

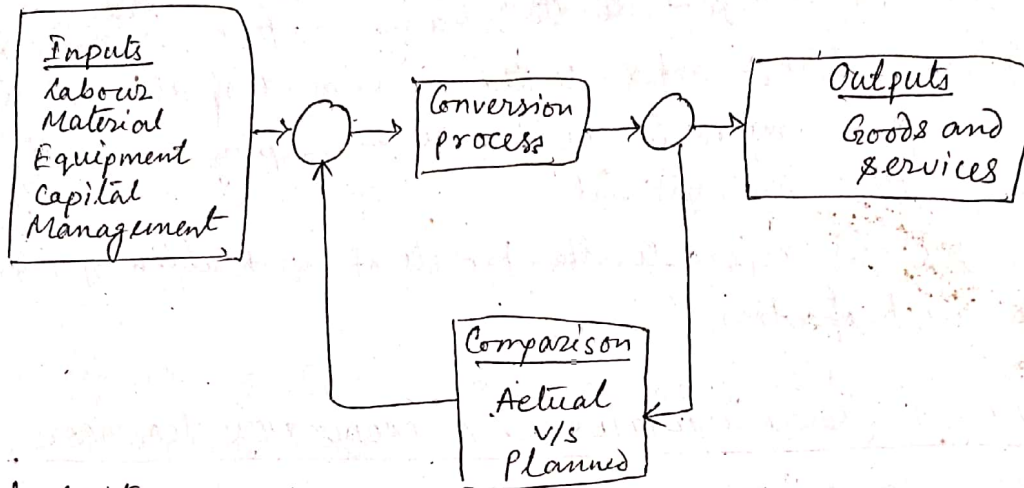
## Production function

(8)

(10)

Definition : Production is the process by which goods and services are produced.

Process : PRODUCTION AS THE CONVERSION PROCESS



$$\underline{\text{Productivity}} = \frac{\text{O/P}}{\text{I/P}} = \frac{\text{Goods and services}}{\text{Capital, Manpower, materials, machine, land and building.}}$$

Objectives : I Producing the right kind of goods and services that satisfy customers need.

II Maximizing op of goods and services with minimum resource input.

III Ensuring that goods and services produced conform to pre-set quality specifications

IV Minimising throughput time - the time that elapses in the conversion process, by reducing delays, waiting time and idle time.

V Maximising utilisation of manpower, machines etc.

VI Minimising cost of producing goods or rendering a service.

Operation Concept of Production: The concept of operation instead of production includes both manufacturing as well as service organisations.

An operation may be defined "as the process of changing i/p into o/p thereby adding value to some entity".

- (i) Alteration → refers to the change in form or state of i/p.
- (ii) Transportation → refers to the movement of the entity.
- (iii) Storage → refers to the process of keeping an entity in a protected environment.
- (iv) Inspection - refers to the process of verification of entity for its properties.

### QUALITIES & RESPONSIBILITIES OF A PRODUCTION MANAGER

Qualities

- (i) Intelligence
- (ii) Enthusiasm and perseverance
- (iii) Imagination
- (iv) Resourcefulness
- (v) Self control
- (vi) Sympathy
- (vii) Communication ability
- (viii) Flexibility

(to stay enthusiastic till last).

Responsibilities

- (i) Forecast the requirement of factors of production.
- (ii) To utilise the factors of production in the most efficient manner.

- (iii) To reduce quality cost.
- (iv) To reduce material handling cost.
- (v) To continually improve labour productivity.
- (vi) To minimise throughput time.



Meaning of product development:-

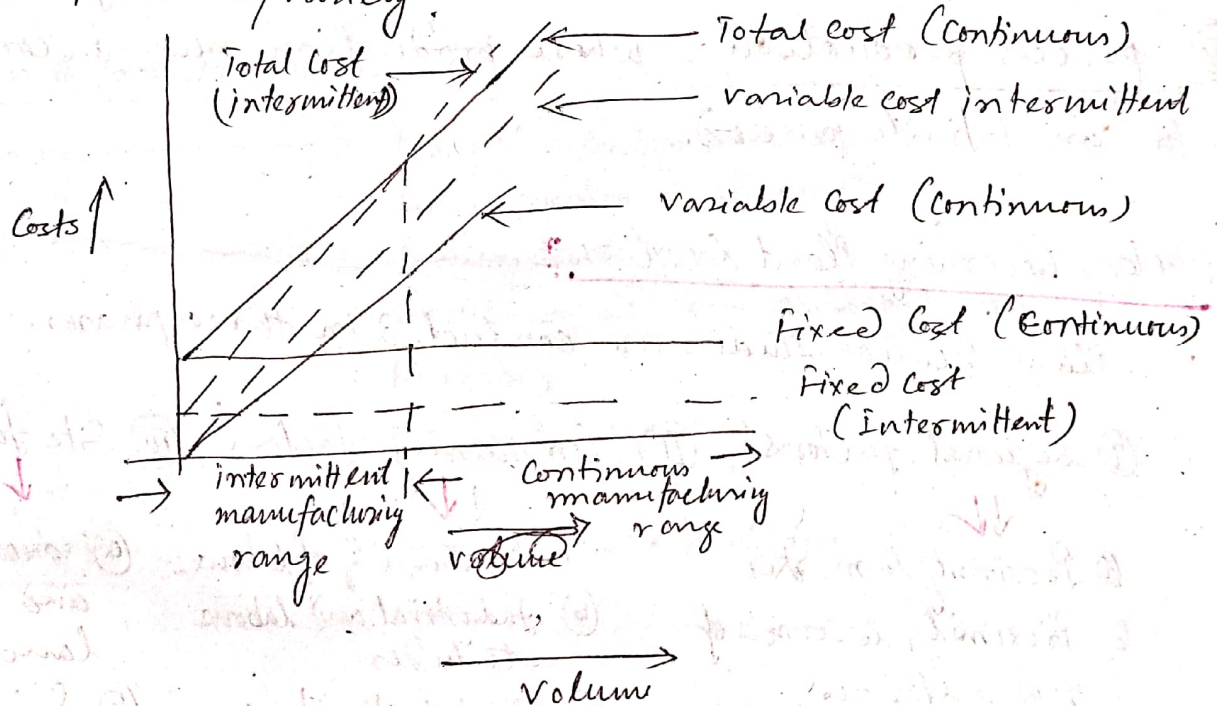
① Introduction of new products. ② Improvement of existing products.

② → short term → new look, utilise existing equipment and manpowers, satisfy immediate needs, stimulate sales.

→ long term → Monopolise the market, ensure long term growth, reduce cost of production.

Factors influencing choice of manufacturing system.

① Effect of volume/variety.



Effect of volume on manufacturing process selection

① Capacity of the plant

② Flexibility ③ Lead time ④ Efficiency ⑤ Environment

## Classification of Manufacturing System

①

- (i) Job production → a single assignment of complex nature is undertaken for completion within the given period and within the estimated expenditure.
- (ii) Jobbing production: Where one or few units of a product are produced to customer's requirement.
- (iii) Batch production: Where limited quantity of each type of product is authorised for manufacture at a time.
- (iv) Mass and flow production: Where production run is conducted either on a single machine or on a number of machines. Several numbers of a product are manufactured at a time and stocked in warehouse awaiting sales.
- (v) Process production: Where production run is conducted for an infinite period.

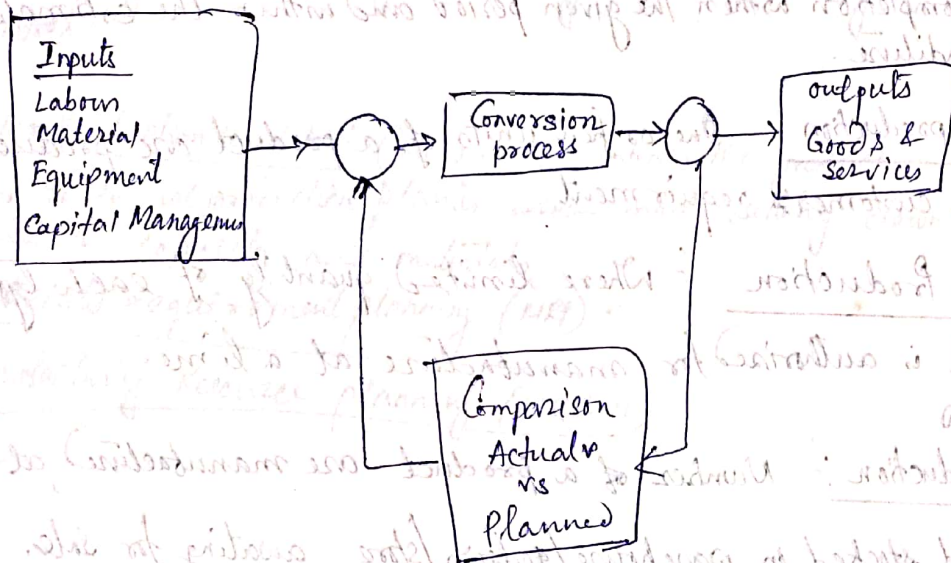
## Factors Governing Plant Location?

Plant location studies are conducted in three phases:

- |   |                                      |                                       |
|---|--------------------------------------|---------------------------------------|
| (i) <u>Regional factors</u><br>↓ ↓        | (ii) <u>Community factors</u><br>↓ ↓ | (iii) <u>Site factors</u><br>↓ ↓      |
| (a) Proximity to market                   | (a) Availability of labour           | (a) availability and cost of the land |
| (b) Proximity to sources of raw materials | (b) Industrial and labour attitudes  | (b) Suitability of the land.          |
| (c) availability of utilities.            | (c) Social structure                 |                                       |
| (d) Transport facilities                  | (d) Service facilities.              |                                       |
| (e) Climatic condition                    |                                      |                                       |
| (f) Industrial and taxation laws.         |                                      |                                       |



Production Process:



Conceptual Model

Components of Production Function:

1. Planning → Product selection and design  
Process selection & planning.  
Facility location  
Facility layout and materials handling  
Forecasting  
Production planning
2. Organising → Work study and job design.
3. Controlling → Production control  
Inventory Control  
Quality Control.  
Maintenance and replacement.  
Cost reduction and Cost Control.

Qualities of Production Manager

- |                                |                              |
|--------------------------------|------------------------------|
| i) Intelligence                | (vi) Sympathy                |
| ii) Enthusiasm & perseverance. | (vii) Communication ability. |
| iii) Imagination               | (viii) Flexibility.          |
| iv) Resourcefulness            |                              |
| v) Self control                |                              |

## CLASSIFICATION OF MANUFACTURING SYSTEM :-

- ① Project production → Single assignment of complex nature is undertaken for completion within the given period and within the estimated expenditure.
- ② Jobbing production :- One or few units of a product are produced as per customer's requirement.
- ③ Batch Production :- Where limited quantity of each type of product is authorised for manufacture at a time.
- ④ Mass production :- <sup>/flow</sup> Number of a product are manufactured at a time and stocked in warehouse/godown/store awaiting for sale.
- ⑤ Process production :- Production run is conducted for an infinite period.

## PRODUCTION PLANNING & CONTROL

Securing orders and executing these to customer's satisfaction are the two primary objectives of manufacturing organization. Production planning and control by definition is the management of the process of executing orders.

### Functions of Production planning:-

- i) Determining the manufacturing process.
- ii) Deciding the sequence of operations.
- iii) <sup>Ascertaining</sup> Ascertaining the requirement of equipment, tools & gauges.
- iv) Assisting in product design development.



Q. 5) Basic functions of production control:-

a) Planning b) Scheduling c) Routing d) Dispatching and progress control.

Master Production schedule :- (MPS) → It controls the production activities after the formal production plan is made setting down the requirements for capacity and materials.

Materials requirement planning (MRP)

Manufacturing Resource planning (MRP-II)

## ork Study: (Method study).

To increase productivity two important functions of production mgmt. are: installation of the most effective method of performing the operation and the control of resources - mainly plant labour - required in carrying out the operation.

Method study:- Method study aims to determine the most effective method of performing a job, the most logical layout of manufacturing facilities, the smooth flow of men and materials throughout the organisation and the right placement of inspection stages to enable processing of a job through the smallest possible time and at the least possible cost.

or.

Method study is the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and applying easier and more effective methods and reducing costs.

### Basic procedure of method study:-

Method study is an organised approach and its investigation rests on the following six basic steps.

Step 1 → Select the work to be analysed.

→ P.T.O



## PRODUCTION MANAGEMENT - PROBLEM FACED BEFORE OR DURING THE PROC.

1. Selection of the product.
2. Designing of the product.
3. Selecting the process, production system, technology.
4. Selection of Plant location and layout.
5. Suppliers
6. Technological changes.
7. Expenditure on Research & Development.
8. Inventory Management.
9. Cost.
10. Quality Control.
11. Labour.
12. Poor industrial relation.

#

## Financial Management:-

Finance is the major function of any business. It deals with related matters related to money, its acquisition and proper utilization. It is an arrangement of cash and credit so that an organization can run efficiently and can carry out its objectives as determined.

### SCOPE / ASPECTS OF FINANCIAL MANAGEMENT:-

1. Planning for funds or determining the need for funds.
2. Procurement of funds from different sources.
3. Utilising the funds optimally.

### Objectives of Financial Management:-

1. Profit Maximisation. →
2. ~~Wealth~~ Maximization.
  - (a) It justifies economic efficiency of an organization.
  - (b) It ensures optimum allocation of resources.
  - (c) It is a basis for decision making.
  - (d) Company remains self sufficient.
  - (e) Increase in share prices.
  - (f) It strengthens the organisation.

2. WEALTH MAXIMISATION - Wealth maximization means maximizing the net present value of a course of action. The concept of wealth maximization is based on cash flows rather than profits. It considers time value of money and quality of benefits.

Other objectives :-

- ③ To ensure the regular supply of capital to the business.
- ④ To ensure a fair rate of return to the suppliers of capital. i.e. shareholders, debentures holders, Bankers etc.
- ⑤ To ensure the liquidity, profitability and safety of the firm.
- ⑥ Optimum procurement and utilization of funds.
- ⑦ Welfare of the employees, management, and society as a whole.

### ROLE OF FINANCIAL MANAGEMENT

1. Finance decisions.
2. Investment decisions.
3. Dividend decisions. → Return to the shareholders.