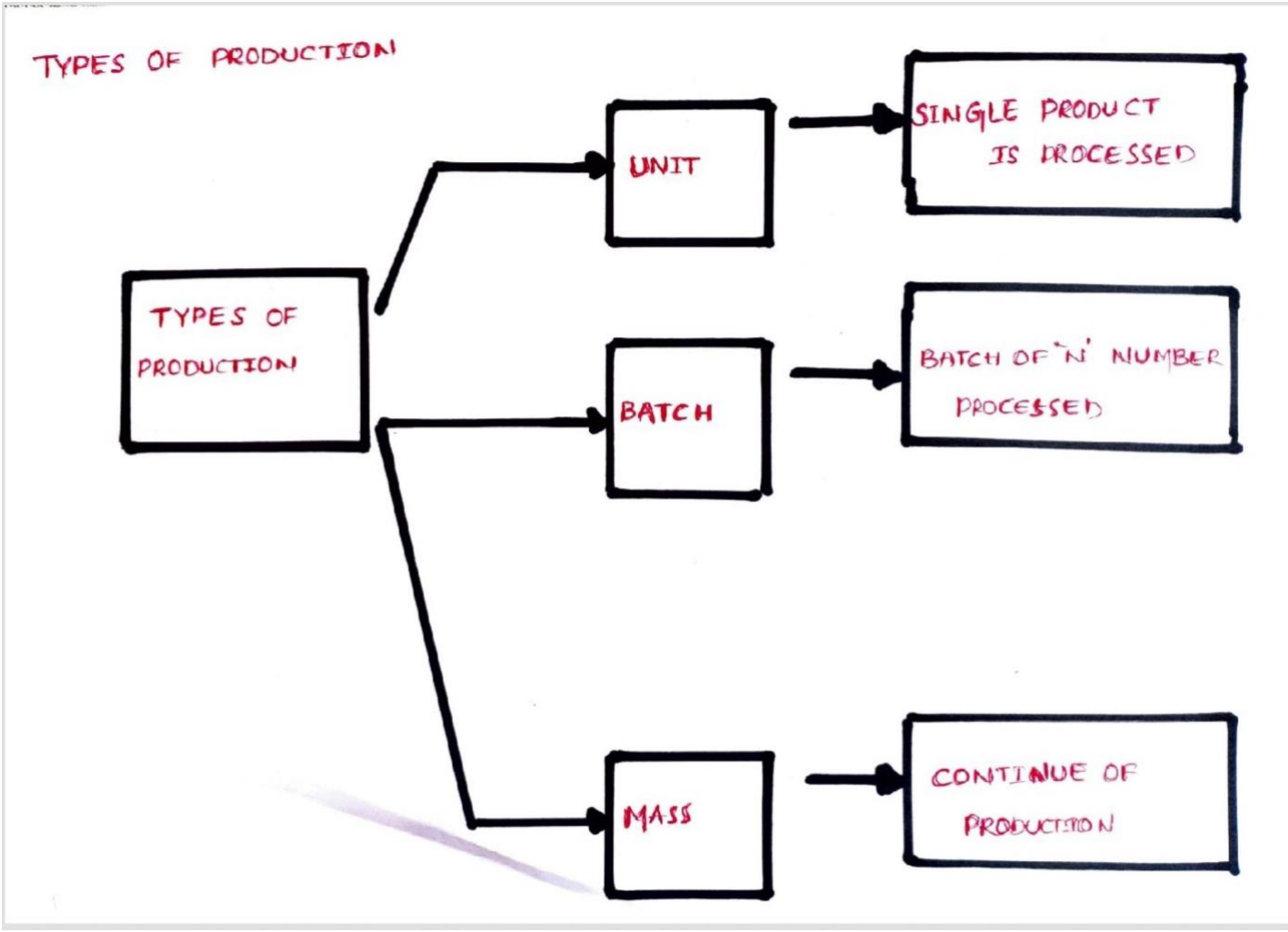
There are many elements which the process of Production has to undergo in order to produce defect less products with good quality as well as quantity the consumers gives most priority for the quantitative products rather than qualitative products thus it means it to be quantity for a extent but, if we produce low quantity products the demand of the products are less as compare to the quantitative products.

As in the upgrading generation of production processes many number of new machines are arrived to reduce the man power used in the production this helps the industry to save the capital which was invested on the labor. Although the machines are advancing done or the how man power is required in the production of products with some skills which are related to the processes which we are going to adopt for the production of goods in a optimal process.

Production methods are of majorly classified into three they are

1. Unit production
2. Batch production
3. Mass production


MAIN BLOCK DIAGRAM
RAW MATERIAL INPUT TO SYSTEM
PRODUCTION
LOSS
OUTPUT
FEED BACK
MARKET




These are the three methods of production where each and every industry has divided their production unit, division of the method of production is taken place by the type of products which they are producing like it depends up on the size, complexity, type of application, amount of accuracy etc.., as the products are specified by their own classification of elemental chareteristics thus the type of method which is more favourable is adopted by the company for the process of production.

As the process of changing the form of the raw material to the final desired object the process include many number of internal operations which helps the material to improve the functions for the better leading of the object to the desired level.

Production helps the people to acquire their desire objects of their level of usage, generally now a days the people are adopted for the products which are available in the market for full filling their needs. Thus this makes the companies a big deal for the production of more and

more facilitated goods to the better comfortable life. Everyone are likely to buy goods rather than to prepare them self this makes a key point for the industries to gain profits by producing goods to satisfy the needs of the consumers.

As days are passing every person's works are gradually increasing in order to complete all these increased works by the consumers thus they are sacrificing their personal time to full fill the work thus these products which are produced by the industries helps the people to satisfy the personal needs by decreasing time for the people thus the time saved by the instant goods helps the people to work for their increased work.

1. **Unit production**

Unit production in the name itself describes the type of production it adopts, the process of production is carried among only a single unit or the single product which may be a smaller one or else a bigger in size thus the product is processed only a single unit untill or unless the product finished no other product raw material starts for the process of machining.

Manufacturing or the production of a product requires the integration of all the machining process which are involved in it for example a initial process of manufacturing or producing a product requires an operation of casting a metal thus the process is further carried for machining it on the machines like lathe cnc etc thus the processes are different to each other all the processes combined together to produce a single unit thus this type of industries prefer for the production of unit goods which produces with effective quality and the quantity which satisfies the needs and desire of the customer this helps the products to get more demand in the market.

As the method of production is most rarely used by the industries which deals with the production of heavier objects which plays a crucial role in the application of those objects in order to eliminate the defects all the skilled workers plays a crucial role in the production of that single unit if by chance any defects are occured the complete entire work piece and the raw materials which are used to produce that product becomes a waste thus by keeping it in mind the people of industry makes a super vision on the process of production.

These kind of productions are not as the kind of other two types of production this method of production is only works after the order of the content has given to the industry they them self doesn't produce these kind of goods. By the demand of the other applicable users after intimating their needs they start preparation of the products by taking some extent days by taking both external and internal care of the product this improves the product quality helps to create a favourable demand and fame in the market regarding to the company.

This is the rare kind of production which we seen in the entire number of industrial production majority of the production types are of batch as well as mass production, this unit production industries are linked with high impact parts of the planes, trains, etc hydraulic turbine blades are designed by the process of unit production because a single degree of angle disturbs thus the entire system efficiency decreases thus a care is taken while preparing the blades of the turbine these kind of operations are carried under the process of unit production system.

## 2. **BATCH PRODUCTION**

The second kind of production method carried in all the industrial sector is batch production.

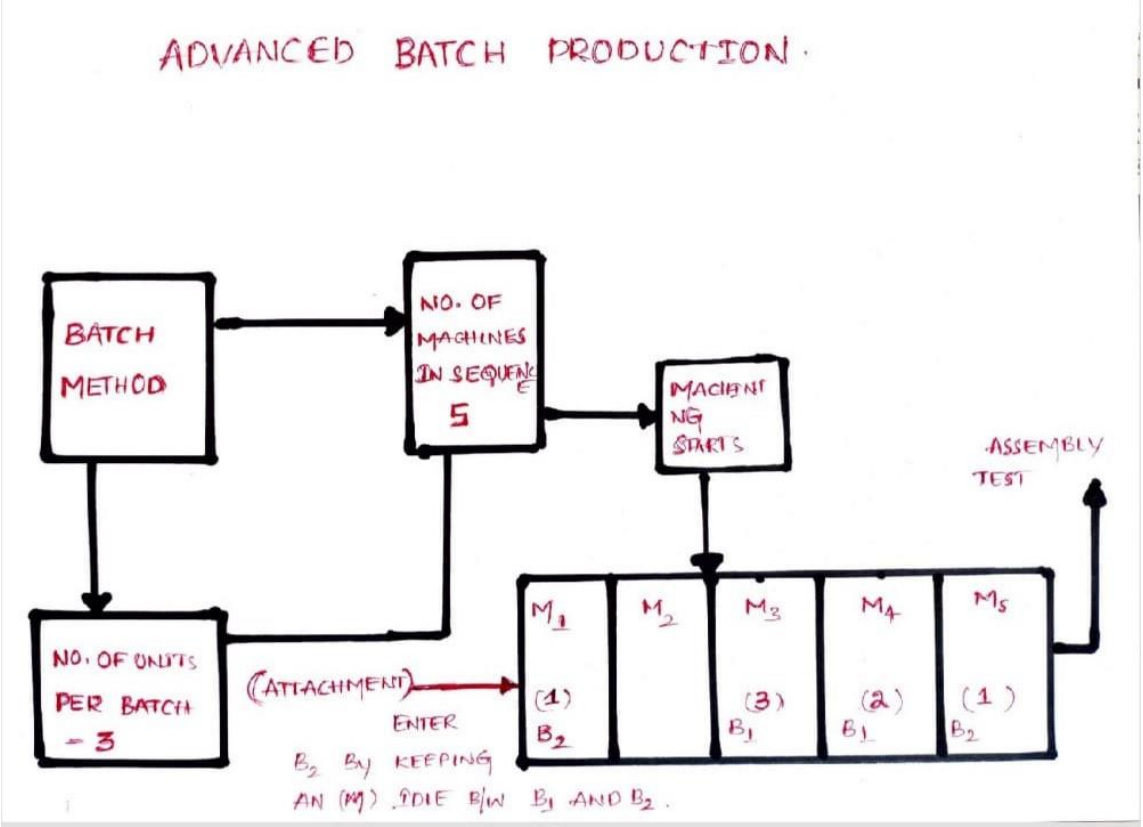
In this method of production a set of units are sent for the production at a time it means the process of production is carried on some number of goods. Like the products are manufactured by its number.

The maximum number of products that the process has to be machined is decided by the committee of the industry by the undergoing some parameters they made a decision of number of products that a batch should have to work for a specified unit time.

As the process of production is carried for some number of products named a batch unless or untill all the products of that batch are to be machined after the machining of all the products in the batch finishes off their working process then a new batch enters to the process of production. Before the completion of the machining process of a specified batch no other products which are not related to the functioning batch should not enter in to the process of production. Due to the miss comfort of the specification of the batch in the production. This type of system has been carrying out in the industrial sector for the production of goods by the method of batch production.

But, now in this thesis we made a research in the modification and the advanced process which we can possible in this kind of batch production has been made and we made some modifications in the process of machining of products this helps us to save some or more time for the process of production which helps the company to produce more goods if there is more demand than the supply in the market of those kind of products.

As in the existing process of batch production the process of advanced method is also as same as the existing process like having a set of products for the production Named a batch.
In this method of advanced batch production we made a modification of entering of the products into the machining process before the completion of last product of the previous batch which is going to end their operational processes, like if there are 5 number of products




in the set of batch for carrying operations in the production process all the products are not manufactured at a time so one after the other the products or the raw materials has to be worked together to complete all the 5 products of a single batch as we know that there are many number of machines which all the raw materials has to touch for the operations that they have to work on in the existing process unless or untill all the products finishes their work no one should enter in to the system, if there were any idle machines the process too. If we talk clearly there were eight operations that the product should be made work for the completion of the production of a product one on the other all the products are on the machines by changing the type of operations of the total 5 products as the 5th products i.e.., the last product of the batch enters to the process as the process is completed its two stages of production in the system them by keeping the machine idle of between the new product which is entering into the process which is from the other batch we are making a difference of the batches by keeping only a single machine idle in thee machining processes so that we can make a difference of the batches of the products as well as we can save the time for the production due to this we can increase

1. Rate of production

2. We can save time

3. We can reduce the wages paid for the workers.

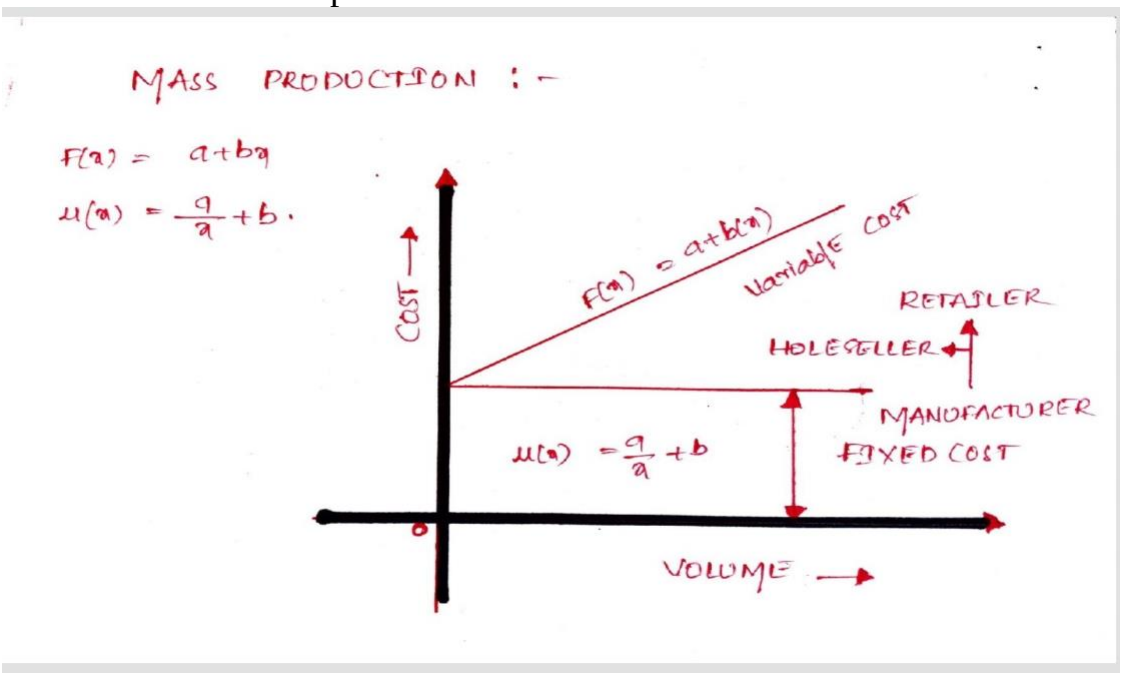
And many more other factor which are favourble for this kind of process implementation in the method of batch production.

This method is an most effective way of production in order to meet the demand in the market and the supply by the production of the company.

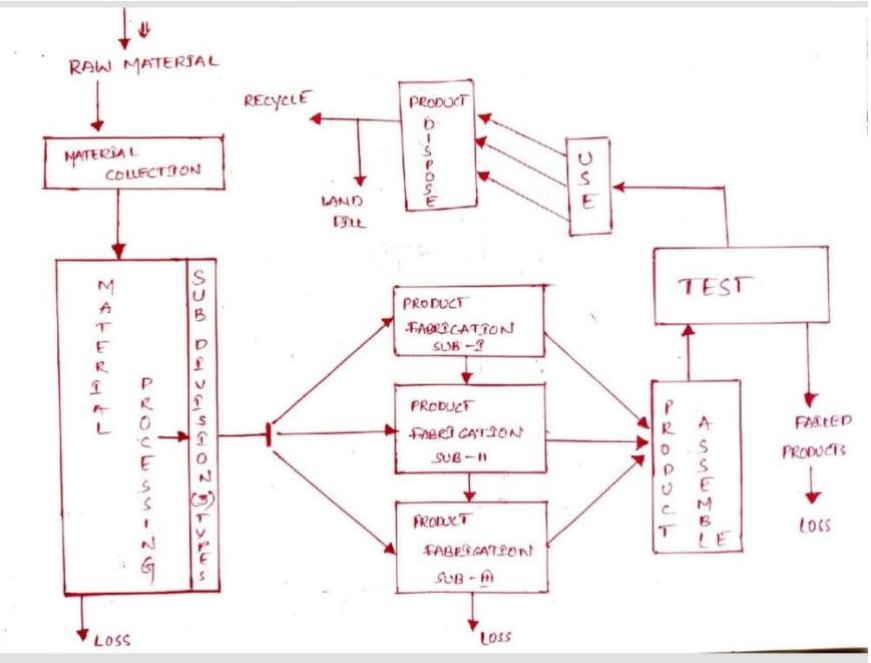
## 3. MASS PRODUCTION

Mass production is the most usable kind of production the rapid production of goods and services where small kind of goods are produced faster for the needs of people across the world so many of the industries are intrested to built these kind of mass production units which helps to develop the products at different places.

Mass production is defined as continuous production where the production goes on competing with every product no machine was kept idle like in batch production as the process of operations completes new other materials has to be filled for the process of operations in this kind of mass production.

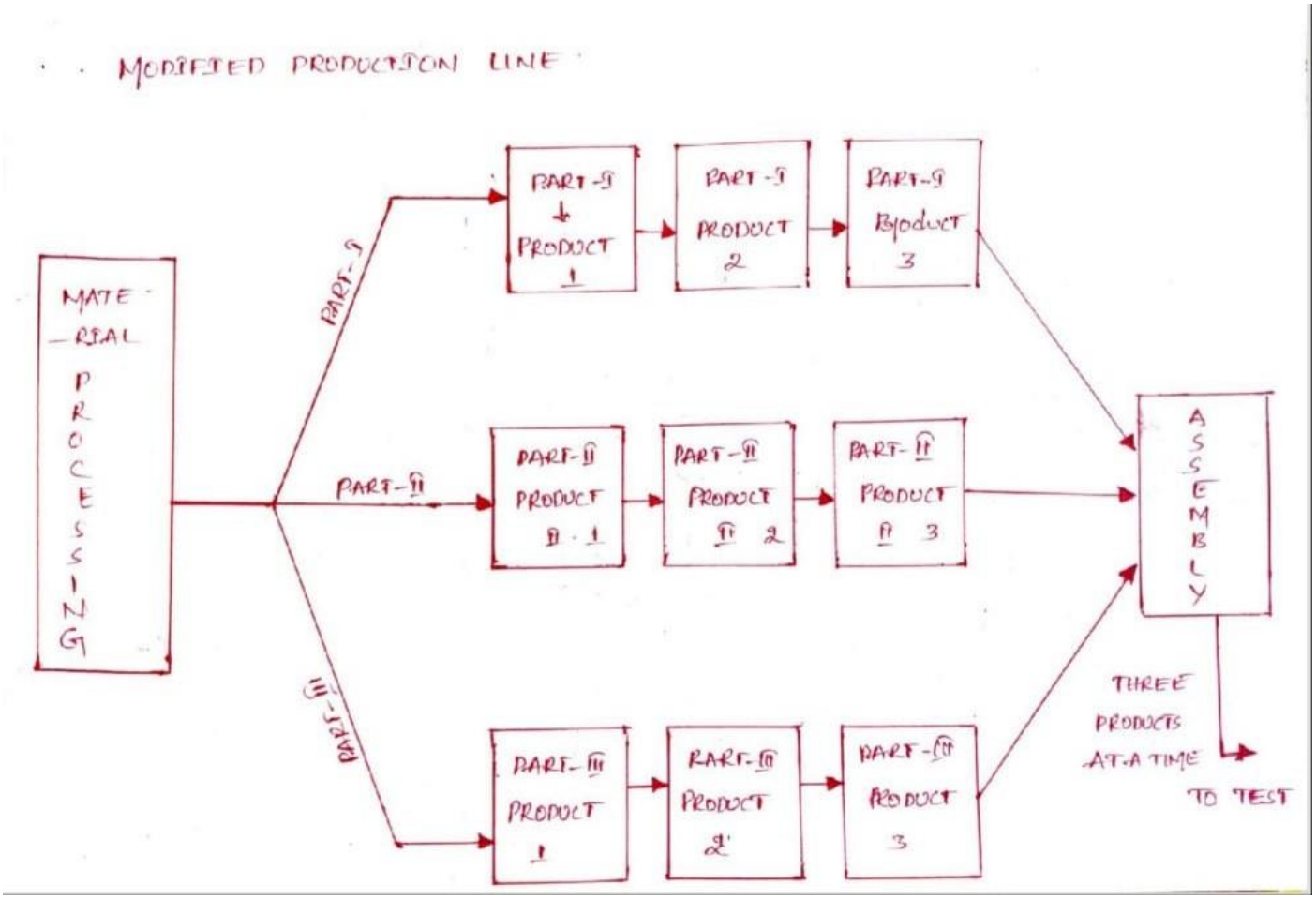


As the products are developed with the quantity this method of production gives more amount of profits for the organization because the market is intrested for the quantitative type of products rather than the qualitative products thus the products reached each and every customer to full fill their needs the products which are produced by this type of mass productions are effordable by every kind of people the cost ratio of the products are most family for the persons of all kinds of people each and every person can full fill their desire by these kind of products rather the batch and unit production products.




Mass production is a kind of motion where produces goods faster than all above kind of methods here the operations are carried one after the other, there were no number of products should produce in a unit time that kind of regulations were not applicable here as the process runs independently the products has been producing.

As the main function of mass production is the products shifts to other machine the older machines gets a new material for working as there were no idle time for and other machine to keep rest as the process goes on the machines of all kinds has to work .

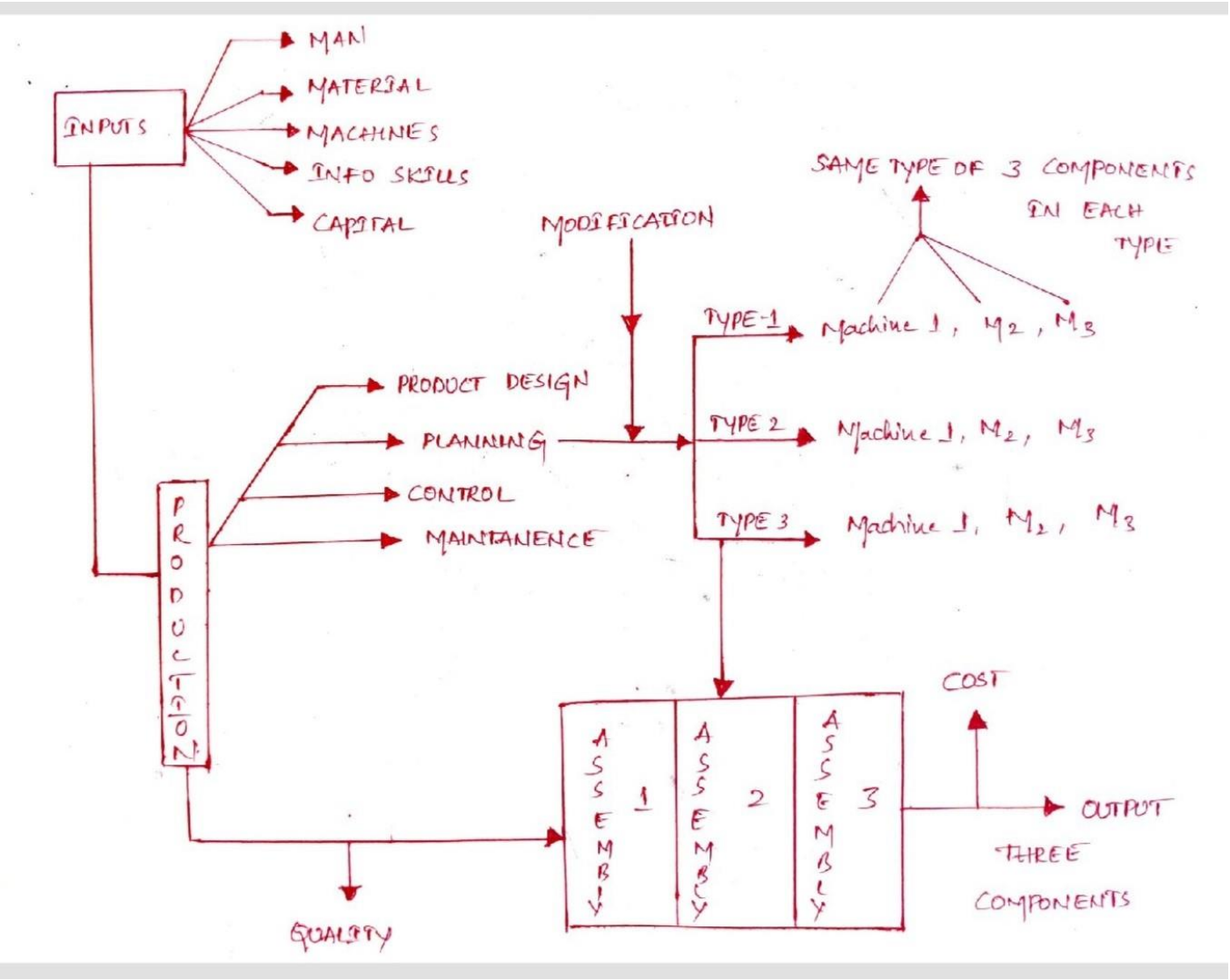



The main drawback of this mass production method is the system of functions is like a chain it means all the machines which performs operations are assembled in a sequence where a

small kind of machines gets disturb are breakdowns total production unit has to kept quiet untill or unless the problem of such small machines has to complete this is the main draw back in this kind of Production.

By undergoing some research in this method of thesis we made some modifications of the mass production method in order to save the production time and to regulate all the problems which this method faces while the production is going on.

As the department of Production has to be check all the process of operations that they are dealing with and make a note of all the actions which are performed by the organization. Then identify all the unnecessory actions of performance which are not needed to produce by the factory itself then make a point of all those operations a side and deal with the main parts of production and divide all the operations into three elements like group all the operations into three kinds of elements.




Then identify the main method of machines which plays a key role in the process of producing the goods and make a note of all those kind of main method of machining processes.

We made an advanced that there should be an arrangement of alternate of two machines of the same kind of operations which the main machines works this helps the company to not depend on a single machine and there is a problem of capital that should to invest for the purchase of alternate machines so by keeping it in mind we are eleminating the machining processes and machines of the unwanted small objects which are available by other factories who produce only such small objects by this we can buy those objects for a lower cost than we produces by our machines thus we can reduce the stress of the carrying work for the production.

By making this advancement the benefits acquired for the company are as follows.

1. We can reduce the work stress on the production department

2. We can reduce the amount of labor incurred into the system

3. We can independently produce products but not depending on a single machine

4. We can produce three major unites of elements in the product instead of one at the rate of same unit time.

5. We can improve the relationship between the customers more.

6. As the rate of producing increases the supply of the products to the market increases as the supply increases with the effordable costs the profits occuring to the company also increases.

These are the major kinds of elements which we can increase by implementing this method of mass production.

## CLASSIFICATION OF LABOR

Labors are one of the factor of production where labors played a crucial role in the process of production, if we say briefly each and every work has to be interlinked with the labor, for every work it may be small or big labor is needed to complete the work. Without labor no work in the factory runs or moves from one point to other point the major back bone of the industrial development is depends upon the effective work behind the labor.

As the labors are classified into four groups they are

1. Unskilled labor

As these kind of people doesn't know what are the process of operations that going to produce goods the only work for these kind of people are to transfer goods from one place to other to carry goods to shift the raw materials from van to store and store to work area etc these kind of works are assigned for the unskilled labors.

2. Semi skilled labor

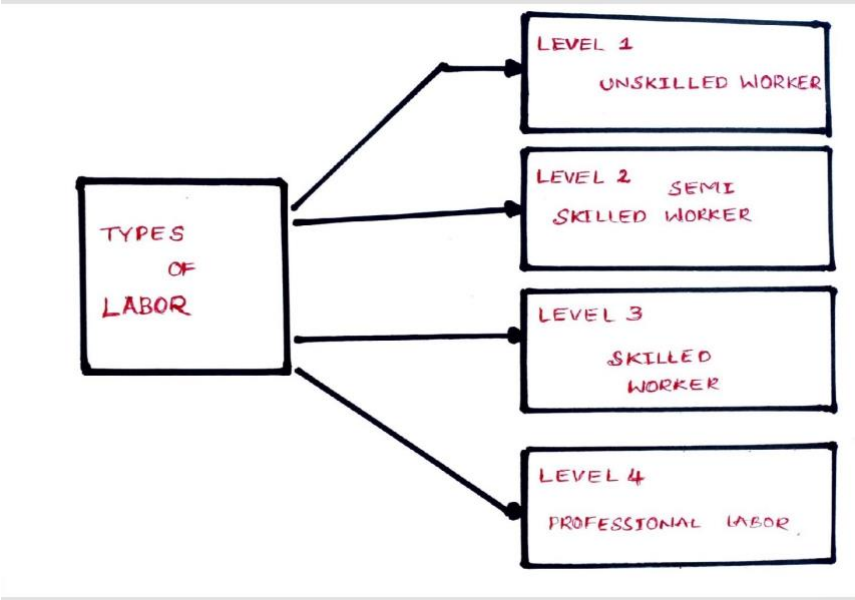
These kind of labors are worked as a helpers or the additional member of worker for the operator of the machine we can say a helper for the person who deals with the machines. By working with the person who works on the machine he learns to operate machine and to get an idea of how the process of working is held to produce goods.

3. Skilled labor

Skilled labors are the persons who work with the machines which are normal functioning it means the machines which are commonly used for some small amount of material products which are help for the assembly these kind of machines are operated by skilled persons and these people work with the professional labors where they deal with the heavier machines which helps to increase the skill of operations which makes to produce goods clearly and perfectly without any defects.

4. Professional labor

These labors are the major point in the process of production which the main machines which are to be operated by them self they know the complete skill of operating those kind of machines they plays a major role in the production of goods with high accuracy and with good quality these kind of people are having benefits with the company because the professional labors are being less in the market so as the companies are providing major facilities to keep those kind of labors with their company itself.




These are the different kinds of labors who are working in the part of production.

## SUMMARY

In this chapter we discussed that how the production is worked in the industrial sector and what are he methods which involve to finalize the goods from th basic raw material to a final goods and we made a research among the process of production on both batch as well as mass kind of production methods and we implemented a new method of advanced machining processes to perform with more grace in order to produce more goods to supply for each and every corner of the world and we discussed about the kinds of labors who are working under the production department and what are the various kinds of operations that they are under going to full fill the needs of production.

# CHAPTER 7

# CALCULATIONS

In this thesis we research to modify the machining process in order to increase the effective working by producing more goods by decreasing the time required for the product as well as the decrease level of stress bared by the organization, we made modifications related to

- Raw material inventory system
- Research methodology
- Design cycle
- Method of processing in batch production and mass production

**Calculations for BATCH production**

Considering stage 1 as existing process before the implementation of advanced method

Number of products in batch = **10**

Number of operations performed **= 10** operations

Time for each operation **= 2 min**

Time carried for single product **= 20min**

Time taken for production of batch = **110min** for operation

Idle time of the machines while last product of the batch has being processing = **18min**

So, total time for a single batch taken by the method of batch production of units 10 = **128min.**

Total number of batches carried in a day = **10**

Total time for 10 batches = 128*10 = **1280min**

AFTER ADVANCEMENT

Number of products in batch = **10**

Number of operations performed = **10**

time required for single product = **20min**

as we made an advancement of utilizing the idle time of the machines which are kept idle while the production of last unit in the batch

chapter 7 calculations

Time required for production of batch units -= **110min**

As we are keeping only a single machine idle between the machining of two different batches products this is enough to differ the batches by identifying the idle machine .

So we are utilizing the most amount of time for the production of other batch products.

Time taken to complete batch = **110min**

Idle time between batches = **2min**

Time taken for machining 10 batches = 1120min

So the time saved by the batch method of production of producing 10 batches in a day =

1280-1120 = 160min

NOTE:

By the saved time we can produce one more batch of 10 units in the same unit time.

## MASS PRODUCTION METHOD

In this method of mass production we stated that the production is a continue process where there is no idle time for the production but the main drawback of this method is if a link is damaged in the chain of production the production line has to be shut down until or unless the damaged part repaired.
We made an advancement
Daily the production is carried out for 500 units in the method of mass production .
For the production of 500 units it took = 1145 min
We made an advancement of eliminating the unwanted small operations of products which are to be assembled and short listed the machines required for the major process of production.
Thus this method improves the method of production by decreasing the number of operations to be performed and we made an another advancement of arranging an another two sets of machines which are majorly required
Thus by this in the time of 1145 min of the existing process by application ofthese new method of production
We can produce 1500 units of the same time unit

This helps the organization to produce more amount of goods it is the biggest achievement of the production field with less amount of work and more profits.

This method of mass production helps the organization to produce the products with the multiply of three times of the products produced in the existing method in the same amount of unit time.

SUMMARY

As we made the difference between the existing method of production to the advanced method of production by applying the advanced method that we introduced in the process of production.

As in the advanced method of batch production we increased the amount of production by one batch thus we are on a track of producing the products under the concept of quantitative production with a good quality.

Coming to mass production the method of advanced production directly made an evolution by increasing the production by three times the existing production.

As this mass production decreases the amount of risk taken by the organization

It decreases the costs of labors

It increased the amount of profits

Rate of production increased by three times

# CHAPTER 8

# RESULT AND CONCLUSION

## RESULT AND CONCLUSION

In the above illustrated thesis, I made a research on hoe the method of production is carried out and what are the processes involved for the drawing of raw materials to the finished goods for the better and comfortable leading life of the consumers.

I made a study among all the processes involved in the production method that are all we discussed in the above matter by the research on this production department of an industrial sector by behalf of myself I thought of making a new method of innovative ideas in order to improve the key elements in the productions processes so I concentrated on the thesis statement and i worked on it and made some advanced modifications for the better development of the industrial working techniques.

As this method of process which I was made in this thesis helps the organization to improve the following factors:

- Rate of production
- Time savings
- Proper relationship between organization and customers
- More profits with the same amount of production time
- Low capital
- Decreased stress level…..etc..,

These are some of the improvements that we can make in our organization by implementing the new modified methods of production

This modification does not need much capital to invest and it does not take much time for installation.

## REFERENCES:


1. M.V.N srujan manohar , international journal of engineering research and technology(IJERT) volume 1, Issue 6, august- 2012.
2. R. maguteeswaran, international journal of research in aeronautical and mechanical engineering, volume 2, issue 2, feb- 2014.
3. Devanand R.Tayade, International Journal of Innovative Research in Advanced Engineering (IJIRAE), Volume 1, Issue 6, July2014.
4. Deepak Lathwal, International Journal for Research In Applied Science and Engineering Technology (IJRASET), Volume 1, Issue 1, Aug-2013.
5. S. Sundaram, ARPN Journal of Engineering and Applied Sciences, Volume 3, No. 4, Aug-2008.
6. Junwei CHENG, Journal of Software, Volume 6, No. 1, Jan- 2011. A Textbook of Manufacturing Technology-I, Pakirappa- 2012
7. Her Majesty's Stationery Office, London, 1985, Part 1: An Introduction for the Engineer and Designer. Studies – Bangalore. Thomas Nelson, Community College Hampton, VA 23666 frankj@tncc.edu.
8. Composite Manufacturing Processes. Materials Science and Engineering, J. I. Moran-Lopez and J. M. Sanchez (eds.), Plenum Press, New York, 1993. T.-W. Chou and F. K. Ko (eds.), Elsevier Science Publishers, B. V,
9. Amsterdam, 1989, pp. 129-171. Piping, American Society of Mechanical Engineering, New York, 1977.
10. Composites for Orthopaedic Implants," SAMPE Quarterly, 10-14 (Oct. 1990). Design, 2nd ed., Marcel Dekker, New York, 1993. Creek, CA., 1994.
11. Fiber/Ceramic-Matrix Composites," Journal of the American Ceramic Society 68(5), 225-231 (May 1985). (March/April 1996). , "Industrial Applications," Advanced Composites, 31-38 (March/April 1992).

Materials Science Monographs, 26, Elsevier, Oxford, 1985. Vehicle Structures, U.S. Department of Defense, Washington, D.C., December Her Majesty's Stationery Office, London, 1985, Part 1: An Introduction for the Engineer and Designer. Studies – Bangalore. Thomas Nelson, Community College Hampton, VA 23666 frankj@tncc.edu. Composite Manufacturing Processes.