

## **UNIT-I**

### **INTRODUCTION TO MANAGERIAL ECONOMICS**

Imagine for a while that you have finished your studies and have joined as an engineer in a manufacturing organization. What do you do there? You plan to produce maximum quantity of goods of a given quality at a reasonable cost. On the other hand, if you are a sale manager, you have to sell a maximum amount of goods with minimum advertisement costs. In other words, you want to minimize your costs and maximize your returns and by doing so, you are practicing the principles of managerial economics.

Managers, in their day-to-day activities, are always confronted with several issues such as how much quantity is to be supplied; at what price; should the product be made internally; or whether it should be bought from outside; how much quantity is to be produced to make a given amount of profit and so on. Managerial economics provides us a basic insight into seeking solutions for managerial problems. Economics, as the name itself implies, is an offshoot of two distinct disciplines: Economics and Management. In other words, it is necessary to understand what these disciplines are, at least in brief, to understand the nature and scope of managerial economics.

### **INTRODUCTION TO ECONOMICS**

Economics is a study of human activity both at individual and national level. The economists of early age treated economics merely as the science of wealth. The reason for this is clear. Every one of us is involved in efforts aimed at earning money and spending this money to satisfy our wants such as food, Clothing, shelter, and others. Such activities of earning and spending money are called Economic activities". It was only during the eighteenth century that Adam Smith, the Father of Economics, defined economics as the study of nature and uses of national wealth'.

*Dr. Alfred Marshall*, one of the greatest economists of the nineteenth century, writes "Economics is a study of man's actions in the ordinary business of life: it enquires how he gets his income and how he uses it". Thus, it is one side, a study of wealth; and on the other, and more important side; it is the study of man. As Marshall observed, the chief aim of economics is to promote 'human welfare', but not wealth. The definition given by

*Prof. Lionel Robbins* defined Economics as "the science, which studies human behaviour as a relationship between ends and scarce means which have alternative uses". With this, the focus of economics shifted from 'wealth' to human behaviour.

### **CONCEPTS OF MICRO AND MACRO ECONOMICS:**

'Economics' is defined as the study of how the humans work together to convert limited resources into goods and services to satisfy their wants (unlimited) and how they distribute the same among themselves. Economics has been divided into two broad parts i.e. Micro Economics and Macro Economics. Here, in the given article we've broken down

the concept and all the important differences between micro economics and macro economics, in tabular form, have a look.

## **MICROECONOMICS**

The term 'micro' means small. The study of an individual consumer or a firm is called microeconomics (also called the *Theory of Firm*). Micro means 'one millionth'. Microeconomics deals with behavior and problems of single individual and of micro organization. Managerial economics has its roots in microeconomics and it deals with the micro or individual enterprises. It is concerned with the application of the concepts such as price theory, Law of Demand and theories of market structure and so on.

In the words of K.E. Boulding, "Micro-economics is the study of particular firms, particular households, individual prices, wages, incomes, individual industries, particular commodities". In micro-economic theory, we study how various units of the economy like consumers, producers or firms, workers and resource suppliers do their economic activities and reach their equilibrium states. But, it is worth noticed that micro-economics does not study the economy in its totality. Instead, in micro-economics, we discuss equilibrium of innumerable units of the economy piecemeal and their inter-relationship with each other. As an example, in micro-economic analysis, we study the demand of an individual consumer for a commodity and from there go on to derive the market demand for the commodity. Similarly, micro-economic theory studies the behavior of the individual firms in regard to a fixation of price and output and their reactions to the changes in the demand and supply conditions.

Micro-economic theory takes the total quantity of resources as given and seeks to explain how they are assigned to the production of different goods. Allocation of resources determines what goods shall be produced and how they shall be produced. In a free market economy, the allocation of resources to the production of various goods depends upon the prices of the various goods and prices of the various resources or factors of production. Hence, micro-economics proceeds to analyses how the relative prices of goods and factors are determined in order to explain how the allocation of resources is determined. Therefore, the theory of product pricing and theory of factor pricing or the theory of distribution fall within the domain of micro-economics.

Micro-economics also seeks to explain whether the allocation of resources determined is efficient. The efficiency in allocation of resources is achieved by allocating the resources in such a way that maximizes the satisfaction of the people. There are three types of efficiencies, which include in economic efficiency- efficiency in production, efficiency in distribution of goods among the people and overall economic efficiency, that is, efficiency in the direction of production. Micro-economic theory reveals under what conditions these efficiencies are attained

## **IMPORTANCE OF MICRO ECONOMICS:**

Micro Economics has both theoretical and practical importance. From the theoretical point of view it explain the function of a free intense economics it tells as how consumer and

producer take the decision for million of goods and services to consume and produce. It tells us how goods and services distributed among them. It explain the determination of the relative prices of various goods and services. For Practical importance micro economics helps in the formulation of economics policies calculated to promote efficiency in production and welfare of the masses. In professor Lerner's words Micro Economics theory facilities the understanding of what would be a hopelessly complicated confusion of billions of facts by constructing simplified model of behaviors.

**Limitation of Micro Economics:**  
 Micro Economics has some limitations.  
 A. It cannot give an idea of the functioning of the economy as whole.  
 B. It assume fall employment which is rare phenomena, it is therefore, an unrealistic assumption.

## MACROECONOMICS

The term 'macro' means large. The study of 'aggregate or total level of economic activity in a country is called *macroeconomics*. It studies the flow of economics resources or factors of production (such as land, labour, capital, organisation and technology) from the resource owner to the business firms and then from the business firms to the households. It deals with total aggregates, for instance, total national income total employment, output and total investment. It studies the interrelations among various aggregates and examines their nature and behaviour, their determination and causes of fluctuations in the. It deals with the price level in general, instead of studying the prices of individual commodities. It is concerned with the level of employment in the economy. It discusses aggregate consumption, aggregate investment, price level, and payment, theories of employment, and so on.

Though macroeconomics provides the necessary framework in term of government policies etc., for the firm to act upon dealing with analysis of business conditions, it has less direct relevance in the study of theory of firm.

**Pros:**A.It is helpful in determining the balance of payments along with the causes of deficit and surplus of it.

B.It makes the decision regarding economic and fiscal policies and solves the issues of public finance.

**Limitation of Macro Analysis:**  
 If has limitation of its own:  
 A. Individual is ignored altogether.  
 B. The Macro analysis over looks individuals difference for instance the price level may be stable but the prices of food grains may have gone up.  
 C. While speaking of the aggregate it is also essential to remember the nature compound and structure of the components.

## Need for Integrating Macro and Micro Economics

Micro and Macro Economics can't give adequate way to analysis the working of the economics system. So if we wish to get solutions of our main economics solution we should have to integrate the two approaches. We apply proper Integration of the Micro and Macro approaches because there are few macro problems which have no micro elements involved and few micro problems that are without macro aspects.

## SIMILARITIES

As microeconomics focuses on the allocation of limited resources among the individuals, the macro economics examines that how the distribution of limited resources is to be done among many people, so that it will make the best possible use of the scarce resources. As micro economics studies about the individual units, at the same time, macro economics studies about the aggregate variables. In this way, we can say that they are interdependent.

## KEY DIFFERENCES BETWEEN MICRO AND MACRO ECONOMICS

The points given below explain the difference between micro and macro economics in detail:

1. Microeconomics studies the particular market segment of the economy, whereas Macroeconomics studies the whole economy, that covers several market segments.
2. Micro economics stresses on individual economic units. As against this, the focus of macro economics is on aggregate economic variables.
3. While microeconomics is applied to operational or internal issues, environmental and external issues are the concern of macro economics.
4. Microeconomics deals with an individual product, firm, household, industry, wages, prices, etc., while Macroeconomics deals with aggregates like national income, national output, price level, etc.
5. Microeconomics covers issues like how the price of a particular commodity will affect its quantity demanded and quantity supplied and vice versa while Macroeconomics covers major issues of an economy like unemployment, monetary/ fiscal policies, poverty, international trade, etc.
6. Microeconomics determine the price of a particular commodity along with the prices of complementary and the substitute goods, whereas the Macroeconomics is helpful in maintaining the general price level.
7. While analyzing any economy, micro economics takes a bottom-up approach, whereas the macroeconomics takes a top-down approach into consideration.

BASIS FOR COMPARISON	MICROECONOMICS	MACROECONOMICS
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BASIS FOR COMPARISON	MICROECONOMICS	MACROECONOMICS
Meaning	The branch of economics that studies the behavior of an individual consumer, firm, family is known as Microeconomics.	The branch of economics that studies the behavior of the whole economy, (both national and international) is known as Macroeconomics.
Deals with	Individual economic variables	Aggregate economic variables
Business Application	Applied to operational or internal issues	Environment and external issues
Scope	Covers various issues like demand, supply, product pricing, factor pricing, production, consumption, economic welfare, etc.	Covers various issues like, national income, general price level, distribution, employment, money etc.
Importance	Helpful in determining the prices of a product along with the prices of factors of production (land, labor, capital, entrepreneur etc.) within the economy.	Maintains stability in the general price level and resolves the major problems of the economy like inflation, deflation, reflation, unemployment and poverty as a whole.
Limitations	It is based on unrealistic assumptions, i.e. In microeconomics it is assumed that there is a full employment in the society which is not at all possible.	It has been analyzed that 'Fallacy of Composition' involves, which sometimes doesn't proves true because it is possible that what is true for aggregate may not be true for individuals too.

## CONCLUSION

Micro and Macro Economics are not contradictory in nature, in fact, they are complementary. As every coin has two aspects- micro and macroeconomics are also the two aspects of the same coin, where one's demerit is others merit and in this way they cover the whole economy. The only important thing which makes them different is the area of application.

## **MANAGEMENT**

Management is the science and art of getting things done through people in formally organized groups. It is necessary that every organisation be well managed to enable it to achieve its desired goals. Management includes a number of functions: *Planning, organizing, staffing, directing, and controlling*. The manager while directing the efforts of his staff *communicates* to them the goals, objectives, policies, and procedures; *coordinates* their efforts; *motivates* them to sustain their enthusiasm; and *leads* them to achieve the corporate goals.

## **MANAGERIAL ECONOMICS**

### **INTRODUCTION**

Managerial Economics as a subject gained popularity in USA after the publication of the book "Managerial Economics" by Joel Dean in 1951.

Managerial Economics refers to the firm's decision making process. It could be also interpreted as "Economics of Management" or "Economics of Management". Managerial Economics is also called as "Industrial Economics" or "Business Economics".

As Joel Dean observes managerial economics shows how economic analysis can be used in formulating policies.

### **MEANING & DEFINITION:**

In the words of *E. F. Brigham and J. L. Pappas* Managerial Economics is "the applications of economics theory and methodology to business administration practice".

*M. H. Spencer and Louis Siegelman* explain the "Managerial Economics is the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning by management".

It is clear, therefore, that managerial economics deals with economic aspects of managerial decisions of with those managerial decisions, which have an economics content. Managerial economics may therefore, be defined as a body of knowledge, techniques and practices which give substance to those economic concepts which are useful in deciding the business strategy of a unit of management.

Managerial economics is designed to provide a rigorous treatment of those aspects of economic theory and analysis that are most use for managerial decision analysis says J. L. Pappas and E. F. Brigham.

Managerial Economics, therefore, focuses on those tools and techniques, which are useful in decision-making.

## NATURE OF MANAGERIAL ECONOMICS

Managerial economics is, perhaps, the youngest of all the social sciences. Since it originates from Economics, it has the basic features of economics, such as assuming that other things remaining the same (or the Latin equivalent *ceteris paribus*). This assumption is made to simplify the complexity of the managerial phenomenon under study in a dynamic business environment so many things are changing simultaneously. This sets a limitation that we cannot really hold other things remaining the same. In such a case, the observations made out of such a study will have a limited purpose or value. Managerial economics also has inherited this problem from economics. Further, it is assumed that the firm or the buyer acts in a rational manner (which normally does not happen). The buyer is carried away by the advertisements, brand loyalties, incentives and so on, and, therefore, the innate behaviour of the consumer will be rational is not a realistic assumption. Unfortunately, there are no other alternatives to understand the subject other than by making such assumptions. This is because the behavior of a firm or a consumer is a complex phenomenon.

The other features of managerial economics are explained as below:

**(a) Close to microeconomics:** Managerial economics is concerned with finding the solutions for different managerial problems of a particular firm. Thus, it is more close to microeconomics.

**(b) Operates against the backdrop of macroeconomics:** The macroeconomics conditions of the economy are also seen as limiting factors for the firm to operate. In other words, the managerial economist has to be aware of the limits set by the macroeconomics conditions such as government industrial policy, inflation and so on.

**(c) Normative statements:** A normative statement usually includes or implies the words 'ought' or 'should'. They reflect people's moral attitudes and are expressions of what a team of people ought to do. For instance, it deals with statements such as 'Government of India should open up the economy. Such statements are based on value judgments and express views of what is 'good' or 'bad', 'right' or 'wrong'. One problem with normative statements is that they cannot be verified by looking at the facts, because they mostly deal with the future. Disagreements about such statements are usually settled by voting on them.

**(d) Prescriptive actions:** Prescriptive action is goal oriented. Given a problem and the objectives of the firm, it suggests the course of action from the available alternatives for optimal solution. It does not merely mention the concept, it also explains whether the concept can be applied in a given context or not. For instance, the fact that variable costs are marginal costs can be used to judge the feasibility of an export order.

**(e) Applied in nature:** 'Models' are built to reflect the real life complex business situations and these models are of immense help to managers for decision-making. The different areas where models are extensively used include inventory control, optimization, project management etc. In managerial economics, we also employ case study methods to conceptualize the problem, identify that alternative and determine the best course of action.

**(f) Offers scope to evaluate each alternative:** Managerial economics provides an opportunity to evaluate each alternative in terms of its costs and revenue. The managerial economist can decide which is the better alternative to maximize the profits for the firm.

**(g) Interdisciplinary:** The contents, tools and techniques of managerial economics are drawn from different subjects such as economics, management, mathematics, statistics, accountancy, psychology, organizational behavior, sociology and etc.

**(h) Assumptions and limitations:** Every concept and theory of managerial economics is based on certain assumption and as such their validity is not universal. Where there is change in assumptions, the theory may not hold good at all.

## **SCOPE OF MANAGERIAL ECONOMICS**

The scope of managerial economics refers to its area of study. Managerial economics refers to its area of study. Managerial economics, Provides management with a strategic planning tool that can be used to get a clear perspective of the way the business world works and what can be done to maintain profitability in an ever-changing environment.

Managerial economics is primarily concerned with the application of economic principles and theories to five types of resource decisions made by all types of business organizations.

- a. The selection of product or service to be produced.
- b. The choice of production methods and resource combinations.
- c. The determination of the best price and quantity combination
- d. Promotional strategy and activities.
- e. The selection of the location from which to produce and sell goods or service to consumer.

The production department, marketing and sales department and the finance department usually handle these five types of decisions.

The scope of managerial economics covers two areas of decision making



- a. Operational or Internal issues
- b. Environmental or External issues

a. Operational issues:

Operational issues refer to those, which arise within the business organization and they are under the control of the management.

Those are:

1. Theory of demand and Demand Forecasting
2. Pricing and Competitive strategy
3. Production cost analysis
4. Resource allocation
5. Profit analysis
6. Capital or Investment analysis
7. Strategic planning

**1. Demand Analyses and Forecasting:** A firm can survive only if it is able to meet the demand for its product at the right time, within the right quantity. Understanding the basic concepts of demand is essential for demand forecasting. Demand analysis should be a basic activity of the firm because many of the other activities of the firms depend upon the outcome of the demand forecast.

Demand analysis provides:

1. The basis for analyzing market influences on the firms; products and thus helps in the adaptation to those influences.
2. Demand analysis also highlights the factors, which influence the demand for a product. This helps to manipulate demand. Thus demand analysis studies not only the price elasticity but also income elasticity, cross elasticity as well as the influence of advertising expenditure. With the advent of computers, demand forecasting has become an increasingly important function of managerial economics.

**2. Pricing and competitive strategy:** Pricing decisions have been always within the purview of managerial economics. Pricing policies are merely a subset of broader class of managerial economic problems. Price theory helps to explain how prices are determined under different types of market conditions. Competitive analysis includes the anticipation

of the response of competitions the firm's pricing, advertising and marketing strategies. Product line pricing and price forecasting occupy an important place here.

**3. Production and cost analysis:** Production analysis is in physical terms. While the cost analysis is in monetary terms cost concepts and classifications, cost-output relationships, economies and diseconomies of scale and production functions are some of the points constituting cost and production analysis.

**4. Resource Allocation:** Managerial Economics is the traditional economic theory that is concerned with the problem of optimum allocation of scarce resources. Marginal analysis is applied to the problem of determining the level of output, which maximizes profit. In this respect linear programming techniques has been used to solve optimization problems. In fact linear programming is one of the most practical and powerful managerial decision making tools currently available.

**5. Profit analysis:** Profit making is the major goal of firms. There are several constraints here an account of competition from other products, changing input prices and changing business environment hence in spite of careful planning, there is always certain risk involved. Managerial economics deals with techniques of averting or minimizing risks. Profit theory guides in the measurement and management of profit, in calculating the pure return on capital, besides future profit planning.

**6. Capital or investment analyses:** Capital is the foundation of business. Lack of capital may result in small size of operations. Availability of capital from various sources like equity capital, institutional finance etc. may help to undertake large-scale operations. Hence efficient allocation and management of capital is one of the most important tasks of the managers.

The major issues related to capital analysis are:

1. The choice of investment project
2. Evaluation of the efficiency of capital
3. Most efficient allocation of capital

Knowledge of capital theory can help very much in taking investment decisions. This involves, capital budgeting, feasibility studies, analysis of cost of capital etc.

**7. Strategic planning:** Strategic planning provides management with a framework on which long-term decisions can be made which has an impact on the behavior of the firm. The firm sets certain long-term goals and objectives and selects the strategies to achieve the same. Strategic planning is now a new addition to the scope of managerial economics with the emergence of multinational corporations. The perspective of strategic planning is

global. It is in contrast to project planning which focuses on a specific project or activity. In fact the integration of managerial economics and strategic planning has given rise to be new area of study called corporate economics.

**B. Environmental or External Issues:** An environmental issue in managerial economics refers to the general business environment in which the firm operates. They refer to general economic, social and political atmosphere within which the firm operates. A study of economic environment should include:

- a. The type of economic system in the country.
- b. The general trends in production, employment, income, prices, saving and investment.
- c. Trends in the working of financial institutions like banks, financial corporations, insurance companies
- d. Magnitude and trends in foreign trade;
- e. Trends in labour and capital markets;
- f. Government's economic policies viz. industrial policy monetary policy, fiscal policy, price policy etc.

The social environment refers to social structure as well as social organization like trade unions, consumer's co-operative etc. The Political environment refers to the nature of state activity, chiefly states' attitude towards private business, political stability etc.

The environmental issues highlight the social objective of a firm i.e.; the firm owes a responsibility to the society. Private gains of the firm alone cannot be the goal.

The environmental or external issues relate managerial economics to macro economic theory while operational issues relate the scope to micro economic theory. The scope of managerial economics is ever widening with the dynamic role of big firms in a society.

## **MANAGERIAL ECONOMICS RELATIONSHIP WITH OTHER DISCIPLINES:**

Many Its strength lies in its ability to integrate ideas from various specialized subjects to gain a proper perspective for decision-making. new subjects have evolved in recent years due to the interaction among basic disciplines. While there are many such new subjects in natural and social sciences, managerial economics can be taken as the best example of such a phenomenon among social sciences. Hence it is necessary to trace its roots and relationship with other disciplines.

*2. Management theory and accounting:*

*3. Managerial Economics and mathematics:*

*4. Managerial Economics and Statistics:*

*1. Relationship with economics.*

*5. Managerial Economics and Operations Research:*

*6. Managerial Economics and the theory of Decision- making:*

*7. Managerial Economics and Computer Science:*

To conclude, managerial economics, which is an offshoot traditional economics, has gained strength to be a separate branch of knowledge.

## **DEMAND ANALYSIS**

**Introduction & Meaning:** Demand in common parlance means the desire for an object. But in economics demand is something more than this.

According to Stonier and Hague, "Demand in economics means demand backed up by enough money to pay for the goods demanded". This means that the demand becomes effective only if it is backed by the purchasing power in addition to this there must be willingness to buy a commodity. Thus demand in economics means the desire backed by the willingness to buy a commodity and the purchasing power to pay.

In the words of "Benham" "The demand for anything at a given price is the amount of it which will be bought per unit of time at that Price". (Thus demand is always at a price for a definite quantity at a specified time.) Thus demand has three essentials – price, quantity demanded and time. Without these, demand has no significance in economics.

It deals with four aspects:

1. Consumption
2. Production
3. Exchange
4. Distribution

Basic laws of consumption:

1. Law of diminishing marginal utility

2. Law of Equi – Marginal utility
3. Consumer surplus

Demand analysis:

1. Nature and types of demand
2. Factors determining demand
3. Law of demand

**Nature and types of demand:**

1. Consumer goods and producer goods
2. Autonomous demand and derived demand
3. Durable and perishable demand
4. Firm demand and industry demand
5. Short run demand and long run demand
6. New demand and replacement demand
7. Total market and segment market demand

**FACTORS AFFECTING DEMAND**

There are factors on which the demand for a commodity depends. These factors are economic, social as well as political factors. The effect of all the factors on the amount demanded for the commodity is called Demand Function. These factors are as follows:

**1. Price of the Commodity:** The most important factor-affecting amount demanded is the price of the commodity. The amount of a commodity demanded at a particular price is more properly called price demand. The relation between price and demand is called the Law of Demand. It is not only the existing price but also the expected changes in price, which affect demand.

**2. Income of the Consumer:** The second most important factor influencing demand is consumer income. In fact, we can establish a relation between the consumer income and the demand at different levels of income, price and other things remaining the same. The demand for a normal commodity goes up when income rises and falls down when income falls. But in case of Giffen goods the relationship is the opposite.

**3. Prices of related goods:** The demand for a commodity is also affected by the changes in prices of the related goods also. Related goods can be of two types:

(i). **Substitutes** which can replace each other in use; for example, tea and coffee are substitutes. The change in price of a substitute has effect on a commodity's demand in the

same direction in which price changes. The rise in price of coffee shall raise the demand for tea;

**(ii). Complementary** foods are those which are jointly demanded, such as pen and ink. In such cases complementary goods have opposite relationship between price of one commodity and the amount demanded for the other. If the price of pens goes up, their demand is less as a result of which the demand for ink is also less. The price and demand go in opposite direction. The effect of changes in price of a commodity on amounts demanded of related commodities is called Cross Demand.

**4. Tastes of the Consumers:** The amount demanded also depends on consumer's taste. Tastes include fashion, habit, customs, etc. A consumer's taste is also affected by advertisement. If the taste for a commodity goes up, its amount demanded is more even at the same price. This is called increase in demand. The opposite is called decrease in demand.

**5. Wealth:** The amount demanded of commodity is also affected by the amount of wealth as well as its distribution. The wealthier are the people; higher is the demand for normal commodities. If wealth is more equally distributed, the demand for necessities and comforts is more. On the other hand, if some people are rich, while the majorities are poor, the demand for luxuries is generally higher.

**6. Population:** Increase in population increases demand for necessities of life. The composition of population also affects demand. Composition of population means the proportion of young and old and children as well as the ratio of men to women. A change in composition of population has an effect on the nature of demand for different commodities.

**7. Government Policy:** Government policy affects the demands for commodities through taxation. Taxing a commodity increases its price and the demand goes down. Similarly, financial help from the government increases the demand for a commodity while lowering its price.

**8. Expectations regarding the future:** If consumers expect changes in price of commodity in future, they will change the demand at present even when the present price remains the same. Similarly, if consumers expect their incomes to rise in the near future they may increase the demand for a commodity just now.

**9. Climate and weather:** The climate of an area and the weather prevailing there has a decisive effect on consumer's demand. In cold areas woollen cloth is demanded. During hot summer days, ice is very much in demand. On a rainy day, ice cream is not so much demanded.

**10. State of business:** The level of demand for different commodities also depends upon the business conditions in the country. If the country is passing through boom conditions, there will be a marked increase in demand. On the other hand, the level of demand goes down during depression

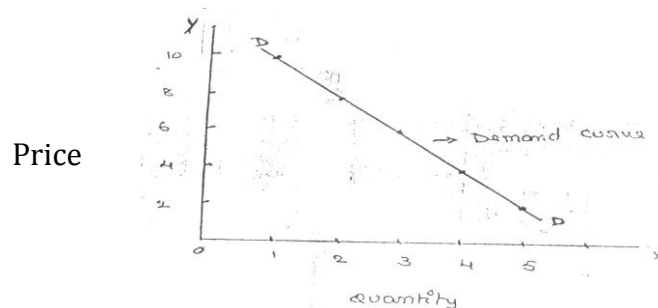
## **LAW OF DEMAND**

Law of demand shows the relation between price and quantity demanded of a commodity in the market. In the words of Marshall, “the amount demand increases with a fall in price and diminishes with a rise in price”. A rise in the price of a commodity is followed by a reduction in demand and a fall in price is followed by an increase in demand, if a condition of demand remains constant.

The law of demand may be explained with the help of the following demand schedule. Demand Schedule.

Price of Apple (In. Rs.)	Quantity Demanded
10	1
8	2
6	3
4	4
2	5

Law is demand is based When the price falls from Rs. 10 to 8 quantity demand increases from 1 to 2. In the same way as price falls, quantity demand increases on the basis of the demand schedule we can draw the demand curve.



The demand curve DD shows the inverse relation between price and quantity demand of apple. It is downward sloping.

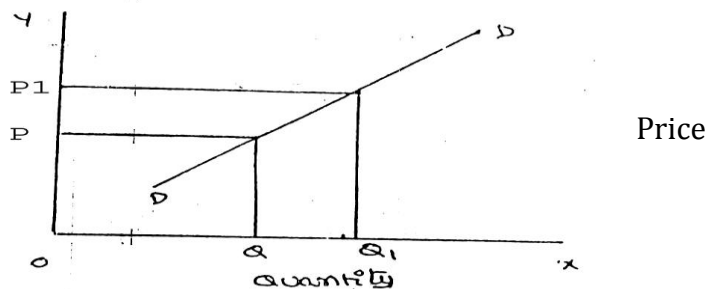
### **Assumptions:**

1. This is no change in consumers taste and preferences.
2. Income should remain constant.

3. Prices of other goods should not change.
4. There should be no substitute for the commodity
5. The commodity should not confer any distinction
6. The demand for the commodity should be continuous
7. People should not expect any change in the price of the commodity

### **EXCEPTIONAL DEMAND CURVE:**

Sometimes the demand curve slopes upwards from left to right. In this case the demand curve has a positive slope.



When price increases from  $OP$  to  $OP_1$  quantity demanded also increases from  $OQ$  to  $OQ_1$  and vice versa. The reasons for exceptional demand curve are as follows.

#### **1. Giffen paradox:**

The Giffen good or inferior good is an exception to the law of demand. When the price of an inferior good falls, the poor will buy less and vice versa. For example, when the price of maize falls, the poor are willing to spend more on superior goods than on maize. If the price of maize increases, he has to increase the quantity of money spent on it. Otherwise he will have to face starvation. Thus a fall in price is followed by reduction in quantity demanded and vice versa. "Giffen" first explained this and therefore it is called as Giffen's paradox.

#### **2. Veblen or Demonstration effect:**

'Veblen' has explained the exceptional demand curve through his doctrine of conspicuous consumption. Rich people buy certain goods because it gives social distinction or prestige. For example, diamonds are bought by the richer class for the prestige it possesses. If the price of diamonds falls, the poor also will buy it, hence they will not give prestige. Therefore, rich people may stop buying this commodity.

#### **3. Ignorance:**

Sometimes, the quality of the commodity is judged by its price. Consumers think that the product is superior if the price is high. As such they buy more at a higher price.

#### **4. Speculative effect:**



If the price of the commodity is increasing the consumers will buy more of it because of the fear that it increase still further, Thus, an increase in price may not be accomplished by a decrease in demand.

### **5. Fear of shortage:**

During the times of emergency of war People may expect shortage of a commodity. At that time, they may buy more at a higher price to keep stocks for the future.

### **6.Necessaries:**

In the case of necessities like rice, vegetables etc. people buy more even at a higher price.

## **ELASTICITY OF DEMAND**

Elasticity of demand explains the relationship between a change in price and consequent change in amount demanded. “Marshall” introduced the concept of elasticity of demand. Elasticity of demand shows the extent of change in quantity demanded to a change in price.

In the words of “Marshall”, “The elasticity of demand in a market is great or small according as the amount demanded increases much or little for a given fall in the price and diminishes much or little for a given rise in Price”

Elastic demand: A small change in price may lead to a great change in quantity demanded. In this case, demand is elastic.

In-elastic demand: If a big change in price is followed by a small change in demanded then the demand is “inelastic”.

Types and measurements of Elasticity of Demand:

There are three types of elasticity of demand:

1. Price elasticity of demand
2. Income elasticity of demand
3. Cross elasticity of demand
4. Advertising elasticity of demand

### **1. PRICE ELASTICITY OF DEMAND:**

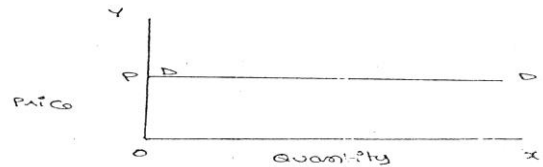
Marshall was the first economist to define price elasticity of demand. Price elasticity of demand measures changes in quantity demand to a change in Price. It is the ratio of percentage change in quantity demanded to a percentage change in price.

Price elasticity =  $\frac{\text{Proportionate change in the quantity demand of commodity}}{\text{Proportionate change in the price of commodity}}$

There are five cases of price elasticity of demand

### A. Perfectly elastic demand:

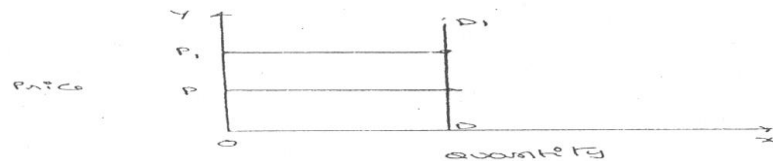
When small change in price leads to an infinitely large change in quantity demand, it is called perfectly or infinitely elastic demand. In this case  $E = \infty$



The demand curve DD1 is horizontal straight line. It shows that at "OP" price any amount is demanded and if price increases, the consumer will not purchase the commodity.

### B. Perfectly Inelastic Demand

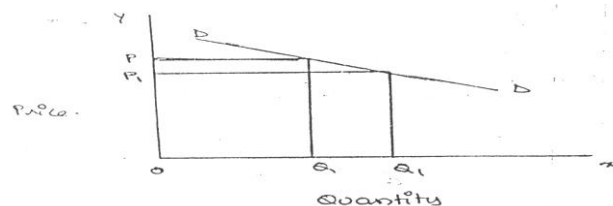
In this case, even a large change in price fails to bring about a change in quantity demanded.



When price increases from 'OP' to 'OP1', the quantity demanded remains the same. In other words, the response of demand to a change in Price is nil. In this case ' $E$ '=0.

### C. Relatively elastic demand:

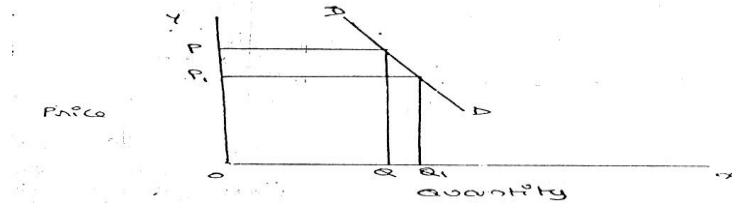
Demand changes more than proportionately to a change in price. I.e. a small change in price leads to a very big change in the quantity demanded. In this case  $E > 1$ . This demand curve will be flatter.



When price falls from 'OP' to 'OP', amount demanded increase from "OQ' to "OQ1' which is larger than the change in price.

#### D. Relatively in-elastic demand.

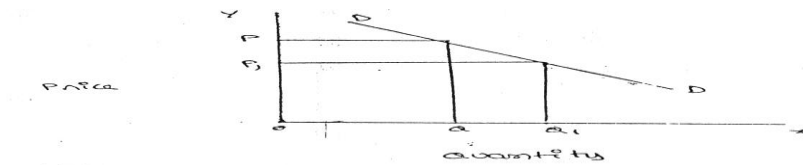
Quantity demanded changes less than proportional to a change in price. A large change in price leads to small change in amount demanded. Here  $E < 1$ . Demanded curve will be steeper.



When price falls from "OP' to 'OP1 amount demanded increases from OQ to OQ1, which is smaller than the change in price.

#### E. Unit elasticity of demand:

The change in demand is exactly equal to the change in price. When both are equal  $E=1$  and elasticity is said to be unitary.



When price falls from 'OP' to 'OP1' quantity demanded increases from 'OQ' to 'OQ1'. Thus a change in price has resulted in an equal change in quantity demanded so price elasticity of demand is equal to unity.

## 2. INCOME ELASTICITY OF DEMAND:

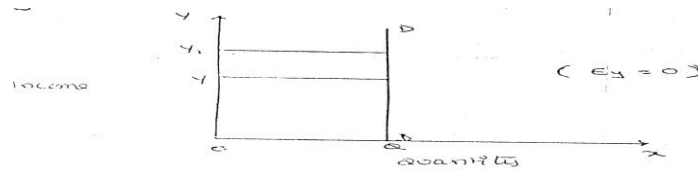
Income elasticity of demand shows the change in quantity demanded as a result of a change in income. Income elasticity of demand may be stated in the form of a formula.

$$\text{Income Elasticity} = \frac{\text{Proportionate change in the quantity demand of commodity}}{\text{Proportionate change in the income of the people}}$$

Income elasticity of demand can be classified in to five types.

#### A. Zero income elasticity:

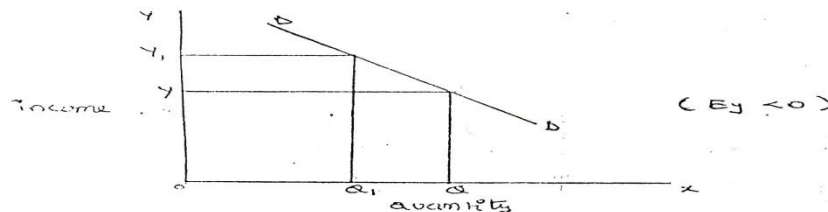
Quantity demanded remains the same, even though money income increases. Symbolically, it can be expressed as  $E_y = 0$ . It can be depicted in the following way:



As income increases from  $OY$  to  $OY_1$ , quantity demanded never changes.

### B. Negative Income elasticity:

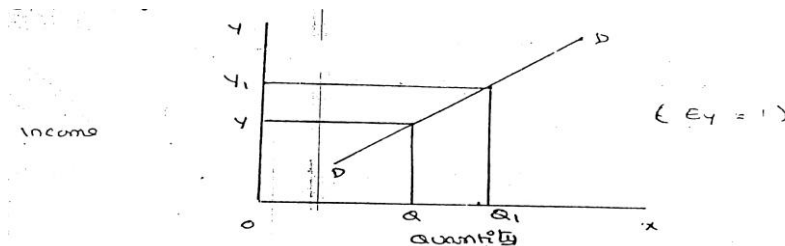
When income increases, quantity demanded falls. In this case, income elasticity of demand is negative. i.e.,  $E_y < 0$ .



When income increases from  $OY$  to  $OY_1$ , demand falls from  $OQ$  to  $OQ_1$ .

### c. Unit income elasticity:

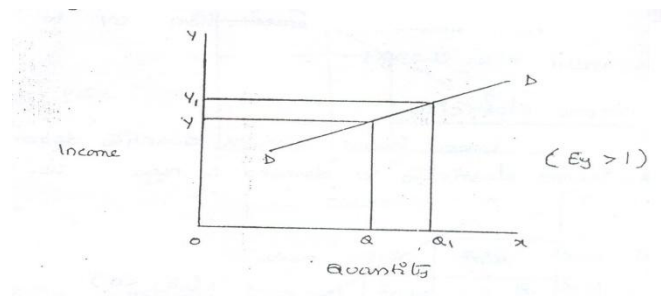
When an increase in income brings about a proportionate increase in quantity demanded, and then income elasticity of demand is equal to one.  $E_y = 1$



When income increases from  $OY$  to  $OY_1$ , Quantity demanded also increases from  $OQ$  to  $OQ_1$ .

### d. Income elasticity greater than unity:

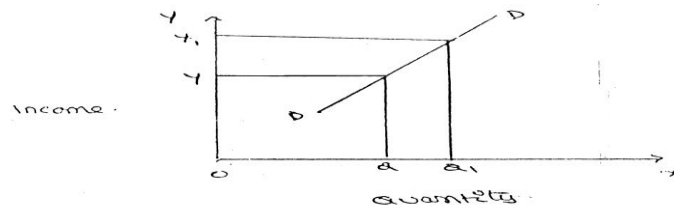
In this case, an increase in come brings about a more than proportionate increase in quantity demanded. Symbolically it can be written as  $E_y > 1$ .



It shows high-income elasticity of demand. When income increases from OY to OY1, Quantity demanded increases from OQ to OQ1.

e. Income elasticity less than unity:

When income increases quantity demanded also increases but less than proportionately. In this case  $E < 1$ .



An increase in income from OY to OY1, brings what an increase in quantity demanded from OQ to OQ1, But the increase in quantity demanded is smaller than the increase in income. Hence, income elasticity of demand is less than one.

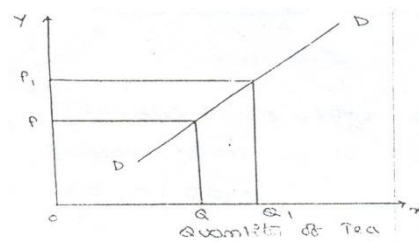
### 3. CROSS ELASTICITY OF DEMAND:

A change in the price of one commodity leads to a change in the quantity demanded of another commodity. This is called a cross elasticity of demand. The formula for cross elasticity of demand is:

$$\text{Cross elasticity} = \frac{\text{Proportionate change in the quantity demand of commodity "X"}}{\text{Proportionate change in the price of commodity "Y"}}$$

**a. In case of substitutes**, cross elasticity of demand is positive. E.g.: Coffee and Tea

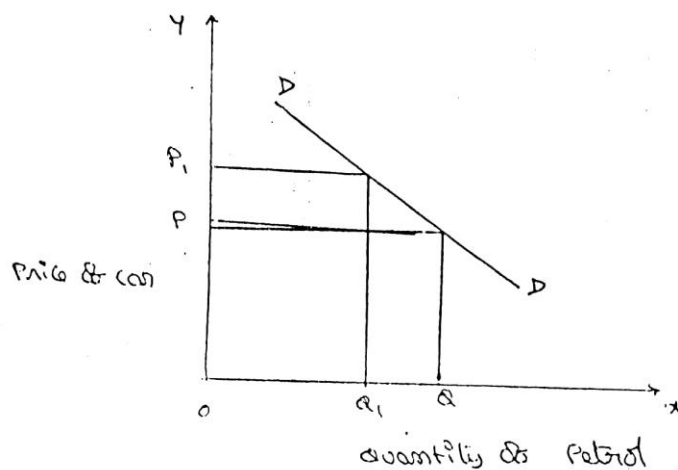
When the price of coffee increases, Quantity demanded of tea increases. Both are substitutes.



## Price of Coffee

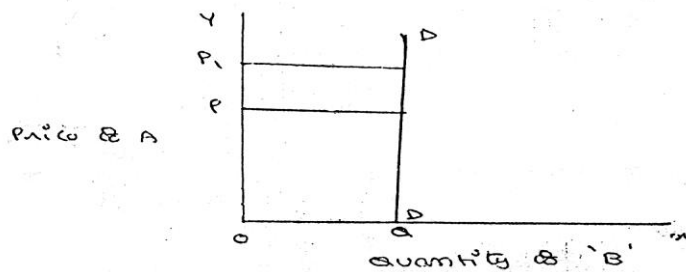
b. **In case of compliments**, cross elasticity is negative. If increase in the price of one commodity leads to a decrease in the quantity demanded of another and vice versa.

When price of car goes up from  $OP$  to  $OP_1$ , the quantity demanded of petrol decreases from  $OQ$  to  $OQ_1$ . The cross-demanded curve has negative slope.



$$E_c = \frac{\% \Delta Q}{\% \Delta P} \text{ (negative)}$$

c. **In case of unrelated commodities**, cross elasticity of demanded is zero. A change in the price of one commodity will not affect the quantity demanded of another.



Quantity demanded of commodity "b" remains unchanged due to a change in the price of 'A', as both are unrelated goods.

## 4. ADVERTISING ELASTICITY OF DEMAND:

Advertising elasticity of demand shows the change in quantity demanded as a result of a change in cost of Advertisement.

Advertising elasticity of demand may be slated in the form of a formula.

$$\text{Advertising Elasticity} = \frac{\text{Proportionate change in the quantity demand of commodity}}{\text{Proportionate change in the advertisement cost}}$$

Factors influencing the elasticity of demand:

Elasticity of demand depends on many factors.

1. **Nature of commodity:** Elasticity or in-elasticity of demand depends on the nature of the commodity i.e. whether a commodity is a necessity, comfort or luxury, normally; the demand for Necessaries like salt, rice etc is inelastic. On the other band, the demand for comforts and luxuries is elastic.

2. **Availability of substitutes:** Elasticity of demand depends on availability or non-availability of substitutes. In case of commodities, which have substitutes, demand is elastic, but in case of commodities, which have no substitutes, demand is in elastic.

3. **Variety of uses:** If a commodity can be used for several purposes, than it will have elastic demand. i.e. electricity. On the other hand, demanded is inelastic for commodities, which can be put to only one use.

4. **Postponement of demand:** If the consumption of a commodity can be postponed, than it will have elastic demand. On the contrary, if the demand for a commodity cannot be postpones, than demand is in elastic. The demand for rice or medicine cannot be postponed, while the demand for Cycle or umbrella can be postponed.

5. **Amount of money spent:** Elasticity of demand depends on the amount of money spent on the commodity. If the consumer spends a smaller for example a consumer spends a little amount on salt and matchboxes. Even when price of salt or matchbox goes up, demanded will not fall. Therefore, demand is in case of clothing a consumer spends a large proportion of his income and an increase in price will reduce his demand for clothing. So the demand is elastic.

6. **Time:** Elasticity of demand varies with time. Generally, demand is inelastic during short period and elastic during the long period. Demand is inelastic during short period because the consumers do not have enough time to know about the change is price. Even if they are aware of the price change, they may not immediately switch over to a new commodity, as they are accustomed to the old commodity.

7. **Range of Prices:** Range of prices exerts an important influence on elasticity of demand. At a very high price, demand is inelastic because a slight fall in price will not induce the

people buy more. Similarly at a low price also demand is inelastic. This is because at a low price all those who want to buy the commodity would have bought it and a further fall in price will not increase the demand. Therefore, elasticity is low at very high and very low prices.

### **IMPORTANCE OF ELASTICITY OF DEMAND:**

The concept of elasticity of demand is of much practical importance.

**1. Price fixation:** Each seller under monopoly and imperfect competition has to take into account elasticity of demand while fixing the price for his product. If the demand for the product is inelastic, he can fix a higher price.

**2. Production:** Producers generally decide their production level on the basis of demand for the product. Hence elasticity of demand helps the producers to take correct decision regarding the level of output to be produced.

**3. Distribution:** Elasticity of demand also helps in the determination of rewards for factors of production. For example, if the demand for labour is inelastic, trade unions will be successful in raising wages. It is applicable to other factors of production.

**4. International Trade:** Elasticity of demand helps in finding out the terms of trade between two countries. Terms of trade refers to the rate at which domestic commodity is exchanged for foreign commodities. Terms of trade depends upon the elasticity of demand of the two countries for each other goods.

**5. Public Finance:** Elasticity of demand helps the government in formulating tax policies. For example, for imposing tax on a commodity, the Finance Minister has to take into account the elasticity of demand.

**6. Nationalization:** The concept of elasticity of demand enables the government to decide about nationalization of industries.

### **DEMAND FORECASTING**

**Introduction:** The information about the future is essential for both new firms and those planning to expand the scale of their production. Demand forecasting refers to an estimate of future demand for the product. It is an 'objective assessment of the future course of demand'. In recent times, forecasting plays an important role in business decision-making. Demand forecasting has an important influence on production planning. It is essential for a firm to produce the required quantities at the right time. It is essential to distinguish between forecasts of demand and forecasts of sales. Sales forecast is important for estimating revenue cash requirements and expenses. Demand forecasts relate to



production, inventory control, timing, reliability of forecast etc. However, there is not much difference between these two terms.

**Types of demand Forecasting:** Based on the time span and planning requirements of business firms, demand forecasting can be classified in to

1. Short-term demand forecasting and
2. Long – term demand forecasting.

**1. Short-term demand forecasting:** Short-term demand forecasting is limited to short periods, usually for one year. It relates to policies regarding sales, purchase, price and finances. It refers to existing production capacity of the firm. Short-term forecasting is essential for formulating a suitable price policy. If the business people expect of rise in the prices of raw materials or shortages, they may buy early. This price forecasting helps in sale policy formulation. Production may be undertaken based on expected sales and not on actual sales. Further, demand forecasting assists in financial forecasting also. Prior information about production and sales is essential to provide additional funds on reasonable terms.

**2. Long – term forecasting:** In long-term forecasting, the businessmen should know about the long-term demand for the product. Planning of a new plant or expansion of an existing unit depends on long-term demand.

### **METHODS OF FORECASTING:**

Several methods are employed for forecasting demand. All these methods can be grouped under survey method and statistical method. Survey methods and statistical methods are further subdivided in to different categories.

#### **1. Survey Method:**

Under this method, information about the desires of the consumer and opinion of experts are collected by interviewing them. Survey method can be divided into four types viz., Option survey method; expert opinion; Delphi method and consumers interview methods.

##### **a. Opinion survey method:**

This method is also known as sales-force composite method (or) collective opinion method. Under this method, the company asks its salesman to submit estimate of future sales in their respective territories. Since the forecasts of the salesmen are biased due to their optimistic or pessimistic attitude or ignorance about economic developments etc. these estimates are consolidated, reviewed and adjusted by the top executives. In case of wide differences, an average is struck to make the forecasts realistic.

This method is more useful and appropriate because the salesmen are more knowledgeable. They can be an important source of information. They are cooperative. The implementation within unbiased or their bias can be corrected.

##### **B. Expert opinion method:**

Apart from salesmen and consumers, distributors or outside experts may also be used for forecasting. In the United States of America, the automobile companies get sales estimates directly from their dealers. Firms in advanced countries make use of outside experts for estimating future demand. Various public and private agencies all periodic forecasts of short or long term business conditions.

***C. Delphi Method:***

A variant of the survey method is Delphi method. It is a sophisticated method to arrive at a consensus. Under this method, a panel is selected to give suggestions to solve the problems in hand. Both internal and external experts can be the members of the panel. Panel members are kept apart from each other and express their views in an anonymous manner. There is also a coordinator who acts as an intermediary among the panelists. He prepares the questionnaire and sends it to the panelist. At the end of each round, he prepares a summary report. On the basis of the summary report the panel members have to give suggestions. This method has been used in the area of technological forecasting. It has proved more popular in forecasting non-economic rather than economic variables.

***D. Consumers interview method:***

In this method the consumers are contacted personally to know about their plans and preference regarding the consumption of the product. A list of all potential buyers would be drawn and each buyer will be approached and asked how much he plans to buy the listed product in future. He would be asked the proportion in which he intends to buy. This method seems to be the most ideal method for forecasting demand.

***2. Statistical Methods:***

Statistical method is used for long run forecasting. In this method, statistical and mathematical techniques are used to forecast demand. This method relies on past data.

***a. Time series analysis or trend projection methods:***

A well-established firm would have accumulated data. These data are analyzed to determine the nature of existing trend. Then, this trend is projected into the future and the results are used as the basis for forecast. This is called as time series analysis. This data can be presented either in a tabular form or a graph. In the time series past data of sales are used to forecast future.

***b. Barometric Technique:***

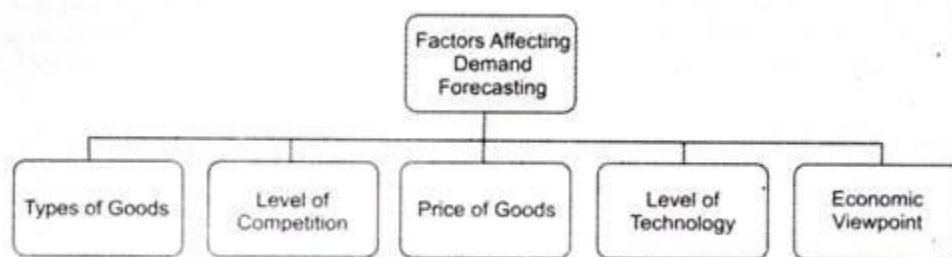
Simple trend projections are not capable of forecasting turning points. Under Barometric method, present events are used to predict the directions of change in future. This is done with the help of economics and statistical indicators. Those are (1) Construction Contracts awarded for building materials (2) Personal income (3) Agricultural Income. (4) Employment (5) Gross national income (6) Industrial Production (7) Bank Deposits etc.

### ***c. Regression and correlation method:***

Regression and correlation are used for forecasting demand. Based on past data the future data trend is forecasted. If the functional relationship is analyzed with the independent variable it is simple correlation. When there are several independent variables it is multiple correlation. In correlation we analyze the nature of relation between the variables while in regression; the extent of relation between the variables is analyzed. The results are expressed in mathematical form. Therefore, it is called as econometric model building. The main advantage of this method is that it provides the values of the independent variables from within the model itself.

### **Factors Influencing Demand Forecasting:**

Demand forecasting is a proactive process that helps in determining what products are needed where, when, and in what quantities. There are a number of factors that affect demand forecasting.



**Figure-2: Factors Affecting Demand Forecasting**

**The various factors that influence demand forecasting are explained as follows:**

#### **i. Types of Goods:**

Affect the demand forecasting process to a larger extent. Goods can be producer's goods, consumer goods, or services. Apart from this, goods can be established and new goods. Established goods are those goods which already exist in the market, whereas new goods are those which are yet to be introduced in the market.

Information regarding the demand, substitutes and level of competition of goods is known only in case of established goods. On the other hand, it is difficult to forecast demand for the new goods. Therefore, forecasting is different for different types of goods.

#### **ii. Competition Level:**

Influence the process of demand forecasting. In a highly competitive market, demand for products also depend on the number of competitors existing in the market. Moreover, in a

highly competitive market, there is always a risk of new entrants. In such a case, demand forecasting becomes difficult and challenging.

### **iii. Price of Goods:**

Acts as a major factor that influences the demand forecasting process. The demand forecasts of organizations are highly affected by change in their pricing policies. In such a scenario, it is difficult to estimate the exact demand of products.

### **iv. Level of Technology:**

Constitutes an important factor in obtaining reliable demand forecasts. If there is a rapid change in technology, the existing technology or products may become obsolete. For example, there is a high decline in the demand of floppy disks with the introduction of compact disks (CDs) and pen drives for saving data in computer. In such a case, it is difficult to forecast demand for existing products in future.

### **v. Economic Viewpoint:**

Play a crucial role in obtaining demand forecasts. For example, if there is a positive development in an economy, such as globalization and high level of investment, the demand forecasts of organizations would also be positive.

**Apart from aforementioned factors, following are some of the other important factors that influence demand forecasting:**

#### **a. Time Period of Forecasts:**

Act as a crucial factor that affect demand forecasting. The accuracy of demand forecasting depends on its time period.

**Forecasts can be of three types, which are explained as follows:**

#### **1. Short Period Forecasts:**

Refer to the forecasts that are generally for one year and based upon the judgment of the experienced staff. Short period forecasts are important for deciding the production policy, price policy, credit policy, and distribution policy of the organization.

#### **2. Long Period Forecasts:**

Refer to the forecasts that are for a period of 5-10 years and based on scientific analysis and statistical methods. The forecasts help in deciding about the introduction of a new product, expansion of the business, or requirement of extra funds.

### **3. Very Long Period Forecasts:**

Refer to the forecasts that are for a period of more than 10 years. These forecasts are carried to determine the growth of population, development of the economy, political situation in a country, and changes in international trade in future.

Among the aforementioned forecasts, short period forecast deals with deviation in long period forecast. Therefore, short period forecasts are more accurate than long period forecasts.

### **4. Level of Forecasts:**

Influences demand forecasting to a larger extent. A demand forecast can be carried at three levels, namely, macro level, industry level, and firm level. At macro level, forecasts are undertaken for general economic conditions, such as industrial production and allocation of national income. At the industry level, forecasts are prepared by trade associations and based on the statistical data.

Moreover, at the industry level, forecasts deal with products whose sales are dependent on the specific policy of a particular industry. On the other hand, at the firm level, forecasts are done to estimate the demand of those products whose sales depends on the specific policy of a particular firm. A firm considers various factors, such as changes in income, consumer's tastes and preferences, technology, and competitive strategies, while forecasting demand for its products.

### **5. Nature of Forecasts:**

Constitutes an important factor that affects demand forecasting. A forecast can be specific or general. A general forecast provides a global picture of business environment, while a specific forecast provides an insight into the business environment in which an organization operates. Generally, organizations opt for both the forecasts together because over-generalization restricts accurate estimation of demand and too specific information provides an inadequate basis for planning and execution.

## UNIT - II

### PRODUCTION AND COST ANALYSIS

#### **Introduction:** Production Function

The production function expresses a functional relationship between physical inputs and physical outputs of a firm at any particular time period. The output is thus a function of inputs. Mathematically production function can be written as

$$Q = f(A, B, C, D)$$

Where “Q” stands for the quantity of output and A, B, C, D are various input factors such as land, labour, capital and organization. Here output is the function of inputs. Hence output becomes the dependent variable and inputs are the independent variables.

The above function does not state by how much the output of “Q” changes as a consequence of change of variable inputs. In order to express the quantitative relationship between inputs and output, Production function has been expressed in a precise mathematical equation i.e.

$$Y = a + b(x)$$

Which shows that there is a constant relationship between applications of input (the only factor input ‘X’ in this case) and the amount of output (y) produced.

#### **Importance:**

1. When inputs are specified in physical units, production function helps to estimate the level of production.
2. It becomes is equates when different combinations of inputs yield the same level of output.
3. It indicates the manner in which the firm can substitute on input for another without altering the total output.
4. When price is taken into consideration, the production function helps to select the least combination of inputs for the desired output.
5. It considers two types’ input-output relationships namely ‘law of variable proportions’ and ‘law of returns to scale’. Law of variable propositions explains the pattern of output in the short-run as the units of variable inputs are increased to increase the output. On the other hand law of returns to scale explains the pattern of output in the long run as all the units of inputs are increased.
6. The production function explains the maximum quantity of output, which can be produced, from any chosen quantities of various inputs or the minimum quantities of various inputs that are required to produce a given quantity of output.

Production function can be fitted the particular firm or industry or for the economy as whole. Production function will change with an improvement in technology.

### *Assumptions*

:

Production function has the following assumptions.

1. The production function is related to a particular period of time.
2. There is no change in technology.
3. The producer is using the best techniques available.
4. The factors of production are divisible.
5. Production function can be fitted to a short run or to long run.

### **COBB-DOUGLAS PRODUCTION FUNCTION:**

Production function of the linear homogenous type is invested by *Junt wicksell* and first tested by *C. W. Cobb* and *P. H. Dougles* in 1928. This famous statistical production function is known as Cobb-Douglas production function. Originally the function is applied on the empirical study of the American manufacturing industry. Cobb – Douglas production function takes the following mathematical form.

$$Y = (AK^x L^{1-x})$$

Where Y=output

K=Capital

L=Labour

A,  $\infty$ =positive constant

### ***Assumptions:***

It has the following assumptions

1. The function assumes that output is the function of two factors viz. capital and labour.
2. It is a linear homogenous production function of the first degree
3. The function assumes that the logarithm of the total output of the economy is a linear function of the logarithms of the labour force and capital stock.
4. There are constant returns to scale
5. All inputs are homogenous
6. There is perfect competition
7. There is no change in technology

### **ISOQUANTS:**

The term Isoquants is derived from the words 'iso' and 'quant' – 'Iso' means equal and 'quant' implies quantity. Isoquant therefore, means equal quantity. A family of iso-product

curves or isoquants or production difference curves can represent a production function with two variable inputs, which are substitutable for one another within limits.

Isoquants are the curves, which represent the different combinations of inputs producing a particular quantity of output. Any combination on the Isoquant represents the some level of output.

For a given output level firm's production become,

$$Q = f(L, K)$$

Where 'Q', is the units of output is a function of the quantity of two inputs 'L' and 'K'.

Thus an Isoquant shows all possible combinations of two inputs, which are capable of producing equal or a given level of output. Since each combination yields same output, the producer becomes indifferent towards these combinations.

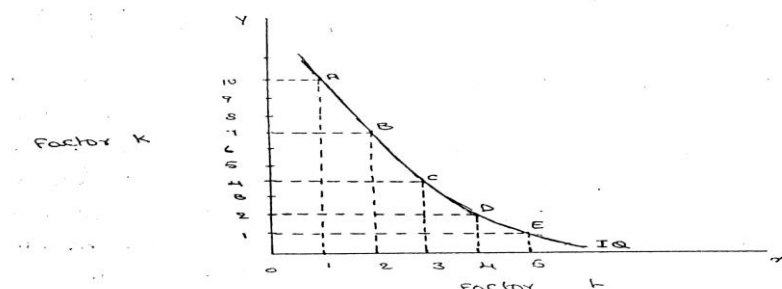
#### **Assumptions:**

1. There are only two factors of production, viz. labour and capital.
2. The two factors can substitute each other up to certain limit
3. The shape of the Isoquant depends upon the extent of substitutability of the two inputs.
4. The technology is given over a period.

An Isoquant may be explained with the help of an arithmetical example.

Combinations	Labour (units)	Capital (Units)	Output (quintals)
A	1	10	50
B	2	7	50
C	3	4	50
D	4	4	50
E	5	1	50

Combination 'A' represent 1 unit of labour and 10 units of capital and produces '50' quintals of a product all other combinations in the table are assumed to yield the same given output of a product say '50' quintals by employing any one of the alternative combinations of the two factors labour and capital. If we plot all these combinations on a paper and join them, we will get continues and smooth curve called Iso-product curve as shown below.



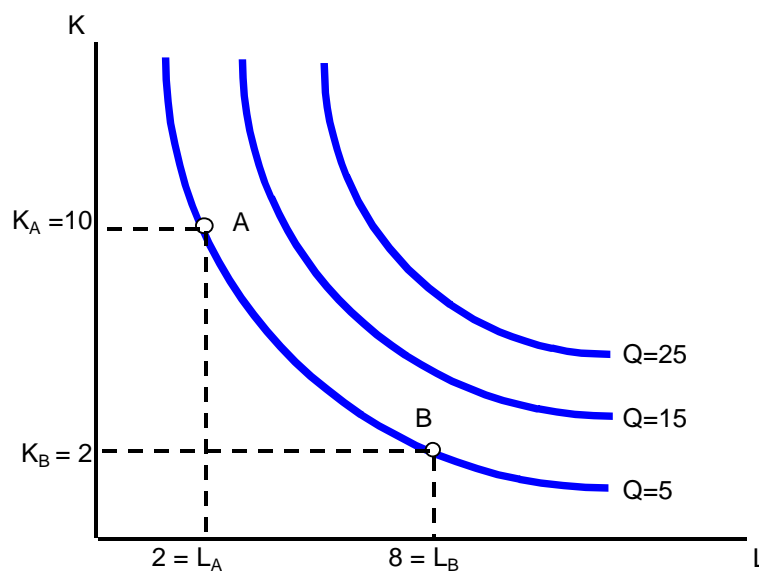


Labour is on the X-axis and capital is on the Y-axis. IQ is the ISO-Product curve which shows all the alternative combinations A, B, C, D, E which can produce 50 quintals of a product.

An isoquant (equal quantity) is a curve that shows the combinations of certain inputs such as Labor (L) and Capital (K) that will produce a certain output Q. Mathematically, the data that an isoquant projects is expressed by the equation

$$f(K,L) = Q$$

This equation basically says that the output that this firm produces is a function of Labor and Capital, where each isoquant represents a fixed output produced with different combinations of inputs. A new isoquant emerges for every level of output (See Figure 9.1). Isoquants have certain properties that resemble that of indifference curves – convex to the



**Figure 9.1-** An Isoquant Map

Each curve shows the rate at which L can be substituted for K, or vice versa, while keeping output constant.

origin, downward sloping, and nonintersecting curves.

### Marginal Rate of technical Substitution

MRTS is defined as the units of one input factor that can be substituted for a single unit of the other input factor.

So MRS of  $x_2$  for one unit of  $x_1$  is = Number of unit of replaced resource ( $x_2$ ) / Number of unit added resource (of  $x_1$ )

Therefore the least cost combination of two inputs can be obtained by equating MRTS with inverse price ratio.

$$x_2 * P_2 = x_1 * P_1$$

The Marginal Rate of Technical Substitution (MRTS) equals the absolute value of the slope. The MRTS tells us how much of one input a firm can sacrifice while still maintaining a certain output level. The MRTS is also equal to the ratio of Marginal Productivity of Labor ( $MP_L$ ): Marginal Productivity of Capital ( $MP_K$ ). The mathematical form of how Labor (L) can be substituted for Capital (K) in production is given by:

$$\text{MRTS (L for K)} = -dK/dL = MP_L/MP_K$$

For Example: When going from point B to A in Figure 9.1, the Slope = (8 units of Capital)/(-6 units of Labor). The MRTS (L for K) =  $-(8/-6) = 4/3$  between points B and A, which means that 4 units of Capital can substitute for 3 units of labor.

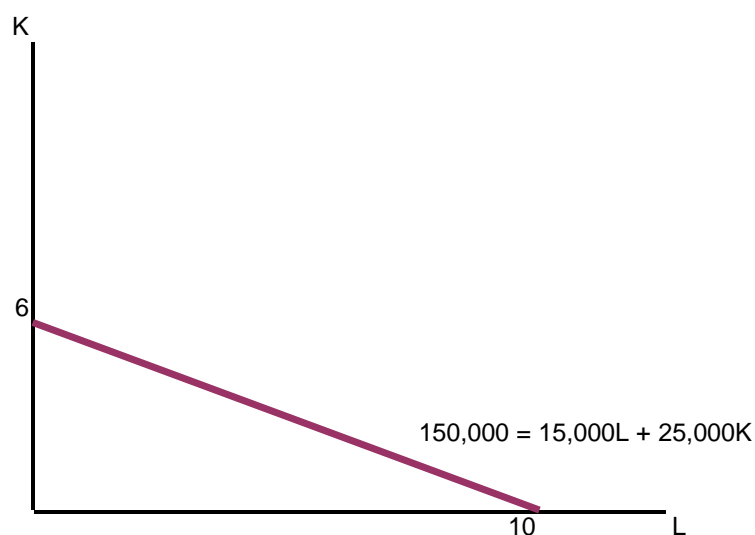
### ISOCOSTS:

An isocost line (equal-cost line) is a Total Cost of production line that recognizes all combinations of two resources that a firm can use, given the Total Cost (TC). Moving up or down the line shows the rate at which one input could be substituted for another in the input market. For the case of Labor and Capital, the total cost of production would take on the form:

$$TC = (WL) + (RK)$$

TC= Total Cost, W= Wage, L= Labor, R= Cost of Capital, K= Capital

Example: A company producing widgets encounters the following costs- cost of capital is \$25000, labor cost is \$15000, and the total cost the firm is willing to pay is \$150,000. Show



**Figure 9.2 :** Isocost Line

The slope of this line is Wage (W)/ Cost of Capital (R)

$$W/R = (-15,000)/(25,000) = -0.6$$

For every one unit of L the firm wants to hire, they must give up 0.6 units of K

the isocost line graphically.

The equation represented by the data is:  $150,000 = (15000)L + (25000)K$

Setting  $L=0$ , we find the y-intercept to be  $K=6$ . Setting  $K=0$ , we find the x-intercept to be 10 (See Figure 9.2)

#### Least Cost Combination of Inputs

A given level of output can be produced using many different combinations of two variable inputs. In choosing between the two resources, the saving in the resource replaced must be greater than the cost of resource added. The principle of least cost combination states that if two input factors are considered for a given output then the least cost combination will have inverse price ratio which is equal to their marginal rate of substitution.

#### Producer's Equilibrium:

The tem producer's equilibrium is the counter part of consumer's equilibrium. Just as the consumer is in equilibrium when he secures maximum satisfaction, in the same manner, the producer is in equilibrium when he secures maximum output, with the least cost combination of factors of production.

The optimum position of the producer can be found with the help of iso-product curve. The Iso-product curve or equal product curve or production indifference curve shows different combinations of two factors of production, which yield the same output. This is illustrated as follows.

Let us suppose. The producer can produces the given output of paddy say 100 quintals by employing any one of the following alternative combinations of the two factors labour and capital computation of least cost combination of two inputs.

L Units	K Units	Q Output	L&LP (3Rs.) Cost of labour	KXKP(4Rs.) cost of capital	Total cost
10	45	100	30	180	210
20	28	100	60	112	172
30	16	100	90	64	154
40	12	100	120	48	168
50	8	100	150	32	182

It is clear from the above that 10 units of 'L' combined with 45 units of 'K' would cost the producer Rs. 20/-. But if 17 units reduce 'K' and 10 units increase 'L', the resulting cost would be Rs. 172/-. Substituting 10 more units of 'L' for 12 units of 'K' further reduces cost pf Rs. 154/-/ However, it will not be profitable to continue this substitution process further at the existing prices since the rate of substitution is diminishing rapidly. In the above table

the least cost combination is 30 units of 'L' used with 16 units of 'K' when the cost would be minimum at Rs. 154/-. So this is the stage "the producer is in equilibrium".

## **LAW OF PRODUCTION:**

Production analysis in economics theory considers two types of input-output relationships.

1. When quantities of certain inputs, are fixed and others are variable and
2. When all inputs are variable.

These two types of relationships have been explained in the form of laws.

- i) Law of variable proportions
- ii) Law of returns to scale

### **I. Law of variable proportions:**

The law of variable proportions which is a new name given to old classical concept of "Law of diminishing returns has played a vital role in the modern economics theory. Assume that a firm's production function consists of fixed quantities of all inputs (land, equipment, etc.) except labour which is a variable input when the firm expands output by employing more and more labour it alters the proportion between fixed and the variable inputs. The law can be stated as follows:

"When total output or production of a commodity is increased by adding units of a variable input while the quantities of other inputs are held constant, the increase in total production becomes after some point, smaller and smaller".

"If equal increments of one input are added, the inputs of other production services being held constant, beyond a certain point the resulting increments of product will decrease i.e. the marginal product will diminish". (G. Stigler)

"As the proportion of one factor in a combination of factors is increased, after a point, first the marginal and then the average product of that factor will diminish". (F. Benham)

The law of variable proportions refers to the behaviour of output as the quantity of one factor is increased keeping the quantity of other factors fixed and further it states that the marginal product and average product will eventually decline. This law states three types of productivity of an input factor – Total, average and marginal physical productivity.

**Assumptions of the Law:** The law is based upon the following assumptions:

- i) The state of technology remains constant. If there is any improvement in technology, the average and marginal output will not decrease but increase.
- ii) Only one factor of input is made variable and other factors are kept constant. This law does not apply to those cases where the factors must be used in rigidly fixed proportions.

iii) All units of the variable factors are homogenous.

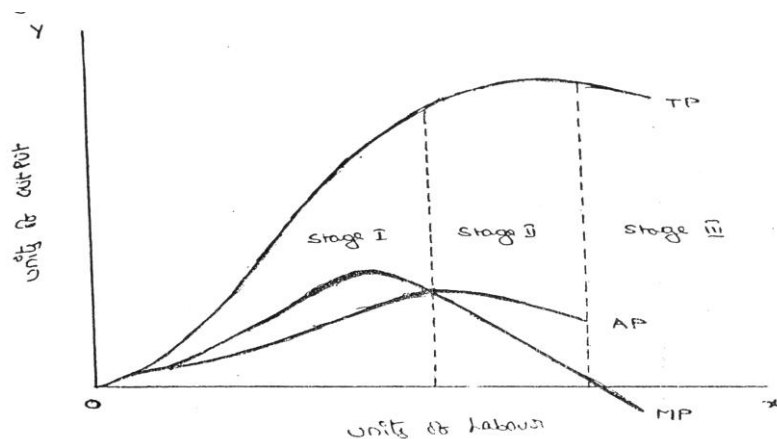
Three stages of law:

The behaviors of the Output when the varying quantity of one factor is combines with a fixed quantity of the other can be divided in to three district stages. The three stages can be better understood by following the table.

Fixed factor	Variable factor (Labour)	Total product	Average Product	Marginal Product	
1	1	100	100	-	Stage I
1	2	220	120	120	
1	3	270	90	50	
1	4	300	75	30	Stage II
1	5	320	64	20	
1	6	330	55	10	
1	7	330	47	0	Stage III
1	8	320	40	-10	

Above table reveals that both average product and marginal product increase in the beginning and then decline of the two marginal products drops of faster than average product. Total product is maximum when the farmer employs 6<sup>th</sup> worker, nothing is produced by the 7<sup>th</sup> worker and its marginal productivity is zero, whereas marginal product of 8<sup>th</sup> worker is '-10', by just creating credits 8<sup>th</sup> worker not only fails to make a positive contribution but leads to a fall in the total output.

Production function with one variable input and the remaining fixed inputs is illustrated as below



From the above graph the law of variable proportions operates in three stages. In the first stage, total product increases at an increasing rate. The marginal product in this stage increases at an increasing rate resulting in a greater increase in total product. The average product also increases. This stage continues up to the point where average product is equal to marginal product. The law of increasing returns is in operation at this stage. The law of diminishing returns starts operating from the second stage onwards. At the second stage total product increases only at a diminishing rate. The average product also declines. The second stage comes to an end where total product becomes maximum and marginal product becomes zero. The marginal product becomes negative in the third stage. So the total product also declines. The average product continues to decline.

We can sum up the above relationship thus when 'A.P.' is rising, "M. P." rises more than "A. P."; When 'A. P.' is maximum and constant, 'M. P.' becomes equal to 'A. P.' when 'A. P.' starts falling, 'M. P.' falls faster than 'A. P.' Thus, the total product, marginal product and average product pass through three phases, viz., increasing diminishing and negative returns stage. The law of variable proportion is nothing but the combination of the law of increasing and diminishing returns.

## **II. Law of Returns of Scale:**

The law of returns to scale explains the behavior of the total output in response to change in the scale of the firm, i.e., in response to a simultaneous change in the scale of the firm, i.e., in response to a simultaneous and proportional increase in all the inputs. More precisely, the Law of returns to scale explains how a simultaneous and proportionate increase in all the inputs affects the total output at its various levels.

The concept of variable proportions is a short-run phenomenon as in these period fixed factors can not be changed and all factors cannot be changed. On the other hand in the long-term all factors can be changed as made variable. When we study the changes in output when all factors or inputs are changed, we study returns to scale. An increase in the scale means that all inputs or factors are increased in the same proportion. In variable proportions, the cooperating factors may be increased or decreased and one faster (Ex. Land in agriculture (or) machinery in industry) remains constant so that the changes in proportion among the factors result in certain changes in output. In returns to scale all the necessary factors or production are increased or decreased to the same extent so that whatever the scale of production, the proportion among the factors remains the same.

When a firm expands, its scale increases all its inputs proportionally, then technically there are three possibilities. (i) The total output may increase proportionately (ii) The total output may increase more than proportionately and (iii) The total output may increase less than proportionately. If increase in the total output is proportional to the increase in input, it means constant returns to scale. If increase in the output is greater than the proportional increase in the inputs, it means increasing return to scale. If increase in the output is less than proportional increase in the inputs, it means diminishing returns to scale.

Let us now explain the laws of returns to scale with the help of isoquants for a two-input and single output production system.

## **ECONOMIES OF SCALE**

Production may be carried on a small scale or on a large scale by a firm. When a firm expands its size of production by increasing all the factors, it secures certain advantages known as economies of production. Marshall has classified these economies of large-scale production into internal economies and external economies.

Internal economies are those, which are opened to a single factory or a single firm independently of the action of other firms. They result from an increase in the scale of output of a firm and cannot be achieved unless output increases. Hence internal economies depend solely upon the size of the firm and are different for different firms.

External economies are those benefits, which are shared in by a number of firms or industries when the scale of production in an industry or groups of industries increases. Hence external economies benefit all firms within the industry as the size of the industry expands.

### **Causes of internal economies:**

Internal economies are generally caused by two factors

1. Indivisibilities
2. Specialization.

#### **1. Indivisibilities:**

Many fixed factors of production are indivisible in the sense that they must be used in a fixed minimum size. For instance, if a worker works half the time, he may be paid half the salary. But he cannot be chopped into half and asked to produce half the current output. Thus as output increases the indivisible factors which were being used below capacity can be utilized to their full capacity thereby reducing costs. Such indivisibilities arise in the case of labour, machines, marketing, finance and research.

#### **2. Specialization:**

Division of labour, which leads to specialization, is another cause of internal economies. Specialization refers to the limitation of activities within a particular field of production. Specialization may be in labour, capital, machinery and place. For example, the production process may be split into four departments relation to manufacturing, assembling, packing and marketing under the charge of separate managers who may work under the overall charge of the general manager and coordinate the activities of the four departments. Thus specialization will lead to greater productive efficiency and to reduction in costs.

### **INTERNAL ECONOMIES:**

Internal economies may be of the following types.

### ***A). Technical Economies.***

Technical economies arise to a firm from the use of better machines and superior techniques of production. As a result, production increases and per unit cost of production falls. A large firm, which employs costly and superior plant and equipment, enjoys a technical superiority over a small firm. Another technical economy lies in the mechanical advantage of using large machines. The cost of operating large machines is less than that of operating small machine. More over a larger firm is able to reduce its per unit cost of production by linking the various processes of production. Technical economies may also be associated when the large firm is able to utilize all its waste materials for the development of by-products industry. Scope for specialization is also available in a large firm. This increases the productive capacity of the firm and reduces the unit cost of production.

### ***B). Managerial Economies:***

These economies arise due to better and more elaborate management, which only the large size firms can afford. There may be a separate head for manufacturing, assembling, packing, marketing, general administration etc. Each department is under the charge of an expert. Hence the appointment of experts, division of administration into several departments, functional specialization and scientific co-ordination of various works make the management of the firm most efficient.

### ***C). Marketing Economies:***

The large firm reaps marketing or commercial economies in buying its requirements and in selling its final products. The large firm generally has a separate marketing department. It can buy and sell on behalf of the firm, when the market trends are more favorable. In the matter of buying they could enjoy advantages like preferential treatment, transport concessions, cheap credit, prompt delivery and fine relation with dealers. Similarly it sells its products more effectively for a higher margin of profit.

### ***D). Financial Economies:***

The large firm is able to secure the necessary finances either for block capital purposes or for working capital needs more easily and cheaply. It can borrow from the public, banks and other financial institutions at relatively cheaper rates. It is in this way that a large firm reaps financial economies.

### ***E). Risk bearing Economies:***

The large firm produces many commodities and serves wider areas. It is, therefore, able to absorb any shock for its existence. For example, during business depression, the prices fall for every firm. There is also a possibility for market fluctuations in a particular product of the firm. Under such circumstances the risk-bearing economies or survival economies help the bigger firm to survive business crisis.



### ***F). Economies of Research:***

A large firm possesses larger resources and can establish its own research laboratory and employ trained research workers. The firm may even invent new production techniques for increasing its output and reducing cost.

### ***G). Economies of welfare:***

A large firm can provide better working conditions in-and out-side the factory. Facilities like subsidized canteens, crèches for the infants, recreation room, cheap houses, educational and medical facilities tend to increase the productive efficiency of the workers, which helps in raising production and reducing costs.

### ***EXTERNAL ECONOMIES:***

Business firm enjoys a number of external economies, which are discussed below:

#### ***A). Economies of Concentration:***

When an industry is concentrated in a particular area, all the member firms reap some common economies like skilled labour, improved means of transport and communications, banking and financial services, supply of power and benefits from subsidiaries. All these facilities tend to lower the unit cost of production of all the firms in the industry.

#### ***B). Economies of Information***

The industry can set up an information centre which may publish a journal and pass on information regarding the availability of raw materials, modern machines, export potentialities and provide other information needed by the firms. It will benefit all firms and reduction in their costs.

#### ***C). Economies of Welfare:***

An industry is in a better position to provide welfare facilities to the workers. It may get land at concessional rates and procure special facilities from the local bodies for setting up housing colonies for the workers. It may also establish public health care units, educational institutions both general and technical so that a continuous supply of skilled labour is available to the industry. This will help the efficiency of the workers.

#### ***D). Economies of Disintegration:***

The firms in an industry may also reap the economies of specialization. When an industry expands, it becomes possible to split up some of the processes which are taken over by specialist firms. For example, in the cotton textile industry, some firms may specialize in manufacturing thread, others in printing, still others in dyeing, some in long cloth, some in

dhotis, some in shirting etc. As a result the efficiency of the firms specializing in different fields increases and the unit cost of production falls.

Thus internal economies depend upon the size of the firm and external economies depend upon the size of the industry.

## **DISECONOMIES OF LARGE SCALE PRODUCTION**

Internal and external diseconomies are the limits to large-scale production. It is possible that expansion of a firm's output may lead to rise in costs and thus result diseconomies instead of economies. When a firm expands beyond proper limits, it is beyond the capacity of the manager to manage it efficiently. This is an example of an internal diseconomy. In the same manner, the expansion of an industry may result in diseconomies, which may be called external diseconomies. Employment of additional factors of production becomes less efficient and they are obtained at a higher cost. It is in this way that external diseconomies result as an industry expands.

The major diseconomies of large-scale production are discussed below:

### **Internal Diseconomies:**

#### ***A). Financial Diseconomies:***

For expanding business, the entrepreneur needs finance. But finance may not be easily available in the required amount at the appropriate time. Lack of finance retards the production plans thereby increasing costs of the firm.

#### ***B). Managerial diseconomies:***

There are difficulties of large-scale management. Supervision becomes a difficult job. Workers do not work efficiently, wastages arise, decision-making becomes difficult, coordination between workers and management disappears and production costs increase.

#### ***C). Marketing Diseconomies:***

As business is expanded, prices of the factors of production will rise. The cost will therefore rise. Raw materials may not be available in sufficient quantities due to their scarcities. Additional output may depress the price in the market. The demand for the products may fall as a result of changes in tastes and preferences of the people. Hence cost will exceed the revenue.

#### ***D). Technical Diseconomies:***

There is a limit to the division of labour and splitting down of production processes. The firm may fail to operate its plant to its maximum capacity. As a result cost per unit increases. Internal diseconomies follow.

### ***E). Diseconomies of Risk-taking:***

As the scale of production of a firm expands risks also increase with it. Wrong decision by the management may adversely affect production. In large firms are affected by any disaster, natural or human, the economy will be put to strains.

### **EXTERNAL DISECONOMIES:**

When many firm get located at a particular place, the costs of transportation increases due to congestion. The firms have to face considerable delays in getting raw materials and sending finished products to the marketing centers. The localization of industries may lead to scarcity of raw material, shortage of various factors of production like labour and capital, shortage of power, finance and equipments. All such external diseconomies tend to raise cost per unit.

## **COST ANALYSIS**

Profit is the ultimate aim of any business and the long-run prosperity of a firm depends upon its ability to earn sustained profits. Profits are the difference between selling price and cost of production. In general the selling price is not within the control of a firm but many costs are under its control. The firm should therefore aim at controlling and minimizing cost. Since every business decision involves cost consideration, it is necessary to understand the meaning of various concepts for clear business thinking and application of right kind of costs.

### **COST CONCEPTS:**

A managerial economist must have a clear understanding of the different cost concepts for clear business thinking and proper application. The several alternative bases of classifying cost and the relevance of each for different kinds of problems are to be studied. The various relevant concepts of cost are:

#### ***1. Opportunity costs and outlay costs:***

Out lay cost also known as actual costs obsolete costs are those expends which are actually incurred by the firm these are the payments made for labour, material, plant, building, machinery traveling, transporting etc., These are all those expense item appearing in the books of account, hence based on accounting cost concept.

On the other hand opportunity cost implies the earnings foregone on the next best alternative, has the present option is undertaken. This cost is often measured by assessing the alternative, which has to be scarified if the particular line is followed.

The opportunity cost concept is made use for long-run decisions. This concept is very important in capital expenditure budgeting. This concept is very important in capital

expenditure budgeting. The concept is also useful for taking short-run decisions opportunity cost is the cost concept to use when the supply of inputs is strictly limited and when there is an alternative. If there is no alternative, Opportunity cost is zero. The opportunity cost of any action is therefore measured by the value of the most favorable alternative course, which had to be foregoing if that action is taken.

## ***2. Explicit and implicit costs:***

Explicit costs are those expenses that involve cash payments. These are the actual or business costs that appear in the books of accounts. These costs include payment of wages and salaries, payment for raw-materials, interest on borrowed capital funds, rent on hired land, Taxes paid etc.

Implicit costs are the costs of the factor units that are owned by the employer himself. These costs are not actually incurred but would have been incurred in the absence of employment of self – owned factors. The two normal implicit costs are depreciation, interest on capital etc. A decision maker must consider implicit costs too to find out appropriate profitability of alternatives.

## ***3. Historical and Replacement costs:***

Historical cost is the original cost of an asset. Historical cost valuation shows the cost of an asset as the original price paid for the asset acquired in the past. Historical valuation is the basis for financial accounts.

A replacement cost is the price that would have to be paid currently to replace the same asset. During periods of substantial change in the price level, historical valuation gives a poor projection of the future cost intended for managerial decision. A replacement cost is a relevant cost concept when financial statements have to be adjusted for inflation.

## ***4. Short – run and long – run costs:***

Short-run is a period during which the physical capacity of the firm remains fixed. Any increase in output during this period is possible only by using the existing physical capacity more extensively. So short run cost is that which varies with output when the plant and capital equipment in constant.

Long run costs are those, which vary with output when all inputs are variable including plant and capital equipment. Long-run cost analysis helps to take investment decisions.

## ***5. Out-of pocket and books costs:***

Out-of pocket costs also known as explicit costs are those costs that involve current cash payment. Book costs also called implicit costs do not require current cash payments. Depreciation, unpaid interest, salary of the owner is examples of back costs.

But the book costs are taken into account in determining the level dividend payable during a period. Both book costs and out-of-pocket costs are considered for all decisions. Book cost is the cost of self-owned factors of production.

#### ***6. Fixed and variable costs:***

Fixed cost is that cost which remains constant for a certain level to output. It is not affected by the changes in the volume of production. But fixed cost per unit decrease, when the production is increased. Fixed cost includes salaries, Rent, Administrative expenses depreciations etc.

Variable is that which varies directly with the variation is output. An increase in total output results in an increase in total variable costs and decrease in total output results in a proportionate decline in the total variables costs. The variable cost per unit will be constant. Ex: Raw materials, labour, direct expenses, etc.

#### ***7. Past and Future costs:***

Past costs also called historical costs are the actual cost incurred and recorded in the book of account these costs are useful only for valuation and not for decision making.

Future costs are costs that are expected to be incurred in the futures. They are not actual costs. They are the costs forecasted or estimated with rational methods. Future cost estimate is useful for decision making because decision are meant for future.

#### ***8. Traceable and common costs:***

Traceable costs otherwise called direct cost, is one, which can be identified with a products process or product. Raw material, labour involved in production is examples of traceable cost.

Common costs are the ones that common are attributed to a particular process or product. They are incurred collectively for different processes or different types of products. It cannot be directly identified with any particular process or type of product.

#### ***9. Avoidable and unavoidable costs:***

Avoidable costs are the costs, which can be reduced if the business activities of a concern are curtailed. For example, if some workers can be retrenched with a drop in a product – line, or volume or production the wages of the retrenched workers are escapable costs.

The unavoidable costs are otherwise called sunk costs. There will not be any reduction in this cost even if reduction in business activity is made. For example cost of the ideal machine capacity is unavoidable cost.

### ***10. Controllable and uncontrollable costs:***

Controllable costs are ones, which can be regulated by the executive who is in charge of it. The concept of controllability of cost varies with levels of management. Direct expenses like material, labour etc. are controllable costs.

Some costs are not directly identifiable with a process of product. They are appointed to various processes or products in some proportion. This cost varies with the variation in the basis of allocation and is independent of the actions of the executive of that department. These apportioned costs are called uncontrollable costs.

### ***11. Incremental and sunk costs:***

Incremental cost also known as different cost is the additional cost due to a change in the level or nature of business activity. The change may be caused by adding a new product, adding new machinery, replacing a machine by a better one etc.

Sunk costs are those which are not altered by any change – They are the costs incurred in the past. This cost is the result of past decision, and cannot be changed by future decisions. Investments in fixed assets are examples of sunk costs.

### ***12. Total, average and marginal costs:***

Total cost is the total cash payment made for the input needed for production. It may be explicit or implicit. It is the sum total of the fixed and variable costs. Average cost is the cost per unit of output. It is obtained by dividing the total cost (TC) by the total quantity produced (Q)

$$\text{Average cost} = \frac{\text{TC}}{\text{Q}}$$

Marginal cost is the additional cost incurred to produce an additional unit of output or it is the cost of the marginal unit produced.

### ***13. Accounting and Economics costs:***

Accounting costs are the costs recorded for the purpose of preparing the balance sheet and profit and loss statements to meet the legal, financial and tax purpose of the company. The accounting concept is a historical concept and records what has happened in the past.

Economics concept considers future costs and future revenues, which help future planning, and choice, while the accountant describes what has happened, the economics aims at projecting what will happen.

## **BREAKEVEN ANALYSIS**

The study of cost-volume-profit relationship is often referred as BEA. The term BEA is interpreted in two senses. In its narrow sense, it is concerned with finding out BEP; BEP is the point at which total revenue is equal to total cost. It is the point of no profit, no loss. In its broad determine the probable profit at any level of production.

### **Assumptions:**

1. All costs are classified into two – fixed and variable.
2. Fixed costs remain constant at all levels of output.
3. Variable costs vary proportionally with the volume of output.
4. Selling price per unit remains constant in spite of competition or change in the volume of production.
5. There will be no change in operating efficiency.
6. There will be no change in the general price level.
7. Volume of production is the only factor affecting the cost.
8. Volume of sales and volume of production are equal. Hence there is no unsold stock.
9. There is only one product or in the case of multiple products. Sales mix remains constant.

### **Merits:**

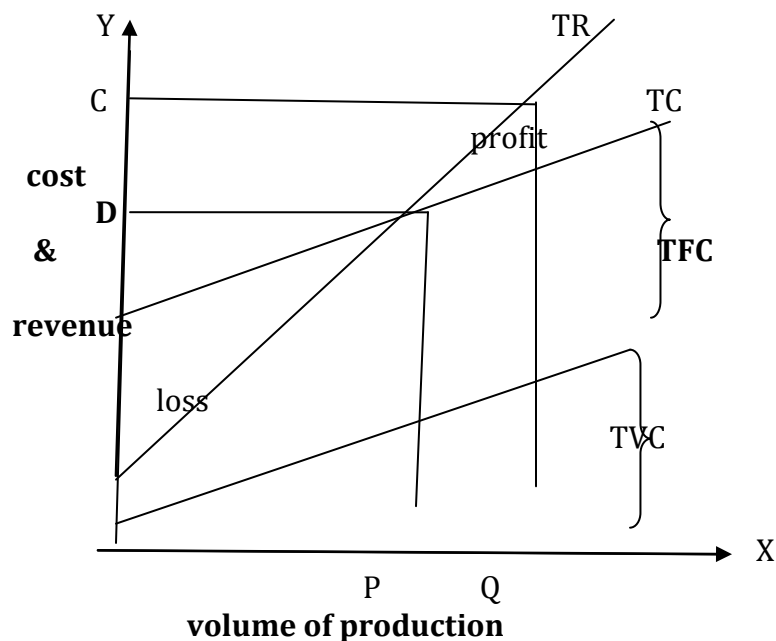
1. Information provided by the Break Even Chart can be understood more easily than those contained in the profit and Loss Account and the cost statement.
2. Break Even Chart discloses the relationship between cost, volume and profit. It reveals how changes in profit. So, it helps management in decision-making.
3. It is very useful for forecasting costs and profits long term planning and growth
4. The chart discloses profits at various levels of production.
5. It serves as a useful tool for cost control.
6. It can also be used to study the comparative plant efficiencies of the industry.
7. Analytical Break-even chart present the different elements, in the costs – direct material, direct labour, fixed and variable overheads.

### **Demerits:**

1. Break-even chart presents only cost volume profits. It ignores other considerations such as capital amount, marketing aspects and effect of government policy etc., which are necessary in decision making.
2. It is assumed that sales, total cost and fixed cost can be represented as straight lines. In actual practice, this may not be so.
3. It assumes that profit is a function of output. This is not always true. The firm may increase the profit without increasing its output.
4. A major drawback of BEC is its inability to handle production and sale of multiple products.
5. It is difficult to handle selling costs such as advertisement and sale promotion in BEC.
6. It ignores economics of scale in production.
7. Fixed costs do not remain constant in the long run.
8. Semi-variable costs are completely ignored.

9. It assumes production is equal to sale. It is not always true because generally there may be opening stock.
10. When production increases variable cost per unit may not remain constant but may reduce on account of bulk buying etc.
11. The assumption of static nature of business and economic activities is a well-known defect of BEC.

### Graphical Representation of BEP:



Some important terms used in Break-Even-Analysis:

1. Fixed cost
  2. Variable cost
  3. Contribution
  4. Margin of safety
  5. Angle of incidence
  6. Profit volume ratio
  7. Break-Even-Point
1. **Fixed cost:** Expenses that do not vary with the volume of production are known as fixed expenses. Eg. Manager's salary, rent and taxes, insurance etc. It should be noted that



fixed changes are fixed only within a certain range of plant capacity. The concept of fixed overhead is most useful in formulating a price fixing policy. Fixed cost per unit is not fixed.

2. **Variable Cost:** Expenses that vary almost in direct proportion to the volume of production of sales are called variable expenses. E.g. Electric power and fuel, packing materials consumable stores. It should be noted that variable cost per unit is fixed.
3. **Contribution:** Contribution is the difference between sales and variable costs and it contributed towards fixed costs and profit. It helps in sales and pricing policies and measuring the profitability of different proposals. Contribution is a sure test to decide whether a product is worthwhile to be continued among different products.

$$\text{Contribution} = \text{Sales} - \text{Variable cost}$$

$$\text{Contribution} = \text{Fixed Cost} + \text{Profit.}$$

4. **Margin of safety:** Margin of safety is the excess of sales over the break even sales. It can be expressed in absolute sales amount or in percentage. It indicates the extent to which the sales can be reduced without resulting in loss. A large margin of safety indicates the soundness of the business. The formula for the margin of safety is:

$$\text{Present sales} - \text{Break even sales} \quad \text{or} \quad \frac{\text{Profit}}{\text{P. V. ratio}}$$

Margin of safety can be improved by taking the following steps.

1. Increasing production
  2. Increasing selling price
  3. Reducing the fixed or the variable costs or both
  4. Substituting unprofitable product with profitable one.
5. **Angle of incidence:** This is the angle between sales line and total cost line at the Break-even point. It indicates the profit earning capacity of the concern. Large angle of incidence indicates a high rate of profit; a small angle indicates a low rate of earnings. To improve this angle, contribution should be increased either by raising the selling price and/or by reducing variable cost. It also indicates as to what extent the output and sales price can be changed to attain a desired amount of profit.
  6. **Profit Volume Ratio** is usually called P. V. ratio. It is one of the most useful ratios for studying the profitability of business. The ratio of contribution to sales is the P/V ratio. It may be expressed in percentage. Therefore, every organization tries to improve the P. V. ratio of each product by reducing the variable cost per unit or by increasing the selling price per unit. The concept of P. V. ratio helps in determining break even-point, a desired amount of profit etc.

$$\text{The formula is,} \quad \frac{\text{Contribution}}{\text{Sales}} \times 100$$

7. **Break – Even- Point:** If we divide the term into three words, then it does not require further explanation.  
Break-divide

Even-equal

Point-place or position

Break Even Point refers to the point where total cost is equal to total revenue. It is a point of no profit, no loss. This is also a minimum point of no profit, no loss. This is also a minimum point of production where total costs are recovered. If sales go up beyond the Break Even Point, organization makes a profit. If they come down, a loss is incurred.

$$1. \text{ Break Even point (Units)} = \frac{\text{Fixed Expenses}}{\text{Contribution per unit}}$$

$$2. \text{ Break Even point (In Rupees)} = \frac{\text{Fixed expenses}}{\text{Contribution}} \times \text{sales}$$

### **MANAGERIAL SIGNIFICANCE OF BREAK EVEN ANALYSIS:**

The significance of break-even point and Break-even analysis can be understood from the following points –

(i) By finding out the break-even point, the Break-even analysis helps in establishing the point where from the firm can start payment of dividend to its share-holders.

(ii) It evaluates the percentage financial yield from a project, and thereby helps in choice between various alternative projects.

(iii) It helps in determining the optimum level of output, below which it would not be profitable for a firm to produce.

(iv) By using break-even analysis, the firm can determine minimum cost for a given-level of output.

(v) The break-even analysis can be used in finding the selling price which would prove most profitable for the firm.

(vi) It helps in determining the target capacity for a firm to get the advantage of minimum unit cost of production.

(vii) Impact of changes in prices and costs on profits of the firm can also be analysed with the help of break-even techniques.

## UNIT – III

### MARKETS AND ECONOMIC ENVIRONMENT

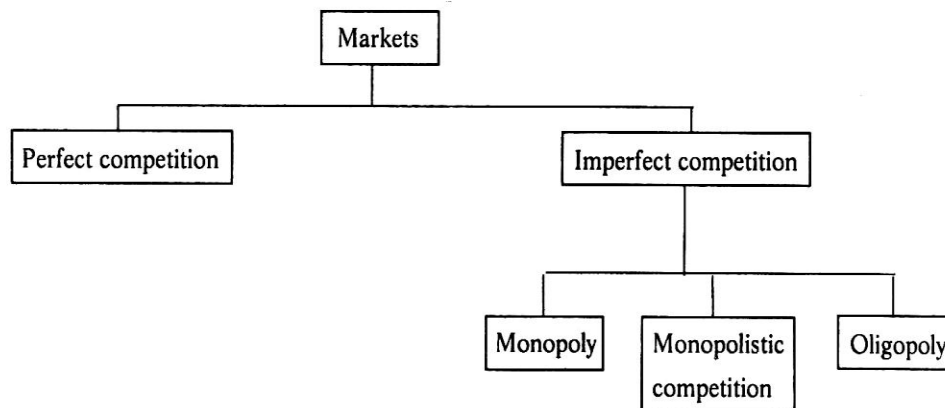
#### MARKET:

Market is a place where buyer and seller meet, goods and services are offered for the sale and transfer of ownership occurs. A market may be also defined as the demand made by a certain group of potential buyers for a good or service. The former one is a narrow concept and later one, a broader concept. Economists describe a market as a collection of buyers and sellers who transact over a particular product or product class (the housing market, the clothing market, the grain market etc.). For business purpose we define a market as people or organizations with wants (needs) to satisfy, money to spend, and the willingness to spend it. Broadly, market represents the structure and nature of buyers and sellers for a commodity/service and the process by which the price of the commodity or service is established. In this sense, we are referring to the structure of competition and the process of price determination for a commodity or service. The determination of price for a commodity or service depends upon the structure of the market for that commodity or service (i.e., competitive structure of the market). Hence the understanding on the market structure and the nature of competition are a pre-requisite in price determination.

#### Different Market Structures

Market structure describes the competitive environment in the market for any good or service. A market consists of all firms and individuals who are willing and able to buy or sell a particular product. This includes firms and individuals currently engaged in buying and selling a particular product, as well as potential entrants.

The determination of price is affected by the competitive structure of the market. This is because the firm operates in a market and not in isolation. In making decisions concerning economic variables it is affected, as are all institutions in society by its environment.



## Perfect Competition

Perfect competition refers to a market structure where competition among the sellers and buyers prevails in its most perfect form. In a perfectly competitive market, a single market price prevails for the commodity, which is determined by the forces of total demand and total supply in the market.

### Characteristics of Perfect Competition

The following features characterize a perfectly competitive market:

1. **A large number of buyers and sellers:** The number of buyers and sellers is large and the share of each one of them in the market is so small that none has any influence on the market price.
2. **Homogeneous product:** The product of each seller is totally undifferentiated from those of the others.
3. **Free entry and exit:** Any buyer and seller is free to enter or leave the market of the commodity.
4. **Perfect knowledge:** All buyers and sellers have perfect knowledge about the market for the commodity.
5. **Indifference:** No buyer has a preference to buy from a particular seller and no seller to sell to a particular buyer.
6. **Non-existence of transport costs:** Perfectly competitive market also assumes the non-existence of transport costs.
7. **Perfect mobility of factors of production:** Factors of production must be in a position to move freely into or out of industry and from one firm to the other.

Under such a market no single buyer or seller plays a significant role in price determination. On the other hand all of them jointly determine the price. The price is determined in the industry, which is composed of all the buyers and seller for the commodity. The demand curve facing the industry is the sum of all consumers' demands at various prices. The industry supply curve is the sum of all sellers' supplies at various prices.

## MONOPOLY

The word monopoly is made up of two syllables, Mono and poly. Mono means single while poly implies selling. Thus monopoly is a form of market organization in which there is only one seller of the commodity. There are no close substitutes for the commodity sold by the seller. Pure monopoly is a market situation in which a single firm sells a product for which there is no good substitute.

### Features of monopoly

The following are the features of monopoly.

1. **Single person or a firm:** A single person or a firm controls the total supply of the commodity. There will be no competition for monopoly firm. The monopolist firm is the only firm in the whole industry.
2. **No close substitute:** The goods sold by the monopolist shall not have closely competition substitutes. Even if price of monopoly product increase people will not go in far substitute. For example: If the price of electric bulb increase slightly, consumer will not go in for kerosene lamp.
3. **Large number of Buyers:** Under monopoly, there may be a large number of buyers in the market who compete among themselves.
4. **Price Maker:** Since the monopolist controls the whole supply of a commodity, he is a price-maker, and then he can alter the price.
5. **Supply and Price:** The monopolist can fix either the supply or the price. He cannot fix both. If he charges a very high price, he can sell a small amount. If he wants to sell more, he has to charge a low price. He cannot sell as much as he wishes for any price he pleases.
6. **Downward Sloping Demand Curve:** The demand curve (average revenue curve) of monopolist slopes downward from left to right. It means that he can sell more only by lowering price.

### Types of Monopoly

Monopoly may be classified into various types. The different types of monopolies are explained below:

1. **Legal Monopoly:** If monopoly arises on account of legal support or as a matter of legal privilege, it is called Legal Monopoly. Ex. Patent rights, special brands, trade means, copyright etc.
2. **Voluntary Monopoly:** To get the advantages of monopoly some private firms come together voluntarily to control the supply of a commodity. These are called voluntary monopolies. Generally, these monopolies arise with industrial combinations. These voluntary monopolies are of three kinds (a) cartel (b) trust (c) holding company. It may be called artificial monopoly.
3. **Government Monopoly:** Sometimes the government will take the responsibility of supplying a commodity and avoid private interference. Ex. Water, electricity. These monopolies, created to satisfy social wants, are formed on social considerations. These are also called Social Monopolies.
4. **Private Monopoly:** If the total supply of a good is produced by a single private person or firm, it is called private monopoly. Hindustan Lever Ltd. Is having the monopoly power to produce Lux Soap.
5. **Limited Monopoly:** if the monopolist is having limited power in fixing the price of his product, it is called as 'Limited Monopoly'. It may be due to the fear of distant substitutes or government intervention or the entry of rivals firms.
6. **Unlimited Monopoly:** If the monopolist is having unlimited power in fixing the price of his good or service, it is called unlimited monopoly. Ex. A doctor in a village.
7. **Single Price Monopoly:** When the monopolist charges same price for all units of his product, it is called single price monopoly. Ex. Tata Company charges the same price to all the Tata Indica Cars of the same model.

8. **Discriminating Monopoly:** When a Monopolist charges different prices to different consumers for the same product, it is called discriminating monopoly. A doctor may take Rs.20 from a rich man and only Rs.2 from a poor man for the same treatment.
9. **Natural Monopoly:** Sometimes monopoly may arise due to scarcity of natural resources. Nature provides raw materials only in some places. The owner of the place will become monopolist. For Ex. Diamond mine in South Africa.

## **MONOPOLISTIC COMPETITION**

Perfect competition and pure monopoly are rare phenomena in the real world. Instead, almost every market seems to exhibit characteristics of both perfect competition and monopoly. Hence in the real world it is the state of imperfect competition lying between these two extreme limits that work. Edward. H. Chamberlain developed the theory of monopolistic competition, which presents a more realistic picture of the actual market structure and the nature of competition.

### **Characteristics of Monopolistic Competition**

The important characteristics of monopolistic competition are:

**1.Existence of Many firms:** Industry consists of a large number of sellers, each one of whom does not feel dependent upon others. Every firm acts independently without bothering about the reactions of its rivals. The size is so large that an individual firm has only a relatively small part in the total market, so that each firm has very limited control over the price of the product. As the number is relatively large it is difficult for these firms to determine its price- output policies without considering the possible reactions of the rival firms. A monopolistically competitive firm follows an independent price policy.

**2. Product Differentiation:** Product differentiation means that products are different in some ways, but not altogether so. The products are not identical but the same time they will not be entirely different from each other. IT really means that there are various monopolist firms competing with each other. An example of monopolistic competition and product differentiation is the toothpaste produced by various firms. The product of each firm is different from that of its rivals in one or more respects. Different toothpastes like Colgate, Close-up, Forehans, Cibaca, etc., provide an example of monopolistic competition. These products are relatively close substitute for each other but not perfect substitutes. Consumers have definite preferences for the particular varieties or brands of products offered for sale by various sellers. Advertisement, packing, trademarks, brand names etc. help differentiation of products even if they are physically identical.

**3. Large Number of Buyers:** There are large number buyers in the market. But the buyers have their own brand preferences. So the sellers are able to exercise a certain degree of monopoly over them. Each seller has to plan various incentive schemes to retain the customers who patronize his products.

**4. Free Entry and Exist of Firms:** As in the perfect competition, in the monopolistic competition too, there is freedom of entry and exit. That is, there is no barrier as found under monopoly.

**5. Selling costs:** Since the products are close substitute much effort is needed to retain the existing consumers and to create new demand. So each firm has to spend a lot on selling cost, which includes cost on advertising and other sale promotion activities.

**6. Imperfect Knowledge:** Imperfect knowledge about the product leads to monopolistic competition. If the buyers are fully aware of the quality of the product they cannot be influenced much by advertisement or other sales promotion techniques. But in the business world we can see that though the quality of certain products is the same, effective advertisement and sales promotion techniques make certain brands monopolistic. For examples, effective dealer service backed by advertisement-helped popularization of some brands through the quality of almost all the cement available in the market remains the same.

**7. The Group:** Under perfect competition the term industry refers to all collection of firms producing a homogenous product. But under monopolistic competition the products of various firms are not identical though they are close substitutes. Prof. Chamberlin called the collection of firms producing close substitute products as a group.

## OLIGOPOLY

The term oligopoly is derived from two Greek words, oligos meaning a few, and pollen meaning to sell. Oligopoly is the form of imperfect competition where there are a few firms in the market, producing either a homogeneous product or producing products, which are close but not perfect substitute of each other.

### Characteristics of Oligopoly

The main features of oligopoly are:

- 1. Few Firms:** There are only a few firms in the industry. Each firm contributes a sizeable share of the total market. Any decision taken by one firm influence the actions of other firms in the industry. The various firms in the industry compete with each other.
- 2. Interdependence:** As there are only very few firms, any steps taken by one firm to increase sales, by reducing price or by changing product design or by increasing advertisement expenditure will naturally affect the sales of other firms in the industry. An immediate retaliatory action can be anticipated from the other firms in the industry every time when one firm takes such a decision. He has to take this into account when he takes decisions. So the decisions of all the firms in the industry are interdependent.
- 3. Indeterminate Demand Curve:** The interdependence of the firms makes their demand curve indeterminate. When one firm reduces price other firms also will make a cut in their prices. So he firm cannot be certain about the demand for its product. Thus the demand curve facing an oligopolistic firm loses its definiteness and thus is indeterminate as it constantly changes due to the reactions of the rival firms.
- 4. Advertising and selling costs:** Advertising plays a greater role in the oligopoly market when compared to other market systems. According to Prof. William J. Banumol "it is only oligopoly that advertising comes fully into its own". A huge

expenditure on advertising and sales promotion techniques is needed both to retain the present market share and to increase it. So Banumol concludes “under oligopoly, advertising can become a life-and-death matter where a firm which fails to keep up with the advertising budget of its competitors may find its customers drifting off to rival products.”

5. **Price Rigidity:** In the oligopoly market price remain rigid. If one firm reduced price it is with the intention of attracting the customers of other firms in the industry. In order to retain their consumers they will also reduce price. Thus the pricing decision of one firm results in a loss to all the firms in the industry. If one firm increases price. Other firms will remain silent there by allowing that firm to lost its customers. Hence, no firm will be ready to change the prevailing price. It causes price rigidity in the oligopoly market.

## **OTHER MARKET STRUCTURES**

### **Duopoly**

Duopoly refers to a market situation in which there are only two sellers. As there are only two sellers any decision taken by one seller will have reaction from the other E.g. Coca-Cola and Pepsi. Usually these two sellers may agree to co-operate each other and share the market equally between them, So that they can avoid harmful competition.

The duopoly price, in the long run, may be a monopoly price or competitive price, or it may settle at any level between the monopoly price and competitive price. In the short period, duopoly price may even fall below the level competitive price with the both the firms earning less than even the normal price.

### **Monopsony**

Mrs. Joan Robinson was the first writer to use the term Monopsony to refer to market, which there is a single buyer. Monopsony is a single buyer or a purchasing agency, which buys the show, or nearly whole of a commodity or service produced. It may be created when all consumers of a commodity are organized together and/or when only one consumer requires that commodity which no one else requires.

### **Bilateral Monopoly**

A bilateral monopoly is a market situation in which a single seller (Monopoly) faces a single buyer (Monopsony). It is a market of monopoly-monoposy.

### **Oligopsony**

Oligopsony is a market situation in which there will be a few buyers and many sellers. As the sellers are more and buyers are few, the price of product will be comparatively low but not as low as under monopoly.



## ***PRICING & PRICING STRATEGIES***

### **Introduction**

Pricing is an important, if not the most important function of all enterprises. Since every enterprise is engaged in the production of some goods or/and service. Incurring some expenditure, it must set a price for the same to sell it in the market. It is only in extreme cases that the firm has no say in pricing its product; because there is severe or rather perfect competition in the market of the good happens to be of such public significance that its price is decided by the government. In an overwhelmingly large number of cases, the individual producer plays the role in pricing its product.

It is said that if a firm were good in setting its product price it would certainly flourish in the market. This is because the price is such a parameter that it exerts a direct influence on the products demand as well as on its supply, leading to firm's turnover (sales) and profit. Every manager endeavors to find the price, which would best meet with his firm's objective. If the price is set too high the seller may not find enough customers to buy his product. On the other hand, if the price is set too low the seller may not be able to recover his costs. There is a need for the right price further, since demand and supply conditions are variable over time what is a right price today may not be so tomorrow hence, pricing decision must be reviewed and reformulated from time to time.

### **PRICE**

Price denotes the exchange value of a unit of good expressed in terms of money. Thus the current price of a maruti car around Rs. 2, 00,000, the price of a hair cut is Rs. 25 the price of a economics book is Rs. 150 and so on. Nevertheless, if one gives a little, if one gives a little thought to this subject, one would realize that there is nothing like a unique price for any good. Instead, there are multiple prices.

### **PRICE CONCEPTS**

Price of a well-defined product varies over the types of the buyers, place it is received, credit sale or cash sale, time taken between final production and sale, etc.

It should be obvious to the readers, that the price difference on account of the above four factors are more significant. The multiple prices is more serious in the case of items like cars refrigerators, coal, furniture and bricks and is of little significance for items like shaving blade, soaps, tooth pastes, creams and stationeries. Differences in various prices of any good are due to differences in transport cost, storage cost accessories, interest cost, intermediaries' profits etc. Once can still conceive of a basic price, which would be exclusive of all these items of cost and then rationalize other prices by adding the cost of special items attached to the particular transaction, in what follows we shall explain the determination of this basis price alone and thus resolve the problem of multiple prices.

## **PRICING OBJECTIVES AND POLICIES :**

Pricing objectives or goals give direction to the whole pricing process .When deciding on pricing objectives the following things to be considering,

- 1) The overall financial, marketing, and strategic objectives of the company
- 2) The objectives of your product or brand
- 3) Consumer price elasticity and price points
- 4) The resources you have available.

**Five main objectives of pricing** are: (i) Achieving a Target Return on Investments (ii) Price Stability (iii) Achieving Market Share (iv) Prevention of Competition and (v) Increased Profits!

There are several different “Objectives” a company may orient themselves towards in order to obtain a profitable business situation.

### **Profit Oriented :**

This type objectives target is to achieve the high profit, having the below two major technique to reach,

**Target Returns:** The vendor specifies a specific dollar amount or percentage amount that the price will be offered at in order to make a profit which has been calculated for a specific purpose.

**Maximize Profits:** The Competitive Market is not intense may charge the highest price the market will bear because sometimes and may have an advantage for reasons based on the geographic advantage

- >> Special features not available on other competitors’ products.
- >> Very famous brand

### **Sales Oriented :**

This type objectives target is to achieve the high sales, having the below two major technique to reach,

#### **Sales Maximization:**

- >> Short-term objective to maximize sales of the product
- >> Ignores profits, competition, and the marketing environment
- >> Used to sell off excess inventory in some case.

**Market Share:** To increase the market of shares of the particular industries product.

Status Quo Oriented:

Status Quo meets most of the competitions in industries and to get the pricing level of the particular product.

**Meet the Competition:** Customer has many choices, and the vendor have resources to stay in the market, then just charge the same price. If the vendor doesn't have the resources to survive a price war and vendor don't have the ability to claim better quality.

Some other pricing objectives are related with pricing strategies to be considered in the pricing objectives preparation.

### **Skimming Policies:**

- >> A Skimming policy is more attractive if demand is there are no close substitutes.
- >> Products that people will pay a high price for because there is nothing else they can buy there is close to the item.

### **Penetration Pricing:**

- >> To make it too intimidating for competition to follow.
- >> To enter the market in a competitive environment.
- >> Part of a brand building unique.

### **Discount Pricing:**

- >> This may be occurred seasonal.  
E.g. . 50 % discount in textile stores at the festival time.
- >> This based on the buyer purchase volume or amount bought.  
E.g. Buy more than 10,000 get any free gift

### **Allowances:**

- >> This will cutting customers a break due to their cost of advertising
- >> The advertising push to the promotion of the pricing products

### **Trade-in allowance:**

- >> Price reductions granted when purchasing a new one
- >> Provides low interest financing.
- >> Allow longer payment terms

### **Geographic Pricing :**

- F.O.B (Free On Board ) => basically, this is the price out the door at our factory – buyer come and get it.
- Zone The customer live close, it is cheaper, if live farther away, we add in shipping costs

### Some of the more common pricing objectives are:

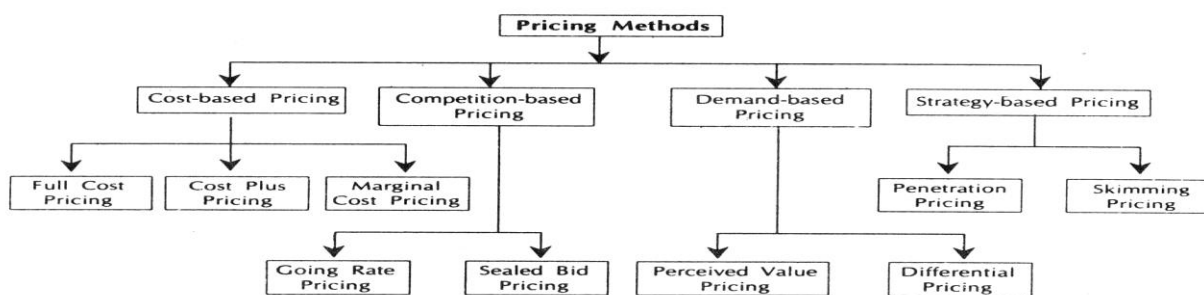
- Maximize long-run profit
- Maximize short-run profit
- Increase dollar sales
- Obtain a target rate of return on sales
- Maintain price leadership
- Match competitors prices
- Enhance the image of the firm, brand, or product
- Create interest and excitement about a product
- Discourage competitors from cutting prices.

### PRICING METHODS

The micro – economic principle of profit maximization suggests pricing by the marginal analysis. That is by equating MR to MC. However the pricing methods followed by the firms in practice around the world rarely follow this procedure. This is for two reasons; uncertainty with regard to demand and cost function and the deviation from the objective of short run profit maximization.

It was seen that there is no unique theory of firm behavior. While profit certainly on important variable for which every firm cares. Maximization of short – run profit is not a popular objective of a firm today. At the most firms seek maximum profit in the long run. If so the problem is dynamic and its solution requires accurate knowledge of demand and cost conditions over time. Which is impossible to come by?

In view of these problems economic prices are a rare phenomenon. Instead, firms set prices for their products through several alternative means. The important pricing methods followed in practice are shown in the chart.



### Cost Based Pricing

There are three versions of the cost – based pricing. Full – cost or break even pricing, cost plus pricing and the marginal cost pricing. Under the first version, price just equals the average (total) cost. In the second version, some mark-up is added to the average cost in

arriving at the price. In the last version, price is set equal to the marginal cost. While all these methods appear to be easy and straight forward, they are in fact associated with a number of difficulties. Even though difficulties are there, the cost- oriented pricing is quite popular today.

### **Competition based pricing**

Some commodities are priced according to the competition in their markets. Thus we have the going rate method of price and the sealed bid pricing technique.

The sealed bid pricing method is quite popular in the case of construction activities and in the disposition of used produces. In this method the prospective seller (buyers) are asked to quote their prices through a sealed cover, all the offers are opened at a preannounce time in the presence of all the competitors, and the one who quoted the least is awarded the contract (purchase / sale deed). As it sound, this method is totally competition based and if the competitors unit by any change, the buyers (seller) may have to pay (receive) an exorbitantly high (too low) price, thus there is a great degree of risk attached to this method of pricing.

### **Demand Based Pricing**

The demand – based pricing and strategy – based pricing are quite related. The seller knows rather well that the demand for its product is a decreasing function of the price its sets for product. Two general types demand oriented pricing rules can be identified.

- a. Perceived value pricing and
- b. Differential pricing

Perceived value pricing considers the buyer's perception of the value of the product ad the basis of pricing. Here the pricing rule is that the firm must develop procedures for measuring the relative value of the product as perceived by consumers.

Differential pricing is nothing but price discrimination. In involves selling a product or service for different prices in different market segments. Price differentiation depends on geographical location of the consumers, type of consumer, purchasing quantity, season, time of the service etc. E.g. Telephone charges, APSRTC charges.

### **Strategy based pricing (new product pricing)**

. The price fixed for the new product must keep the competitors away. Earn good profits for the firm over the life of the product and must help to get the product accepted. The company can select either skimming pricing or penetration pricing.

While there are some firms, which follow the strategy of price penetration, there are some others who opt for price – skimming. Under the former, firms sell their new product at a low price in the beginning in order to catch the attention of consumers, once the product image and credibility is established, the seller slowly starts jacking up the price to reap good profits in future. Under the price – skimming strategy, the new product is priced high

in the beginning, and its price is reduced gradually as it faces a dearth of buyers such a strategy may be beneficial for products, which are fancy, but of poor quality and / or of insignificant use over a period of time.

A prudent producer follows a good mix of the various pricing methods rather than adapting any one of them. This is because no method is perfect and every method has certain good features further a firm might adopt one method at one time and another method at some other accession.

## **BUSINESS ENVIRONMENT**

Imagine you want to do business. Which are you interested in? For example, you want to get into InfoTech industry. What can you do in this industry? Which one do you choose? The following are the alternatives you have on hand:

- You can buy and sell
- You can set up a small/medium/large industry to manufacture
- You can set up a workshop to repair
- You can develop software
- You can design hardware
- You can be a consultant/trouble-shooter

If you choose any one or more of the above, you have chosen the line of activity. The next step for you is to decide whether.

- You want to be only owner (It means you want to be sole trader) or
- You want to take some more professionals as co-owners along with you (It means you want to form partnership with others as partners) or
- You want to be a global player by mobilizing large resources across the country/world
- You want to bring all like-minded people to share the benefits of the common enterprise (You want to promote a joint stock company) or
- You want to involve government in the IT business (here you want to suggest government to promote a public enterprise!)

To decide this, it is necessary to know how to evaluate each of these alternatives.

### ***Factors affecting the choice of form of business organization***

Before we choose a particular form of business organization, let us study what factors affect such a choice? The following are the factors affecting the choice of a business organization:

1. **Easy to start and easy to close:** The form of business organization should be such that it should be easy to close. There should not be hassles or long procedures in the process of setting up business or closing the same.
2. **Division of labour:** There should be possibility to divide the work among the available owners.

3. **Large amount of resources:** Large volume of business requires large volume of resources. Some forms of business organization do not permit to raise larger resources. Select the one which permits to mobilize the large resources.
4. **Liability:** The liability of the owners should be limited to the extent of money invested in business. It is better if their personal properties are not brought into business to make up the losses of the business.
5. **Secrecy:** The form of business organization you select should be such that it should permit to take care of the business secrets. We know that century old business units are still surviving only because they could successfully guard their business secrets.
6. **Transfer of ownership:** There should be simple procedures to transfer the ownership to the next legal heir.
7. **Ownership, Management and control:** If ownership, management and control are in the hands of one or a small group of persons, communication will be effective and coordination will be easier. Where ownership, management and control are widely distributed, it calls for a high degree of professional's skills to monitor the performance of the business.
8. **Continuity:** The business should continue forever and ever irrespective of the uncertainties in future.
9. **Quick decision-making:** Select such a form of business organization, which permits you to take decisions quickly and promptly. Delay in decisions may invalidate the relevance of the decisions.
10. **Personal contact with customer:** Most of the times, customers give us clues to improve business. So choose such a form, which keeps you close to the customers.
11. **Flexibility:** In times of rough weather, there should be enough flexibility to shift from one business to the other. The lesser the funds committed in a particular business, the better it is.
12. **Taxation:** More profit means more tax. Choose such a form, which permits to pay low tax.

These are the parameters against which we can evaluate each of the available forms of business organizations.

### **SOLE TRADER**

The sole trader is the simplest, oldest and natural form of business organization. It is also called sole proprietorship. 'Sole' means one. 'Sole trader' implies that there is only one trader who is the owner of the business.

It is a one-man form of organization wherein the trader assumes all the risk of ownership carrying out the business with his own capital, skill and intelligence. He is the boss for himself. He has total operational freedom. He is the owner, Manager and controller. He has total freedom and flexibility. Full control lies with him. He can take his own decisions. He can choose or drop a particular product or business based on its merits. He need not discuss this with anybody. He is responsible for himself. This form of organization is popular all over the world. Restaurants, Supermarkets, pan shops, medical shops, hosiery shops etc.

Features

- It is easy to start a business under this form and also easy to close.
- He introduces his own capital. Sometimes, he may borrow, if necessary
- He enjoys all the profits and in case of loss, he alone suffers.
- He has unlimited liability which implies that his liability extends to his personal properties in case of loss.
- He has a high degree of flexibility to shift from one business to the other.
- Business secrets can be guarded well
- There is no continuity. The business comes to a close with the death, illness or insanity of the sole trader. Unless, the legal heirs show interest to continue the business, the business cannot be restored.
- He has total operational freedom. He is the owner, manager and controller.
- He can be directly in touch with the customers.
- He can take decisions very fast and implement them promptly.
- Rates of tax, for example, income tax and so on are comparatively very low.

## ADVANTAGES

The following are the advantages of the sole trader form of business organization:

1. **Easy to start and easy to close:** Formation of a sole trader form of organization is relatively easy even closing the business is easy.
2. **Personal contact with customers directly:** Based on the tastes and preferences of the customers the stocks can be maintained.
3. **Prompt decision-making:** To improve the quality of services to the customers, he can take any decision and implement the same promptly. He is the boss and he is responsible for his business. Decisions relating to growth or expansion can be made promptly.
4. **High degree of flexibility:** Based on the profitability, the trader can decide to continue or change the business, if need be.
5. **Secrecy:** Business secrets can well be maintained because there is only one trader.
6. **Low rate of taxation:** The rate of income tax for sole traders is relatively very low.
7. **Direct motivation:** If there are profits, all the profits belong to the trader himself. In other words. If he works more hard, he will get more profits. This is the direct motivating factor. At the same time, if he does not take active interest, he may stand to lose badly also.
8. **Total Control:** The ownership, management and control are in the hands of the sole trader and hence it is easy to maintain the hold on business.
9. **Minimum interference from government:** Except in matters relating to public interest, government does not interfere in the business matters of the sole trader. The sole trader is free to fix price for his products/services if he enjoys monopoly market.
10. **Transferability:** The legal heirs of the sole trader may take the possession of the business.



## DISADVANTAGES

The following are the disadvantages of sole trader form:

1. **Unlimited liability:** The liability of the sole trader is unlimited. It means that the sole trader has to bring his personal property to clear off the loans of his business. From the legal point of view, he is not different from his business.
2. **Limited amounts of capital:** The resources a sole trader can mobilize cannot be very large and hence this naturally sets a limit for the scale of operations.
3. **No division of labour:** All the work related to different functions such as marketing, production, finance, labour and so on has to be taken care of by the sole trader himself. There is nobody else to take his burden. Family members and relatives cannot show as much interest as the trader takes.
4. **Uncertainty:** There is no continuity in the duration of the business. On the death, insanity or insolvency the business may come to an end.
5. **Inadequate for growth and expansion:** This form is suitable for only small size, one-man-show type of organizations. This may not really work out for growing and expanding organizations.
6. **Lack of specialization:** The services of specialists such as accountants, market researchers, consultants and so on, are not within the reach of most of the sole traders.
7. **More competition:** Because it is easy to set up a small business, there is a high degree of competition among the small businessmen and a few who are good in taking care of customer requirements alone can survive.
8. **Low bargaining power:** The sole trader is at the receiving end in terms of loans or supply of raw materials. He may have to compromise many times regarding the terms and conditions of purchase of materials or borrowing loans from the finance houses or banks.

## PARTNERSHIP

Partnership is an improved form of sole trader in certain respects. Where there are like-minded persons with resources, they can come together to do the business and share the profits/losses of the business in an agreed ratio. Persons who have entered into such an agreement are individually called 'partners' and collectively called 'firm'. The relationship among partners is called a partnership.

Indian Partnership Act, 1932 defines partnership as the relationship between two or more persons who agree to share the profits of the business carried on by all or any one of them acting for all.

### Features

1. **Relationship:** Partnership is a relationship among persons. It is a relationship resulting out of an agreement.
2. **Two or more persons:** There should be two or more number of persons.
3. **There should be a business:** Business should be conducted.
4. **Agreement:** Persons should agree to share the profits/losses of the business.
5. **Carried on by all or any one of them acting for all:** The business can be carried on by all or any one of the persons acting for all. This means that the business can be

carried on by one person who is the agent for all other persons. Every partner is both an agent and a principal. Agent for other partners and principal for himself. All the partners are agents and the 'partnership' is their principal.

**The following are the other features:**

- (a) **Unlimited liability:** The liability of the partners is unlimited. The partnership and partners, in the eye of law, are not different but one and the same. Hence, the partners have to bring their personal assets to clear the losses of the firm, if any.
- (b) **Number of partners:** According to the Indian Partnership Act, the minimum number of partners should be two and the maximum number is restricted, as given below:
  - 10 partners in case of banking business
  - 20 in case of non-banking business
- (c) **Division of labour:** Because there are more than two persons, the work can be divided among the partners based on their aptitude.
- (d) **Personal contact with customers:** The partners can continuously be in touch with the customers to monitor their requirements.
- (e) **Flexibility:** All the partners are likeminded persons and hence they can take any decision relating to business.

**PARTNERSHIP DEED**

The written agreement among the partners is called 'the partnership deed'. It contains the terms and conditions governing the working of partnership. The following are contents of the partnership deed.

1. Names and addresses of the firm and partners
2. Nature of the business proposed
3. Duration
4. Amount of capital of the partnership and the ratio for contribution by each of the partners.
5. Their profit sharing ratio (this is used for sharing losses also)
6. Rate of interest charged on capital contributed, loans taken from the partnership and the amounts drawn, if any, by the partners from their respective capital balances.
7. The amount of salary or commission payable to any partner
8. Procedure to value good will of the firm at the time of admission of a new partner, retirement or death of a partner
9. Allocation of responsibilities of the partners in the firm
10. Procedure for dissolution of the firm
11. Name of the arbitrator to whom the disputes, if any, can be referred to for settlement.
12. Special rights, obligations and liabilities of partners(s), if any.

**KINDS OF PARTNERS**

The following are the different kinds of partners:

1. **Active Partner:** Active partner takes active part in the affairs of the partnership. He is also called working partner.

2. **Sleeping Partner:** Sleeping partner contributes to capital but does not take part in the affairs of the partnership.
3. **Nominal Partner:** Nominal partner is partner just for namesake. He neither contributes to capital nor takes part in the affairs of business. Normally, the nominal partners are those who have good business connections, and are well placed in the society.
4. **Partner by Estoppels:** Estoppels means behavior or conduct. Partner by estoppels gives an impression to outsiders that he is the partner in the firm. In fact he neither contributes to capital, nor takes any role in the affairs of the partnership.
5. **Partner by holding out:** If partners declare a particular person (having social status) as partner and this person does not contradict even after he comes to know such declaration, he is called a partner by holding out and he is liable for the claims of third parties. However, the third parties should prove they entered into contract with the firm in the belief that he is the partner of the firm. Such a person is called partner by holding out.
6. **Minor Partner:** Minor has a special status in the partnership. A minor can be admitted for the benefits of the firm. A minor is entitled to his share of profits of the firm. The liability of a minor partner is limited to the extent of his contribution of the capital of the firm.

### Right of partners

Every partner has right

- (a) To take part in the management of business
- (b) To express his opinion
- (c) Of access to and inspect and copy and book of accounts of the firm
- (d) To share equally the profits of the firm in the absence of any specific agreement to the contrary
- (e) To receive interest on capital at an agreed rate of interest from the profits of the firm
- (f) To receive interest on loans, if any, extended to the firm.
- (g) To be indemnified for any loss incurred by him in the conduct of the business
- (h) To receive any money spent by him in the ordinary and proper conduct of the business of the firm.

### Advantages

The following are the advantages of the partnership from:

1. **Easy to form:** Once there is a group of like-minded persons and good business proposal, it is easy to start and register a partnership.
2. **Availability of larger amount of capital:** More amount of capital can be raised from more number of partners.
3. **Division of labour:** The different partners come with varied backgrounds and skills. This facilitates division of labour.
4. **Flexibility:** The partners are free to change their decisions, add or drop a particular product or start a new business or close the present one and so on.
5. **Personal contact with customers:** There is scope to keep close monitoring with customers requirements by keeping one of the partners in charge of sales and

marketing. Necessary changes can be initiated based on the merits of the proposals from the customers.

6. **Quick decisions and prompt action:** If there is consensus among partners, it is enough to implement any decision and initiate prompt action. Sometimes, it may more time for the partners on strategic issues to reach consensus.
7. **The positive impact of unlimited liability:** Every partner is always alert about his impending danger of unlimited liability. Hence he tries to do his best to bring profits for the partnership firm by making good use of all his contacts.

### **Disadvantages:**

The following are the disadvantages of partnership:

1. **Formation of partnership is difficult:** Only like-minded persons can start a partnership. It is sarcastically said, 'it is easy to find a life partner, but not a business partner'.
2. **Liability:** The partners have joint and several liabilities beside unlimited liability. Joint and several liability puts additional burden on the partners, which means that even the personal properties of the partner or partners can be attached. Even when all but one partner become insolvent, the solvent partner has to bear the entire burden of business loss.
3. **Lack of harmony or cohesiveness:** It is likely that partners may not, most often work as a group with cohesiveness. This result in mutual conflicts, an attitude of suspicion and crisis of confidence. Lack of harmony results in delay in decisions and paralyses the entire operations.
4. **Limited growth:** The resources when compared to sole trader, a partnership may raise little more. But when compare to the other forms such as a company, resources raised in this form of organization are limited. Added to this, there is a restriction on the maximum number of partners.
5. **Instability:** The partnership form is known for its instability. The firm may be dissolved on death, insolvency or insanity of any of the partners.
6. **Lack of Public confidence:** Public and even the financial institutions look at the unregistered firm with a suspicious eye. Though registration of the firm under the Indian Partnership Act is a solution of such problem, this cannot revive public confidence into this form of organization overnight. The partnership can create confidence in other only with their performance.

## **JOINT STOCK COMPANY**

The joint stock company emerges from the limitations of partnership such as joint and several liability, unlimited liability, limited resources and uncertain duration and so on. Normally, to take part in a business, it may need large money and we cannot foretell the fate of business. It is not literally possible to get into business with little money. Against this background, it is interesting to study the functioning of a joint stock company. The main principle of the joint stock company from is to provide opportunity to take part in

business with a low investment as possible say Rs.1000. Joint Stock Company has been a boon for investors with moderate funds to invest.

The word 'company' has a Latin origin, com means 'come together', pany means 'bread', joint stock company means, people come together to earn their livelihood by investing in the stock of company jointly.

### **Company Defined**

Lord Justice Lindley explained the concept of the joint stock company from of organization as 'an association of many persons who contribute money or money's worth to a common stock and employ it for a common purpose.

### **FEATURES**

This definition brings out the following features of the company:

1. **Artificial person:** The Company has no form or shape. It is an artificial person created by law. It is intangible, invisible and existing only, in the eyes of law.
2. **Separate legal existence:** it has an independence existence, it separate from its members. It can acquire the assets. It can borrow for the company. It can sue other if they are in default in payment of dues, breach of contract with it, if any. Similarly, outsiders for any claim can sue it. A shareholder is not liable for the acts of the company. Similarly, the shareholders cannot bind the company by their acts.
3. **Voluntary association of persons:** The Company is an association of voluntary association of persons who want to carry on business for profit. To carry on business, they need capital. So they invest in the share capital of the company.
4. **Limited Liability:** The shareholders have limited liability i.e., liability limited to the face value of the shares held by him. In other words, the liability of a shareholder is restricted to the extent of his contribution to the share capital of the company. The shareholder need not pay anything, even in times of loss for the company, other than his contribution to the share capital.
5. **Capital is divided into shares:** The total capital is divided into a certain number of units. Each unit is called a share. The price of each share is priced so low that every investor would like to invest in the company. The companies promoted by promoters of good standing (i.e., known for their reputation in terms of reliability character and dynamism) are likely to attract huge resources.
6. **Transferability of shares:** In the company form of organization, the shares can be transferred from one person to the other. A shareholder of a public company can sell his holding of shares at his will. However, the shares of a private company cannot be transferred. A private company restricts the transferability of the shares.
7. **Common Seal:** As the company is an artificial person created by law has no physical form, it cannot sign its name on a paper; so, it has a common seal on which its name is engraved. The common seal should affix every document or contract; otherwise the company is not bound by such a document or contract.
8. **Perpetual succession:** 'Members may come and members may go, but the company continues for ever and ever' A company has uninterrupted existence because of the right given to the shareholders to transfer the shares.
9. **Ownership and Management separated:** The shareholders are spread over the length and breadth of the country, and sometimes, they are from different parts of

the world. To facilitate administration, the shareholders elect some among themselves or the promoters of the company as directors to a Board, which looks after the management of the business. The Board recruits the managers and employees at different levels in the management. Thus the management is separated from the owners.

10. **Winding up:** Winding up refers to the putting an end to the company. Because law creates it, only law can put an end to it in special circumstances such as representation from creditors of financial institutions, or shareholders against the company that their interests are not safeguarded. The company is not affected by the death or insolvency of any of its members.
11. **The name of the company ends with 'limited':** it is necessary that the name of the company ends with limited (Ltd.) to give an indication to the outsiders that they are dealing with the company with limited liability and they should be careful about the liability aspect of their transactions with the company.

### **Formation of Joint Stock Company**

There are two stages in the formation of a joint stock company. They are:

- (a) To obtain Certificates of Incorporation
- (b) To obtain certificate of commencement of Business

**Certificate of Incorporation:** The certificate of Incorporation is just like a 'date of birth' certificate. It certifies that a company with such and such a name is born on a particular day.

**Certificate of commencement of Business:** A private company need not obtain the certificate of commencement of business. It can start its commercial operations immediately after obtaining the certificate of Incorporation.

The persons who conceive the idea of starting a company and who organize the necessary initial resources are called promoters. The vision of the promoters forms the backbone for the company in the future to reckon with.

The promoters have to file the following documents, along with necessary fee, with a registrar of joint stock companies to obtain certificate of incorporation:

- (a) **Memorandum of Association:** The Memorandum of Association is also called the charter of the company. It outlines the relations of the company with the outsiders. It furnishes all its details in six clauses such as (i) Name clause (ii) situation clause (iii) objects clause (iv) Capital clause and (v) subscription clause duly executed by its subscribers.
- (b) **Articles of association:** Articles of Association furnish the byelaws or internal rules governing the internal conduct of the company.
- (c) The list of names and address of the proposed directors and their willingness, in writing to act as such, in case of registration of a public company.
- (d) A statutory declaration that all the legal requirements have been fulfilled. The declaration has to be duly signed by any one of the following: Company secretary in whole practice, the proposed director, legal solicitor, chartered accountant in whole time practice or advocate of High court.

The registrar of joint stock companies peruses and verifies whether all these documents are in order or not. If he is satisfied with the information furnished, he will register the documents and then issue a certificate of incorporation, if it is private company, it can start its business operation immediately after obtaining certificate of incorporation.

## **ADVANTAGES**

The following are the advantages of a joint Stock Company

1. **Mobilization of larger resources:** A joint stock company provides opportunity for the investors to invest, even small sums, in the capital of large companies. The facilities rising of larger resources.
2. **Separate legal entity:** The Company has separate legal entity. It is registered under Indian Companies Act, 1956.
3. **Limited liability:** The shareholder has limited liability in respect of the shares held by him. In no case, does his liability exceed more than the face value of the shares allotted to him.
4. **Transferability of shares:** The shares can be transferred to others. However, the private company shares cannot be transferred.
5. **Liquidity of investments:** By providing the transferability of shares, shares can be converted into cash.
6. **Inculcates the habit of savings and investments:** Because the share face value is very low, this promotes the habit of saving among the common man and mobilizes the same towards investments in the company.
7. **Democracy in management:** the shareholders elect the directors in a democratic way in the general body meetings. The shareholders are free to make any proposals, question the practice of the management, suggest the possible remedial measures, as they perceive, The directors respond to the issue raised by the shareholders and have to justify their actions.
8. **Economics of large scale production:** Since the production is in the scale with large funds at
9. **Continued existence:** The Company has perpetual succession. It has no natural end. It continues forever and ever unless law put an end to it.
10. **Institutional confidence:** Financial Institutions prefer to deal with companies in view of their professionalism and financial strengths.
11. **Professional management:** With the larger funds at its disposal, the Board of Directors recruits competent and professional managers to handle the affairs of the company in a professional manner.
12. **Growth and Expansion:** With large resources and professional management, the company can earn good returns on its operations, build good amount of reserves and further consider the proposals for growth and expansion.

## **DISADVANTAGES**

1. **Formation of company is a long drawn procedure:** Promoting a joint stock company involves a long drawn procedure. It is expensive and involves large number of legal formalities.

2. **High degree of government interference:** The government brings out a number of rules and regulations governing the internal conduct of the operations of a company such as meetings, voting, audit and so on, and any violation of these rules results into statutory lapses, punishable under the companies act.
3. **Inordinate delays in decision-making:** As the size of the organization grows, the number of levels in organization also increases in the name of specialization. The more the number of levels, the more is the delay in decision-making. Sometimes, so-called professionals do not respond to the urgencies as required. It promotes delay in administration, which is referred to 'red tape and bureaucracy'.
4. **Lack of initiative:** In most of the cases, the employees of the company at different levels show slack in their personal initiative with the result, the opportunities once missed do not recur and the company loses the revenue.
5. **Lack of responsibility and commitment:** In some cases, the managers at different levels are afraid to take risk and more worried about their jobs rather than the huge funds invested in the capital of the company lose the revenue.
6. **Lack of responsibility and commitment:** In some cases, the managers at different levels are afraid to take risk and more worried about their jobs rather than the huge funds invested in the capital of the company. Where managers do not show up willingness to take responsibility, they cannot be considered as committed. They will not be able to handle the business risks.

### **PUBLIC ENTERPRISES**

Public enterprises occupy an important position in the Indian economy. Today, public enterprises provide the substance and heart of the economy. Its investment of over Rs.10,000 crore is in heavy and basic industry, and infrastructure like power, transport and communications. The concept of public enterprise in Indian dates back to the era of pre-independence.

#### **Genesis of Public Enterprises**

In consequence to declaration of its goal as socialistic pattern of society in 1954, the Government of India realized that it is through progressive extension of public enterprises only, the following aims of our five years plans can be fulfilled.

- Higher production
- Greater employment
- Economic equality, and
- Dispersal of economic power

The government found it necessary to revise its industrial policy in 1956 to give it a socialistic bent.

#### **Need for Public Enterprises**

The Industrial Policy Resolution 1956 states the need for promoting public enterprises as follows:

- To accelerate the rate of economic growth by planned development
- To speed up industrialization, particularly development of heavy industries and to expand public sector and to build up a large and growing cooperative sector.



- To increase infrastructure facilities
- To disperse the industries over different geographical areas for balanced regional development
- To increase the opportunities of gainful employment
- To help in raising the standards of living
- To reducing disparities in income and wealth (By preventing private monopolies and curbing concentration of economic power and vast industries in the hands of a small number of individuals)

### **Achievements of public Enterprises**

The achievements of public enterprise are vast and varied. They are:

1. Setting up a number of public enterprises in basic and key industries
2. Generating considerably large employment opportunities in skilled, unskilled, supervisory and managerial cadres.
3. Creating internal resources and contributing towards national exchequer for funds for development and welfare.
4. Bringing about development activities in backward regions, through locations in different areas of the country.
5. Assisting in the field of export promotion and conservation of foreign exchange.
6. Creating viable infrastructure and bringing about rapid industrialization (ancillary industries developed around the public sector as its nucleus).
7. Restricting the growth of private monopolies
8. Stimulating diversified growth in private sector
9. Taking over sick industrial units and putting them, in most of the vases, in order,
10. Creating financial systems, through a powerful networking of financial institutions, development and promotional institutions, which has resulted in social control and social orientation of investment, credit and capital management systems.
11. Benefiting the rural areas, priority sectors, small business in the fields of industry, finance, credit, services, trade, transport, consultancy and so on.

Let us see the different forms of public enterprise and their features now.

### **Forms of public enterprises**

Public enterprises can be classified into three forms:

**(a) Departmental undertaking**

**(b) Public corporation**

**(c) Government company**

These are explained below

### **DEPARTMENTAL UNDERTAKING**

This is the earliest form of public enterprise. Under this form, the affairs of the public enterprise are carried out under the overall control of one of the departments of the government. The government department appoints a managing director (normally a civil servant) for the departmental undertaking. He will be given the executive authority to take necessary decisions. The departmental undertaking does not have a budget of its own. As and when it wants, it draws money from the government exchequer and when it has

surplus money, it deposits it in the government exchequer. However, it is subject to budget, accounting and audit controls.

Examples for departmental undertakings are Railways, Department of Posts, All India Radio, and Doordarshan, Defence undertakings like DRDL, DLRL, ordinance factories, and such.

### FEATURES

1. **Under the control of a government department:** The departmental undertaking is not an independent organization. It has no separate existence. It is designed to work under close control of a government department. It is subject to direct ministerial control.
2. **More financial freedom:** The departmental undertaking can draw funds from government account as per the needs and deposit back when convenient.
3. **Like any other government department:** The departmental undertaking is almost similar to any other government department
4. **Budget, accounting and audit controls:** The departmental undertaking has to follow guidelines (as applicable to the other government departments) underlying the budget preparation, maintenance of accounts, and getting the accounts audited internally and by external auditors.
5. **More a government organization, less a business organization.** The set up of a departmental undertaking is more rigid, less flexible, and slow in responding to market needs.

### ADVANTAGES

1. **Effective control:** Control is likely to be effective because it is directly under the Ministry.
2. **Responsible Executives:** Normally the administration is entrusted to a senior civil servant. The administration will be organized and effective.
3. **Less scope for mystification of funds:** Departmental undertaking does not draw any money more than is needed, that too subject to ministerial sanction and other controls. So chances for mis-utilisation are low.
4. **Adds to Government revenue:** The revenue of the government is on the rise when the revenue of the departmental undertaking is deposited in the government account.

### DISADVANTAGES

1. **Decisions delayed:** Control is centralized. This results in lower degree of flexibility. Officials in the lower levels cannot take initiative. Decisions cannot be fast and actions cannot be prompt.
2. **No incentive to maximize earnings:** The departmental undertaking does not retain any surplus with it. So there is no incentive for maximizing the efficiency or earnings.
3. **Slow response to market conditions:** Since there is no competition, there is no profit motive; there is no incentive to move swiftly to market needs.

4. **Redtapism and bureaucracy:** The departmental undertakings are in the control of a civil servant and under the immediate supervision of a government department. Administration gets delayed substantially.
5. **Incidence of more taxes:** At times, in case of losses, these are made up by the government funds only. To make up these, there may be a need for fresh taxes, which is undesirable.

Any business organization wants to be more successful needs to be more dynamic, flexible, and responsive to market conditions, fast in decision making and prompt in actions. None of these qualities figure in the features of a departmental undertaking. It is true that departmental undertaking operates as an extension to the government. With the result, the government may miss certain business opportunities. So as not to miss business opportunities, the government has thought of another form of public enterprise, that is, Public corporation.

### **PUBLIC CORPORATION**

Having realised that the existing government administration would not be able to cope up with the demand of its business enterprises, the Government of India, in 1948, decided to organize some of its enterprises as statutory corporations. In pursuance of this, Industrial Finance Corporation, Employees' State Insurance Corporation was set up in 1948.

Public corporation is a 'right mix of public ownership, public accountability and business management for public ends'. The public corporation provides machinery, which is flexible, while at the same time retaining public control.

#### **Definition**

A public corporation is defined as a 'body corporate created by an Act of Parliament or Legislature and notified by the name in the official gazette of the central or state government. It is a corporate entity having perpetual succession, and common seal with power to acquire, hold, dispose of property, sue and be sued by its name'.

Examples of a public corporation are Life Insurance Corporation of India, Unit Trust of India, Industrial Finance Corporation of India, Damodar Valley Corporation and others.

#### **Features**

1. **A body corporate:** It has a separate legal existence. It is a separate company by itself. It can raise resources, buy and sell properties, by name sue and be sued.
2. **More freedom and day-to-day affairs:** It is relatively free from any type of political interference. It enjoys administrative autonomy.
3. **Freedom regarding personnel:** The employees of public corporation are not government civil servants. The corporation has absolute freedom to formulate its own personnel policies and procedures, and these are applicable to all the employees including directors.
4. **Perpetual succession:** A statute in parliament or state legislature creates it. It continues forever and till a statute is passed to wind it up.
5. **Financial autonomy:** Through the public corporation is fully owned government organization, and the initial finance is provided by the Government, it enjoys total financial autonomy. Its income and expenditure are not shown in the annual budget of the government, it enjoys total financial autonomy. Its income and expenditure

are not shown in the annual budget of the government. However, for its freedom it is restricted regarding capital expenditure beyond the laid down limits, and raising the capital through capital market.

6. **Commercial audit:** Except in the case of banks and other financial institutions where chartered accountants are auditors, in all corporations, the audit is entrusted to the comptroller and auditor general of India.
7. **Run on commercial principles:** As far as the discharge of functions, the corporation shall act as far as possible on sound business principles.

### ADVANTAGES

1. **Independence, initiative and flexibility:** The Corporation has an autonomous set up. So it is independent, take necessary initiative to realize its goals, and it can be flexible in its decisions as required.
2. **Scope for Redtapism and bureaucracy minimized:** The Corporation has its own policies and procedures. If necessary they can be simplified to eliminate redtapism and bureaucracy, if any.
3. **Public interest protected:** The corporation can protect the public interest by making its policies more public friendly, Public interests are protected because every policy of the corporation is subject to ministerial directives and board parliamentary control.
4. **Employee friendly work environment:** Corporation can design its own work culture and train its employees accordingly. It can provide better amenities and better terms of service to the employees and thereby secure greater productivity.
5. **Competitive prices:** the corporation is a government organization and hence can afford with minimum margins of profit, It can offer its products and services at competitive prices.
6. **Economics of scale:** By increasing the size of its operations, it can achieve economics of large-scale production.
7. **Public accountability:** It is accountable to the Parliament or legislature; it has to submit its annual report on its working results.

### DISADVANTAGES

1. **Continued political interference:** the autonomy is on paper only and in reality, the continued.
2. **Misuse of Power:** In some cases, the greater autonomy leads to misuse of power. It takes time to unearth the impact of such misuse on the resources of the corporation. Cases of misuse of power defeat the very purpose of the public corporation.
3. **Burden for the government:** Where the public corporation ignores the commercial principles and suffers losses, it is burdensome for the government to provide subsidies to make up the losses.

### GOVERNMENT COMPANY

Section 617 of the Indian Companies Act defines a government company as “any company in which not less than 51 percent of the paid up share capital” is held by the Central Government or by any State Government or Governments or partly by Central Government

and partly by one or more of the state Governments and includes and company which is subsidiary of government company as thus defined”.

A government company is the right combination of operating flexibility of privately organized companies with the advantages of state regulation and control in public interest. Government companies differ in the degree of control and their motive also.

Some government companies are promoted as

- industrial undertakings (such as Hindustan Machine Tools, Indian Telephone Industries, and so on)
- Promotional agencies (such as National Industrial Development Corporation, National Small Industries Corporation, and so on) to prepare feasibility reports for promoters who want to set up public or private companies.
- Agency to promote trade or commerce. For example, state trading corporation, Export Credit Guarantee Corporation and so such like.
- A company to take over the existing sick companies under private management (E.g. Hindustan Shipyard)
- A company established as a totally state enterprise to safeguard national interests such as Hindustan Aeronautics Ltd. And so on.
- Mixed ownership company in collaboration with a private consult to obtain technical know how and guidance for the management of its enterprises, e.g. Hindustan Cables)

## FEATURES

The following are the features of a government company:

1. **Like any other registered company:** It is incorporated as a registered company under the Indian companies Act. 1956. Like any other company, the government company has separate legal existence. Common seal, perpetual succession, limited liability, and so on. The provisions of the Indian Companies Act apply for all matters relating to formation, administration and winding up. However, the government has a right to exempt the application of any provisions of the government companies.
2. **Shareholding:** The majority of the share are held by the Government, Central or State, partly by the Central and State Government(s), in the name of the President of India, It is also common that the collaborators and allotted some shares for providing the transfer of technology.
3. **Directors are nominated:** As the government is the owner of the entire or majority of the share capital of the company, it has freedom to nominate the directors to the Board. Government may consider the requirements of the company in terms of necessary specialization and appoints the directors accordingly.
4. **Administrative autonomy and financial freedom:** A government company functions independently with full discretion and in the normal administration of affairs of the undertaking.
5. **Subject to ministerial control:** Concerned minister may act as the immediate boss. It is because it is the government that nominates the directors, the minister issue directions for a company and he can call for information related to the progress and affairs of the company any time.

## ADVANTAGES

1. **Formation is easy:** There is no need for an Act in legislature or parliament to promote a government company. A Government company can be promoted as per the provisions of the companies Act. Which is relatively easier?
2. **Separate legal entity:** It retains the advantages of public corporation such as autonomy, legal entity.
3. **Ability to compete:** It is free from the rigid rules and regulations. It can smoothly function with all the necessary initiative and drive necessary to complete with any other private organization. It retains its independence in respect of large financial resources, recruitment of personnel, management of its affairs, and so on.
4. **Flexibility:** A Government company is more flexible than a departmental undertaking or public corporation. Necessary changes can be initiated, which the framework of the company law. Government can, if necessary, change the provisions of the Companies Act. If found restricting the freedom of the government company. The form of Government Company is so flexible that it can be used for taking over sick units promoting strategic industries in the context of national security and interest.
5. **Quick decision and prompt actions:** In view of the autonomy, the government company take decision quickly and ensure that the actions and initiated promptly.
6. **Private participation facilitated:** Government company is the only from providing scope for private participation in the ownership. The facilities to take the best, necessary to conduct the affairs of business, from the private sector and also from the public sector.

## DISADVANTAGES

1. **Continued political and government interference:** Government seldom leaves the government company to function on its own. Government is the major shareholder and it dictates its decisions to the Board. The Board of Directors gets these approved in the general body. There were a number of cases where the operational policies were influenced by the whims and fancies of the civil servants and the ministers.
2. **Higher degree of government control:** The degree of government control is so high that the government company is reduced to mere adjuncts to the ministry and is, in majority of the cases, not treated better than the subordinate organization or offices of the government.
3. **Evades constitutional responsibility:** A government company is creating by executive action of the government without the specific approval of the parliament or Legislature.
4. **Poor sense of attachment or commitment:** The members of the Board of Management of government companies and from the ministerial departments in their ex-officio capacity. The lack the sense of attachment and do not reflect any degree of commitment to lead the company in a competitive environment.
5. **Divided loyalties:** The employees are mostly drawn from the regular government departments for a defined period. After this period, they go back to their government departments and hence their divided loyalty dilutes their interest towards their job in the government company.

6. **Flexibility on paper:** The powers of the directors are to be approved by the concerned Ministry, particularly the power relating to borrowing, increase in the capital, appointment of top officials, entering into contracts for large orders and restrictions on capital expenditure. The government companies are rarely allowed to exercise their flexibility and independence.

## UNIT- IV

### CAPITAL AND CAPITAL BUDGETING

#### CAPITAL

The amount which is used to start a business is called Capital in general it does not mean only money it may also Ideas, Assets, Creativity Innovations also consider As capital Capital can be broadly classified in to the following types

1. Fixed Capital
2. Working Capital

#### FIXED CAPITAL

Fixed capital includes the assets and capital investments that are needed to start up and conduct business, even at a minimal stage. These assets are considered fixed in that they are not consumed or destroyed during the actual production of a good or service but have a reusable value. Fixed-capital investments are typically depreciated on the company's accounting statements over a long period of time, up to 20 years or more.

#### Factors Determining Fixed Capital Requirements:

The amount of fixed capital required varies from business to business because of the following factors:

- (1) Nature of industry business,
- (2) Kinds of products,
- (3) Size of the business unit,
- (4) Methods of handling production,
- (5) Mode of acquiring fixed assets,
- (6) Diversity of manufacturing lines

#### Features of Fixed Capital

- 
1. Purchase of Fixed Assets.
  2. Promotion and Expansion of Business.
  3. Low Liquidity.
  4. Permanent in Nature.
  5. Primary Sources.
  6. Amount of Fixed Capital.
  7. Long-term Needs of Business.
  8. Sources of Wealth and Risk.
  9. Source of Profit.
  10. Appreciation and Depreciation.
  11. Miscellaneous Features.

## **IMPORTANCE OF FIXED CAPITAL:**

Fixed capital plays a vital role in the establishment of business enterprises. It is required for acquiring fixed (tangible and intangible) assets, which is the preliminary requirement for starting a company. There are certain enterprises (manufacturing and public utilities) which cannot think of running in the absence of adequate amount of fixed capital.

Right from the very beginning, when the idea to set up an industrial unit generates in the mind of the entrepreneur, the initial investment is made in fixed assets, only then, enterprise will be in a position to work smoothly.

Fixed capital is not only required for financing the acquisition of fixed assets, but also for initial period of its working in order to establish itself. It is also needed for making improvements and expanding the existing set up of a business enterprise. Thus, it appears that adequate amount of fixed capital is an essential pre-requisite for the success of an industrial concern.

## **WORKING CAPITAL ANALYSIS**

Finance is required for two purpose viz. for its establishment and to carry out the day-to-day operations of a business. Funds are required to purchase the fixed assets such as plant, machinery, land, building, furniture, etc,

### **Concept of working capital**

There are two concepts of working capital:

1. Gross working capital
2. Net working capital

### **GROSS WORKING CAPITAL:**

In the broader sense, the term working capital refers to the gross working capital. The notion of the gross working capital refers to the capital invested in total current assets of the enterprise. Sundry Debtors (less provision for bad debts) Current assets are those assets, which in the ordinary course of business, can be converted into cash within a short period, normally one accounting year.

Examples of current assets:

1. Cash in hand and bank balance
2. Bills receivables or Accounts Receivable
3. Short-term loans and advances.
4. Inventories of stocks, such as:
  - (a) Raw materials
  - (b) Work – in process
  - (c) Stores and spares
  - (d) Finished goods
5. Temporary Investments of surplus funds.
6. Prepaid Expenses
7. Accrued Incomes etc.



**NET WORKING CAPITAL:**

In a narrow sense, the term working capital refers to the net working capital. Networking capital represents the excess of current assets over current liabilities.

Current liabilities are those liabilities, which are intended to be paid in the ordinary course of business within a short period, normally one accounting year out of the current assets or the income of the business. Net working capital may be positive or negative. When the current assets exceed the current liabilities net working capital is positive and the negative net working capital results when the liabilities are more than the current assets.

Examples of current liabilities:

1. Bills payable
2. Sundry Creditors or Accounts Payable.
3. Accrued or Outstanding Expenses.
4. Short term loans, advances and deposits.
5. Dividends payable
6. Bank overdraft
7. Provision for taxation etc

Classification or kinds of working capital

Working capital may be classified in two ways:

- a. On the basis of concept.
- b. On the basis of time permanency

On the basis of concept, working capital is classified as

gross working capital and net working capital is discussed earlier.

This classification is important from the point of view of the financial manager.

On the basis of time, working capital may be classified as:

1. Permanent or fixed working capital
2. Temporary or variable working capital

**1. Permanent or fixed working capital:** There is always a minimum level of current assets, which is continuously required by the enterprise to carry out its normal business operations and this minimum is known as permanent or fixed working capital. For example, every firm has to maintain a minimum level of raw materials, work in process; finished goods and cash balance to run the business operations smoothly and profitably. This minimum level of current assets is permanently blocked in current assets. As the business grows, the requirement of permanent working capital also increases due to the increases in current assets. The permanent working capital can further be classified into regular working capital and reserve working capital. Regular working capital is the minimum amount of working capital required to ensure circulation of current assets from cash to inventories, from inventories to receivables and from receivable to cash and so on. Reserve working capital is the excess amount over the requirement for regular working capital which may be provided for contingencies that may arise at unstated period such as strikes, rise in prices, depression etc.

## **2. Temporary or variable working capital:**

Temporary or variable working capital is the amount of working capital, which is required to meet the seasonal demands and some special exigencies. Thus the variable working capital can be further classified into seasonal working capital and special working capital. While seasonal working capital is required to meet certain seasonal demands, the special working capital is that part of working capital which is required to meet special exigencies such as launching of extensive marketing campaigns, for conducting research etc. Temporary working capital differs from permanent working capital in the sense that it is required for short periods and cannot be permanently employed gainfully in the business. Figures given below illustrate the difference between permanent and temporary working capital.

### **Importance of working capital**

Working capital is referred to be the lifeblood and nerve center of a business. Working capital is as essential to maintain the smooth functioning of a business as blood circulation in a human body. No business can run successfully without an adequate amount of working capital.

The main advantages of maintaining adequate amount of working capital are as follows:

1. **Solvency of the business:** Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.
2. **Good will:** Sufficient working capital enables a business concern to make prompt payment and hence helps in creating and maintaining good will.
3. **Easy loans:** A concern having adequate working capital, high solvency and good credit standing can arrange loans from banks and others on easy and favorable terms.
4. **Cash Discounts:** Adequate working capital also enables a concern to avail cash discounts on the purchases and hence it reduces costs.
5. **Regular supply of raw materials:** Sufficient working capital ensures regular supply of raw materials and continuous production.

6. **Regular payments of salaries wages and other day to day commitments:** A company which has ample working capital can make regular payment of salaries, wages and other day to day commitments which raises the morale of its employees, increases their efficiency, reduces wastage and cost and enhances production and profits.
  7. **Exploitation of favorable market conditions:** The concerns with adequate working capital only can exploit favorable market conditions such as purchasing its requirements in bulk when the prices are lower.
  8. **Ability to face crisis:** Adequate working capital enables a concern to face business crisis in emergencies.
  9. **Quick and regular return on Investments:** Every investor wants a quick and regular return on his investment. Sufficiency of working capital enables a concern to pay quick and regular dividends to its investors, as there may not be much pressure to plough back profits. This gains the confidence of its investors and creates a favorable market to raise additional funds in the future.
  10. **High morale:** Adequacy of working capital creates an environment of security, confidence, and high morale and creates overall efficiency in a business.
- Every business concern should have adequate working capital to run its business operations. It should have neither redundant excess working capital nor inadequate shortage of working capital. Both, excess as well as short working capital positions are bad for any business. However, out of the two, it is the inadequacy of working capital which is more dangerous from the point of view of the firm.

### **The need or objectives of working capital**

1. For the purchase of raw materials.
2. To pay wages, salaries and other day-to-day expenses and overhead cost such as fuel, power and office expenses, etc.
3. To meet the selling expenses such as packing, advertising, etc.
4. To provide credit facilities to the customers and
5. To maintain the inventories of raw materials, work-in-progress, stores and spares and finishes stock etc.

### **Factors determining the working capital requirements:-**

There are a large number of factors such as the nature and size of business, the character of their operations, the length of production cycle, the rate of stock turnover and the state of economic situation etc. that decide requirement of working capital. These factors have different importance and influence on firm differently. In general following factors generally influence the working capital requirements.

**1. Nature or character of business:** The working capital requirements of a firm basically depend upon the nature of its business. Public utility undertakings like electricity, water supply and railways need very limited working capital as their sales are on cash and are engaged in provision of services only. On the other hand, trading firms require more investment in inventories, receivables and cash and such they need large amount of working capital. The manufacturing undertakings also require sizable working capital.

**2. Size of business or scale of operations:** The working capital requirements of a concern are directly influenced by the size of its business, which may be measured in terms of scale of operations. Greater the size of a business unit, generally, larger will be the requirements of working capital. However, in some cases, even a smaller concern may need more working capital due to high overhead charges, inefficient use of available resources and other economic disadvantages of small size.

**3. Production policy:** If the demand for a given product is subject to wide fluctuations due to seasonal variations, the requirements of working capital, in such cases, depend upon the production policy. The production could be kept either steady by accumulating inventories during slack periods with a view to meet high demand during the peak season or the production could be curtailed during the slack season and increased during the peak season. If the policy is to keep the production steady by accumulating inventories it will require higher working capital.

**4. Manufacturing process/Length of production cycle:** In manufacturing business, the requirements of working capital will be in direct proportion to the length of manufacturing process. Longer the process period of manufacture, larger is the amount of working capital required, as the raw materials and other supplies have to be carried for a longer period.

**5. Seasonal variations:** If the raw material availability is seasonal, they have to be bought in bulk during the season to ensure an uninterrupted material for the production. A huge amount is, thus, blocked in the form of material, inventories during such season, which give rise to more working capital requirements. Generally, during the busy season, a firm requires larger working capital than in the slack season.

**6. Working capital cycle:** In a manufacturing concern, the working capital cycle starts with the purchase of raw material and ends with the realization of cash from the sale of finished products. This cycle involves purchase of raw materials and stores, its conversion into stocks of finished goods through work-in progress with progressive increment of

labour and service costs, conversion of finished stock into sales, debtors and receivables and ultimately realization of cash. This cycle continues again from cash to purchase of raw materials and so on. In general longer operating cycle, the larger the requirement of working capital.

**7. Credit policy:** The credit policy of a concern in its dealings with debtors and creditors influences considerably the requirements of working capital. A concern that purchases its requirements on credit requires lesser amount of working capital compared to the firm, which buys on cash. On the other hand, a concern allowing credit to its customers shall need larger amount of working capital compared to a firm selling only on cash.

**8. Business cycles:** Business cycle refers to alternate expansion and contraction in general business activity. In a period of boom, i.e., when the business is prosperous, there is a need for larger amount of working capital due to increase in sales. On the contrary, in the times of depression, i.e., when there is a down swing of the cycle, the business contracts, sales decline, difficulties are faced in collection from debtors and firms may have to hold large amount of working capital.

**9. Rate of growth of business:** The working capital requirements of a concern increase with the growth and expansion of its business activities. The retained profits may provide for a part of working capital but the fast growing concerns need larger amount of working capital than the amount of undistributed profits.

### **SOURCE OF FINANCE**

In case of proprietorship business, the individual proprietor generally invests his own savings to start with, and may borrow money on his personal security or the security of his assets from others.

Similarly, the capital of a partnership firm consists partly of funds contributed by the partners and partly of borrowed funds.

But the company form of organization enables the promoters to raise necessary funds from the public who may contribute capital and become members (share holders) of the company.

In course of its business, the company can raise loans directly from banks and financial institutions or by issue of securities (debentures) to the public.

Besides, profits earned may also be reinvested instead of being distributed as dividend to the shareholders. Thus for any business enterprise, there are two sources of finance, viz, funds contributed by owners and funds available from loans and credits.

In other words the financial resources of a business may be own funds and borrowed funds.

**Owner funds or ownership capital:** The ownership capital is also known as 'risk capital' because every business runs the risk of loss or low profits, and it is the owner who bears this risk. In the event of low profits they do not have adequate return on their investment. If losses continue the owners may be unable to recover even their original investment. However, in times of prosperity and in the case of a flourishing business the high level of profits earned accrues entirely to the owners of the business. Thus, after paying interest on loans at a fixed rate, the owners may enjoy a much higher rate of return on their investment. Owners contribute risk capital also in the hope that the value of the firm will appreciate as a result of higher earnings and growth in the size of the firm. The second characteristic of this source of finance is that ownership capital remains permanently

invested in the business. It is not refundable like loans or borrowed capital. Hence a large part of it is generally used for acquiring long – lived fixed assets and to finance a part of the working capital which is permanently required to hold a minimum level of stock of raw materials, a minimum amount of cash, etc. Another characteristic of ownership capital related to the management of business. It is on the basis of their contribution to equity capital that owners can exercise their right of control over the management of the firm. Managers cannot ignore the owners in the conduct of business affairs. The sole proprietor directly controls his own business. In a partnership firm, the active partner will take part in the management of business. A company is managed by directors who are elected by the members (shareholders).

**MERITS:** Arising out of its characteristics, the advantages of ownership capital may be briefly stated as follows:

1. It provides risk capital
2. It is a source of permanent capital
3. It is the basis on which owners 'acquire their right of control over management
4. It does not require security of assets to be offered to raise ownership capital

**LIMITATIONS:** There are also certain limitations of ownership capital as a source of finance. These are:

The amount of capital, which may be raised as owners fund depends on the number of persons, prepared to take the risks involved. In a partnership confer, a few persons cannot provide ownership capital beyond a certain limit and this limitation is more so in case of proprietary form of organization.

A joint stock company can raise large amount by issuing shares to the public. But it leads to an increased number of people having ownership interest and right of control over management. This may reduce the original investors' power of control over management. Being a permanent source of capital, ownership funds are not refundable as long as the company is in existence, even when the funds remain idle.

A company may find it difficult to raise additional ownership capital unless it has high profit-earning capacity or growth prospects. Issue of additional shares is also subject to so many legal and procedural restrictions.

**Borrowed funds and borrowed capital:** It includes all funds available by way of loans or credit. Business firms raise loans for specified periods at fixed rates of interest. Thus borrowed funds may serve the purpose of longterm, medium-term or short-term finance. The borrowing is generally at against the security of assets from banks and financial institutions. A company to borrow the funds can also issue various types of debentures.

Interest on such borrowed funds is payable at half yearly or yearly but the principal amount is being repaid only at the end of the period of loan. These interest and principal payments have to be met even if the earnings are low or there is loss. Lenders and creditors do not have any right of control over the management of the borrowing firm. But they can sue the firm in a law court if there is default in payment, interest or principal back.

**Merits:** From the business point of view, borrowed capital has several merits.

1. It does not affect the owner's control over management.
2. Interest is treated as an expense, so it can be charged against income and amount of tax payable thereby reduced.
3. The amount of borrowing and its timing can be adjusted according to convenience and needs, and
4. It involves a fixed rate of interest to be paid even when profits are very high, thus owners may enjoy a much higher rate of return on investment than the lenders.

**Limitations:** There are certain limitations, too in case of borrowed capacity. Payment of interest and repayment of loans cannot be avoided even if there is a loss. Default in meeting these obligations may create problems for the business and result in decline of its credit worthiness. Continuing default may even lead to insolvency of firm.

Secondly, it requires adequate security to be offered against loans. Moreover, high rates of interest may be charged if the firm's ability to repay the loan is uncertain.

### **Source of Company Finance**

Based upon the time, the financial resources may be classified into

- (1) sources of long
- (2) sources of short – term finance.

Some of these sources also serve the purpose of medium – term finance.

I. The source of long – term finance are:

1. Issue of shares
2. Issue debentures
3. Loan from financial
4. Retained profits and
5. Public deposits

II. Sources of Short-term Finance are:

1. Trade credit

2. Bank loans and advances and
3. Short-term loans from finance companies.

### **Sources of Long Term Finance**

**1. Issue of Shares:** The amount of capital decided to be raised from members of the public is divided into units of equal value. These units are known as share and the aggregate values of shares are known as share capital of the company. Those who subscribe to the share capital become members of the company and are called shareholders. They are the owners of the company. Hence shares are also described as ownership securities.

**2. Issue of Preference Shares:** Preference share have three distinct characteristics. Preference shareholders have the right to claim dividend at a fixed rate, which is decided according to the terms of issue of shares. Moreover, the preference dividend is to be paid first out of the net profit. The balance, if any, can be distributed among other shareholders that is, equity shareholders. However, payment of dividend is not legally compulsory.

Only when dividend is declared, preference shareholders have a prior claim over equity shareholders. Preference shareholders also have the preferential right of claiming repayment of capital in the event of winding up of the company. Preference capital has to be repaid out of assets after meeting the loan obligations and claims of creditors but before any amount is repaid to equity shareholders.

Holders of preference shares enjoy certain privileges, which cannot be claimed by the equity shareholders. That is why; they cannot directly take part in matters, which may be discussed at the general meeting of shareholders, or in the election of directors.

Depending upon the terms of conditions of issue, different types of preference shares may be issued by a company to raise funds. Preference shares may be issued as:

**1. Cumulative or Non-cumulative**

**2. Participating or Non-participating**

**3. Redeemable or Non-redeemable, or as**

**4. Convertible or non-convertible preference shares.**

In the case of cumulative preference shares, the dividend unpaid if any in previous years gets accumulated until that is paid. Non-cumulative preference shares have any such provision.



Participatory shareholders are entitled to a further share in the surplus profits after a reasonable dividend has been paid to equity shareholders. Non-participating preference shares do not enjoy such right.

Redeemable preference shares are those, which are repaid after a specified period, whereas the irredeemable preference shares are not repaid. However, the company can also redeem these shares after a specified period by giving notice as per the terms of issue.

Convertible preference shares are those, which are entitled to be converted into equity shares after a specified period.

**MERITS:** Many companies due to the following reasons prefer issue of preference shares as a source of finance.

1. It helps to enlarge the sources of funds.
2. Some financial institutions and individuals prefer to invest in preference shares due to the assurance of a fixed return.
3. Dividend is payable only when there are profits
4. It does not affect the equity shareholders' control over management

**LIMITATIONS:** The limitations of preference shares relate to some of its main features:

1. Dividend paid cannot be charged to the company's income as an expense; hence there is no tax saving as in the case of interest on loans.
2. Even though payment of dividend is not legally compulsory, if it is not paid or arrears accumulate there is an adverse effect on the company's credit.
3. Issue of preference share does not attract many investors, as the return is generally limited and does not exceed the rates of interest on loan.

On the other hand, there is a risk of no dividend being paid in the event of falling income.

**1. Issue of Equity Shares:** The most important source of raising long-term capital for a company is the issue of equity shares. In the case of equity shares there is no promise to shareholders a fixed dividend. But if the company is successful and the level profits are high, equity shareholders enjoy very high returns on their investment. This feature is very attractive to many investors even though they run the risk of having no return if the profits are inadequate or there is loss. They have the right of control over the management of the company and their liability is limited to the value of shares held by them.

From the above it can be said that equity shares have three distinct characteristics:

1. The holders of equity shares are the primary risk bearers. It is the issue of equity shares that mainly provides 'risk capital', unlike borrowed capital. Even compared with preference capital, equity shareholders are to bear ultimate risk.

2. Equity shares enable much higher return to be earned by shareholders during prosperity because after meeting the preference dividend and interest on borrowed capital at a fixed rate, the entire surplus of profit goes to equity shareholders only.

3. Holders of equity shares have the right of control over the company. Directors are elected on the vote of equity shareholders.

**MERITS:** From the company's point of view; there are several merits of issuing equity shares to raise long-term finance.

1. It is a source of permanent capital without any commitment of a fixed return to the shareholders. The return on capital depends ultimately on the profitability of business.

2. It facilitates a higher rate of return to be earned with the help of borrowed funds. This is possible due to two reasons. Loans carry a relatively lower rate of interest than the average rate of return on total capital. Secondly, there is tax saving as interest paid can be charged to income as an expense before tax calculation.

3. Assets are not required to give as security for raising equity capital. Thus additional funds can be raised as a loan against the security of assets.

**LIMITATIONS:** Although there are several advantages of issuing equity shares to raise long-term capital.

1. The risks of fluctuating returns due to changes in the level of earnings of the company do not attract many people to subscribe to equity capital.

2. The value of shares in the market also fluctuates with changes in business conditions, this is another risk, which many investors want to avoid.

**2. Issue of Debentures:** When a company decides to raise loans from the public, the amount of loan is divided into units of equal value. These units are known as debentures. A debenture is the instrument or certificate issued by a company to acknowledge its debt. Those who invest money in debentures are known as 'debenture holders'. They are creditors of the company. Debentures are therefore called 'creditor ship' securities. The value of each debenture is generally fixed in multiples of 10 like Rs. 100 or Rs. 500, or Rs. 1000. Debentures carry a fixed rate of interest, and generally are repayable after a certain period, which is specified at the time of issue.

Depending upon the terms and conditions of issue there are different types of debentures.

There are:

- a. Secured or unsecured Debentures
- b. Convertible or Non convertible Debentures.

It debentures are issued on the security of all or some specific assets of the company, they are known as secured debentures. The assets are mortgaged in favor of the debenture holders. Debentures, which are not secured by a charge or mortgage of any assets, are called unsecured debentures. The holders of these debentures are treated as ordinary creditors.

Sometimes under the terms of issue debenture holders are given an option to convert their debentures into equity shares after a specified period. Or the terms of issue may lay down that the whole or part of the debentures will be automatically converted into equity shares of a specified price after a certain period. Such debentures are known as convertible debentures. If there is no mention of conversion at the time of issue, the debentures are regarded as non-convertible debentures

**MERITS:** Debentures issue is a widely used method of raising long-term finance by companies, due to the following reasons.

1. Interest payable on Debentures can be fixed at low rates than rate of return on equity shares. Thus Debentures issue is a cheaper source of finance
2. Interest paid can be deducted from income tax purpose; thereby the amount of tax payable is reduced.
3. Funds raised for the issue of debentures may be used in business to earn a much higher rate of return than the rate of interest. As a result the equity shareholders earn more.
4. Another advantage of debenture issue is that funds are available from investors who are not entitled to have any control over the management of the company.
5. Companies often find it convenient to raise debenture capital from financial institutions, which prefer to invest in debentures rather than in shares. This is due to the assurance of a fixed return and repayment after a specified period.

**LIMITATIONS:** Debenture issue as a source of finance has certain limitations too.

1. It involves a fixed commitment to pay interest regularly even when the company has low earnings or incurring losses.
2. Debentures issue may not be possible beyond a certain limit due to the inadequacy of assets to be offered as security.

**METHODS OF ISSUING SECURITIES:** The firm after deciding the amount to be raised and the type of securities to be issued, must adopt suitable methods to offer the securities to potential investors. There are for common methods followed by companies for the purpose. When securities are offered to the general public a document known as Prospectus, or a notice, circular or advertisement is issued inviting the public to subscribe to the securities offered thereby all particulars about the company and the securities offered are made to the public. Brokers are appointed and one or more banks are authorized to collect subscription.

Some times the entire issue is subscribed by an organization known as Issue House, which in turn sells the securities to the public at a suitable time.

The company may negotiate with large investors of financial institutions who agree to take over the securities. This is known as 'Private Placement' of securities.

When an exiting company decides to raise funds by issue of equity shares, it is required under law to offer the new shares to the existing shareholders. This is described as right issue of equity shares. But if the existing shareholders decline, the new shares can be offered to the public.

**3. Loans from financial Institutions:** Government with the main object of promoting industrial development has set up a number of financial institutions. These institutions play an important role as sources of company finance. Besides they also assist companies to raise funds from other sources.

These institutions provide medium and long-term finance to industrial enterprises at a reason able rate of interest. Thus companies may obtain direct loan from the financial institutions for expansion or modernization of existing manufacturing units or for starting a new unit.

Often, the financial institutions subscribe to the industrial debenture issue of companies some of the institutions (ICICI) and (IDBI) also subscribe to the share issued by companies. All such institutions also underwrite the public issue of shares and debentures by companies. Underwriting is an agreement to take over the securities to the extent there is no public response to the issue. They may guarantee loans, which may be raised by companies from other sources.

Loans in foreign currency may also be granted for the import of machinery and equipment wherever necessary from these institutions, which stand guarantee for re-payments. Apart from the national level institutions mentioned above, there are a number of similar institutions set up in different states of India.

The state-level financial institutions are known as State Financial Corporation, State Industrial Development Corporations, State Industrial Investment Corporation and the like. The objectives of these institutions are similar to those of the national-level institutions. But they are mainly concerned with the development of medium and small-scale industrial units. Thus, smaller companies depend on state level institutions as a source of medium and long-term finance for the expansion and modernization of their enterprise.

**4. Retained Profits:** Successful companies do not distribute the whole of their profits as dividend to shareholders but reinvest a part of the profits. The amount of profit reinvested in the business of a company is known as retained profit. It is shown as reserve in the accounts. The surplus profits retained and reinvested may be regarded as an internal source of finance. Hence, this method of financing is known as self-financing. It is also called sloughing back of profits.

Since profits belong to the shareholders, the amount of retained profit is treated as ownership fund. It serves the purpose of medium and long-term finance. The total amount of ownership capital of a company can be determined by adding the share capital and accumulated reserves.

**MERITS:** This source of finance is considered to be better than other sources for the following reasons.

1. As an internal source, it is more dependable than external sources. It is not necessary to consider investor's preference.
2. Use of retained profit does not involve any cost to be incurred for raising the funds. Expenses on prospectus, advertising, etc, can be avoided.
3. There is no fixed commitment to pay dividend on the profits reinvested. It is a part of risk capital like equity share capital.
4. Control over the management of the company remains unaffected, as there is no addition to the number of shareholder.
5. It does not require the security of assets, which can be used for raising additional funds in the form of loan.

**LIMITATIONS:** However, there are certain limitations on the part of retained profit.

1. Only well established companies can be avail of this sources of finance. Even for such companies retained profits cannot be used to an unlimited extent.
2. Accumulation of reserves often attract competition in the market,

3. With the increased earnings, shareholders expect a high rate of dividend to be paid.

4. Growth of companies through internal financing may attract government restrictions as it leads to concentration of economic power.

5. Public Deposits: An important source of medium – term finance which companies make use of is public deposits. This requires advertisement to be issued inviting the general public of deposits. This requires advertisement to be issued inviting the general public to deposit their savings with the company. The period of deposit may extend up to three years.

The rate of interest offered is generally higher than the interest on bank deposits. Against the deposit, the company mentioning the amount, rate of interest, time of repayment and such other information issues a receipt. Since the public deposits are unsecured loans, profitable companies enjoying public confidence only can be able to attract public deposits. Even for such companies there are rules prescribed by government limited its use.

## **SOURCES OF SHORT TERM FINANCE**

The major sources of short-term finance are discussed below:

**1. Trade credit:** Trade credit is a common source of short-term finance available to all companies. It refers to the amount payable to the suppliers of raw materials, goods etc. after an agreed period, which is generally less than a year. It is customary for all business firms to allow credit facility to their customers in trade business. Thus, it is an automatic source of finance. With the increase in production and corresponding purchases, the amount due to the creditors also increases. Thereby part of the funds required for increased production is financed by the creditors.

The more important advantages of trade credit as a source of short-term finance are the following:

It is readily available according to the prevailing customs.

There are no special efforts to be made to avail of it.

Trade credit is a flexible source of finance.

It can be easily adjusted to the changing needs for purchases. Where there is an open account for any creditor failure to pay the amounts on time due to temporary difficulties does not involve any serious consequence Creditors often adjust the time of payment in view of continued dealings. It is an economical source of finance.

However, the liability on account of trade credit cannot be neglected. Payment has to be made regularly. If the company is required to accept a bill of exchange or to issue a promissory note against the credit, payment must be made on the maturity of the bill or note. It is a legal commitment and must be honored; otherwise legal action will follow to recover the dues.

**2. Bank loans and advances:** Money advanced or granted as loan by commercial banks is known as bank credit. Companies generally secure bank credit to meet their current operating expenses. The most common forms are cash credit and overdraft facilities. Under the cash credit arrangement the maximum limit of credit is fixed in advance on the security of goods and materials in stock or against the personal security of directors.

The total amount drawn is not to exceed the limit fixed. Interest is charged on the amount actually drawn and outstanding. During the period of credit, the company can draw, repay and again draw amounts within the maximum limit. In the case of overdraft, the company is allowed to overdraw its current account up to the sanctioned limit. This facility is also allowed either against personal security or the security of assets. Interest is charged on the amount actually overdrawn, not on the sanctioned limit.

**3. Short term loans from finance companies:** Short-term funds may be available from finance companies on the security of assets. Some finance companies also provide funds according to the value of bills receivable or amount due from the customers of the borrowing company, which they take over.

## ACCOUNTING

### INTRODUCTION

As you are aware, every trader generally starts business for purpose of earning profit. While establishing business, he brings own capital, borrows money from relatives, friends, outsiders or financial institutions. Then he purchases machinery, plant, furniture, raw materials and other assets. He starts buying and selling of goods, paying for salaries, rent and other expenses, depositing and withdrawing cash from bank. Like this he undertakes innumerable transactions in business. Observe the following transactions of small trader for one week during the month of July, 1998.

### BOOK-KEEPING AND ACCOUNTING

According to G.A. Lee the accounting system has two stages.

1. The making of routine records in the prescribed form and according to set rules of all events which affect the financial state of the organization; and
2. The summarization from time to time of the information contained in the records, its presentation in a significant form to interested parties and its interpretation as an aid to decision making by these parties.

First stage is called Book-Keeping and the second one is accounting.

**Book – Keeping:** Book – Keeping involves the chronological recording of financial transactions in a set of books in a systematic manner.

**Accounting:** Accounting is concerned with the maintenance of accounts giving stress to the design of the system of records, the preparation of reports based on the recorded data and the interpretation of the reports.

### **Distinction between Book – Keeping and Accountancy**

Thus, the terms, book-keeping and accounting are very closely related, though there is a subtle difference as mentioned below.

**1. Object:** The object of book-keeping is to prepare original books of Accounts. It is restricted to journal, subsidiary book and ledger accounts only. On the other hand, the main object of accounting is to record, analyze and interpret the business transactions.

**2. Level of Work:** Book-keeping is restricted to level of work. Clerical work is mainly involved in it. Accountancy on the other hand, is concerned with all level of management.

**3. Principles of Accountancy:** In Book-keeping Accounting concepts and conventions will be followed by all without any difference. On the other hand, various firms follow various methods of reporting and interpretation in accounting.

**Final Result:** In Book-Keeping it is not possible to know the final result of business every year,

### **Meaning of Accounting**

Thus, book-keeping is an art of recording the business transactions in the books of original entry and the ledgers. Accountancy begins where Book-keeping ends. Accountancy means the compilation of accounts in such a way that one is in a position to know the state of affairs of the business. The work of an accountant is to analyze, interpret and review the accounts and draw conclusion with a view to guide the management in chalking out the future policy of the business.

### **Definition of Accounting:**

Smith and Ashburne: "Accounting is a means of measuring and reporting the results of economic activities."

R.N. Anthony: "Accounting system is a means of collecting, summarizing, analyzing and reporting in monetary terms, the information about the business."

American Institute of Certified Public Accountants (AICPA): "The art of recording, classifying and summarizing in a significant manner and in terms of money transactions and events, which are in part at least, of a financial character and interpreting the results thereof."

Thus, accounting is an art of identifying, recording, summarizing and interpreting business transactions of financial nature. Hence accounting is the Language of Business.

### **Branches of Accounting:**

The important branches of accounting are:



**Financial Accounting:** The purpose of Accounting is to ascertain the financial results i.e. profit or loss in the operations during a specific period. It is also aimed at knowing the financial position, i.e. assets, liabilities and equity position at the end of the period. It also provides other relevant information to the management as a basis for decision-making for planning and controlling the operations of the business.

**Cost Accounting:** The purpose of this branch of accounting is to ascertain the cost of a product / operation / project and the costs incurred for carrying out various activities. It also assist the management in controlling the costs. The necessary data and information are gathered from financial and other sources.

**Management Accounting:** Its aim to assist the management in taking correct policy decision and to evaluate the impact of its decisions and actions. The data required for this purpose are drawn accounting and cost-accounting.

**Inflation Accounting:** It is concerned with the adjustment in the values of assets and of profit in light of changes in the price level. In a way it is concerned with the overcoming of limitations that arise in financial statements on account of the cost assumption (i.e. recording of the assets at their historical or original cost) and the assumption of stable monetary unit.

**Human Resource Accounting:** It is a branch of accounting which seeks to report and emphasize the importance of human resources in a company's earning process and total assets. It is concerned with the process of identifying and measuring data about human resources and communicating this information to interested parties. In simple words, it is accounting for people as organizational resources.

## **FUNCTIONS OF AN ACCOUNTANT**

The job of an accountant involves the following types of accounting works:

1. **Designing Work:** It includes the designing of the accounting system, basis for identification and classification of financial transactions and events, forms, methods, procedures, etc.
2. **Recording Work:** The financial transactions are identified, classified and recorded in appropriate books of accounts according to principles. This is "Book Keeping". The recording of transactions tends to be mechanical and repetitive.
3. **Summarizing Work:** The recorded transactions are summarized into significant form according to generally accepted accounting principles. The work includes the preparation of profit and loss account, balance sheet. This phase is called 'preparation of final accounts'
4. **Analysis and Interpretation Work:** The financial statements are analysed by using ratio analysis, break-even analysis, funds flow and cash flow analysis.
5. **Reporting Work:** The summarized statements along with analysis and interpretation are communicated to the interested parties or whoever has the right to receive them. For Ex. Share holders. In addition, the accounting departments have to prepare and send regular reports so as to assist the management in decision making. This is 'Reporting'.
6. **Preparation of Budget:** The management must be able to reasonably estimate the future requirements and opportunities. As an aid to this process, the accountant has

to prepare budgets, like cash budget, capital budget, purchase budget, sales budget etc. this is 'Budgeting'.

7. **Taxation Work:** The accountant has to prepare various statements and returns pertaining to income-tax, sales-tax, excise or customs duties etc., and file the returns with the authorities concerned.
8. **Auditing:** It involves a critical review and verification of the books of accounts statements and reports with a view to verifying their accuracy. This is 'Auditing'

This is what the accountant or the accounting department does. A person may be placed in any part of Accounting Department or MIS (Management Information System) Department or in small organization; the same person may have to attend to all this work.

## **USERS OF ACCOUNTING INFORMATION**

Different categories of users need different kinds of information for making decisions. The users of accounting can be divided in two board groups (1). Internal users and (2). External users.

### **Internal Users:**

**Managers:** These are the persons who manage the business, i.e. management at he top, middle and lower levels. Their requirements of information are different because they make different types of decisions.

Accounting reports are important to managers for evaluating the results of their decisions. In additions to external financial statements, managers need detailed internal reports either branch division or department or product-wise. Accounting reports for managers are prepared much more frequently than external reports.

Accounting information also helps the managers in appraising the performance of subordinates. As such Accounting is termed as " the eyes and ears of management."

### **External Users:**

**1. Investors:** Those who are interested in buying the shares of company are naturally interested in the financial statements to know how safe the investment already made is and how safe the proposed investments will be.

**2. Creditors:** Lenders are interested to know whether their load, principal and interest, will be paid when due. Suppliers and other creditors are also interested to know the ability of the firm to pay their dues in time.

**3. Workers:** In our country, workers are entitled to payment of bonus which depends on the size of profit earned. Hence, they would like to be satisfied that he bonus being paid to them is correct. This knowledge also helps them in conducting negotiations for wages.

**4. Customers:** They are also concerned with the stability and profitability of the enterprise. They may be interested in knowing the financial strength of the company to rent it for further decisions relating to purchase of goods.

5. **Government:** Governments all over the world are using financial statements for compiling statistics concerning business which, in turn, helps in compiling national accounts. The financial statements are useful for tax authorities for calculating taxes.

6. **Public :** The public at large interested in the functioning of the enterprises because it may make a substantial contribution to the local economy in many ways including the number of people employed and their patronage to local suppliers.

7. **Researchers:** The financial statement, being a mirror of business conditions, is of great interest to scholars undertaking research in accounting theory as well as business affairs and practices.

### **ADVANTAGES FROM ACCOUNTING**

The role of accounting has changed from that of a mere record keeping during the 1<sup>st</sup> decade of 20<sup>th</sup> century of the present stage, which it is accepted as information system and decision making activity. The following are the advantages of accounting.

1. **Provides for systematic records:** Since all the financial transactions are recorded in the books, one need not rely on memory. Any information required is readily available from these records.
2. **Facilitates the preparation of financial statements:** Profit and loss account and balance sheet can be easily prepared with the help of the information in the records. This enables the trader to know the net result of business operations (i.e. profit / loss) during the accounting period and the financial position of the business at the end of the accounting period.
3. **Provides control over assets:** Book-keeping provides information regarding cash in hand, cash at bank, stock of goods, accounts receivables from various parties and the amounts invested in various other assets. As the trader knows the values of the assets he will have control over them.
4. **Provides the required information:** Interested parties such as owners, lenders, creditors etc., get necessary information at frequent intervals.
5. **Comparative study:** One can compare the present performance of the organization with that of its past. This enables the managers to draw useful conclusion and make proper decisions.
6. **Less Scope for fraud or theft:** It is difficult to conceal fraud or theft etc., because of the balancing of the books of accounts periodically. As the work is divided among many persons, there will be check and counter check.
7. **Tax matters:** Properly maintained book-keeping records will help in the settlement of all tax matters with the tax authorities.
8. **Ascertaining Value of Business:** The accounting records will help in ascertaining the correct value of the business. This helps in the event of sale or purchase of a business.
9. **Documentary evidence:** Accounting records can also be used as an evidence in the court to substantiate the claim of the business. These records are based on documentary proof. Every entry is supported by authentic vouchers. As such, Courts accept these records as evidence.
10. **Helpful to management:** Accounting is useful to the management in various ways. It enables the management to assess the achievement of its performance. The weakness

of the business can be identified and corrective measures can be applied to remove them with the help of accounting.

## LIMITATIONS OF ACCOUNTING

The following are the limitations of accounting.

1. **Does not record all events:** Only the transactions of a financial character will be recorded under book-keeping. So it does not reveal a complete picture about the quality of human resources, location advantage, business contacts etc.
2. **Does not reflect current values:** The data available under book-keeping is historical in nature. So they do not reflect current values. For instance, we record the value of stock at cost price or market price, whichever is less. In case of building, machinery etc., we adopt historical cost as the basis. In fact, the current values of buildings, plant and machinery may be much more than what is recorded in the balance sheet.
3. **Estimates based on Personal Judgment:** The estimate used for determining the values of various items may not be correct. For example, debtors are estimated in terms of collectability, inventories are based on marketability, and fixed assets are based on useful working life. These estimates are based on personal judgment and hence sometimes may not be correct.
4. **Inadequate information on costs and Profits:** Book-keeping only provides information about the overall profitability of the business. No information is given about the cost and profitability of different activities of products or divisions.

## BASIC ACCOUNTING CONCEPTS

Accounting is a system evolved to achieve a set of objectives. In order to achieve the goals, we need a set of rules or guidelines. These guidelines are termed here as "BASIC ACCOUNTING CONCEPTS". The term concept means an idea or thought. Basic accounting concepts are the fundamental ideas or basic assumptions underlying the theory and practice of FINANCIAL ACCOUNTING. These concepts help in bringing about uniformity in the practice of accounting. In accountancy following concepts are quite popular.

1. **BUSINESS ENTITY CONCEPT:** In this concept "Business is treated as separate from the proprietor". All the Transactions recorded in the book of Business and not in the books of proprietor. The proprietor is also treated as a creditor for the Business.
2. **GOING CONCERN CONCEPT:** This concept relates with the long life of Business. The assumption is that business will continue to exist for unlimited period unless it is dissolved due to some reasons or the other.
3. **MONEY MEASUREMENT CONCEPT:** In this concept "Only those transactions are recorded in accounting which can be expressed in terms of money, those transactions which cannot be expressed in terms of money are not recorded in the books of accounting".

**4. COST CONCEPT:** According to this concept, an asset is recorded at its cost in the books of account. i.e., price, which is paid at the time of acquiring it. In balance sheet, these assets appear not at cost price every year, but depreciation is deducted and they appear at the amount, which is cost, less classification.

**5. ACCOUNTING PERIOD CONCEPT:** every Businessman wants to know the result of his investment and efforts after a certain period. Usually one-year period is regarded as an ideal for this purpose. This period is called Accounting Period. It depends on the nature of the business and object of the proprietor of business.

**6. DUAL ASPECT CONCEPT:** According to this concept "Every business transactions has two aspects", one is the receiving benefit aspect another one is giving benefit aspect. The receiving benefit aspect is termed as "DEBIT", where as giving benefit aspect is termed as "CREDIT". Therefore, for every debit, there will be corresponding credit.

**7. MATCHING COST CONCEPT:** According to this concept "The expenses incurred during an accounting period, e.g., if revenue is recognized on all goods sold during a period, cost of those goods sold should also be charged to that period.

**8. REALISATION CONCEPT:** According to this concept revenue is recognized when a sale is made. Sale is considered to be made at the point when the property in goods passes to the buyer and he becomes legally liable to pay.

## **ACCOUNTING CONVENTIONS**

Accounting is based on some customs or usages. Naturally accountants are here to adopt that usage or custom. They are termed as conventional conventions in accounting. The following are some of the important accounting conventions.

**1. FULL DISCLOSURE:** According to this convention accounting reports should disclose fully and fairly the information. They purport to represent. They should be prepared honestly and sufficiently disclose information which is of material interest to proprietors, present and potential creditors and investors. The Companies Act, 1956 makes it compulsory to provide all the information in the prescribed form.

**2. MATERIALITY:** Under this convention the trader records important factors about the commercial activities. In the form of financial statements if any unimportant information is to be given for the sake of clarity it will be given as footnotes.

**3. CONSISTENCY:** It means that accounting method adopted should not be changed from year to year. It means that there should be consistency in the methods or principles followed. Or else the results of a year cannot be conveniently compared with that of another.

**4. CONSERVATISM:** This convention warns the trader not to take unrealized income into account. That is why the practice of valuing stock at cost or market price, whichever is

lower is in vague. This is the policy of “playing safe”; it takes in to consideration all prospective losses but leaves all prospective profits.

## **KEY WORDS IN BOOK-KEEPING**

**1. TRANSACTIONS:** Any sale or purchase of goods of services is called the transaction. Transactions are two types.

[a]. cash transaction: cash transaction is one where cash receipt or payment is involved in the exchange.

[b]. Credit transaction: Credit transaction will not have cash, either received or paid, for something given or received respectively.

**2. GOODS:** Fill those things which a firm purchases for resale are called goods.

**3. PURCHASES:** Purchases means purchase of goods, unless it is stated otherwise it also represents the Goods purchased.

**4. SALES:** Sales means sale of goods, unless it is stated otherwise it also represents these goods sold.

**5. EXPENSES:** Payments for the purchase of goods as services are known as expenses.

**6. REVENUE:** Revenue is the amount realized or receivable from the sale of goods or services.

**7. ASSETS:** The valuable things owned by the business are known as assets. These are the properties owned by the business.

**8. LIABILITIES:** Liabilities are the obligations or debts payable by the enterprise in future in the term of money or goods.

**9. DEBTORS:** Debtors means a person who owes money to the trader.

**10. CREDITORS:** A creditor is a person to whom something is owned by the business.

**11. DRAWINGS:** cash or goods withdrawn by the proprietor from the Business for his personal or Household is termed to as “drawing”.

**12. RESERVE:** An amount set aside out of profits or other surplus and designed to meet contingencies.

**13. ACCOUNT:** A summarized statements of transactions relating to a particular person, thing, Expense or income.

**14. DISCOUNT:** There are two types of discounts..

- i. Cash discount: An allowable made to encourage frame payment or before the expiration of the period allowed for credit.
- ii. Trade discount: A deduction from the gross or catalogue price allowed to traders who buys them for resale.

## CLASSIFICATION OF BUSINESS TRANSACTIONS

All business transactions are classified into three categories:

- 1. Those relating to persons
- 2. Those relating to property(Assets)
- 3. Those relating to income & expenses

Thus, three classes of accounts are maintained for recording all business transactions. They are:

- 1. Personal accounts**
- 2. Real accounts**
- 3. Nominal accounts**

**1. Personal Accounts:** Accounts which are transactions with persons are called “Personal Accounts” .

A separate account is kept on the name of each person for recording the benefits received from, or given to the person in the course of dealings with him.

E.g.: Krishna’s A/C, Gopal’s A/C, SBI A/C, Nagarjuna Finanace Ltd.A/C, ObulReddy & Sons A/C , HMT Ltd. A/C, Capital A/C, Drawings A/C etc.

**2. Real Accounts:** The accounts relating to properties or assets are known as “Real Accounts” .Every business needs assets such as machinery, furniture etc, for running its activities .A separate account is maintained for each asset owned by the business.

E.g.: cash A/C, furniture A/C, building A/C, machinery A/C etc.

**3. Nominal Accounts:** *Accounts* relating to expenses, losses, incomes and gains are known as “Nominal Accounts”. A separate account is maintained for each item of expenses, losses, income or gain.

E.g.: Salaries A/C, stationery A/C, wages A/C, postage A/C, commission A/C, interest A/C, purchases A/C, rent A/C, discount A/C, commission received A/C, interest received A/C, rent received A/C, discount received A/C.

Before recording a transaction, it is necessary to find out which of the accounts is to be debited and which is to be credited. The following three different rules have been laid down for the three classes of accounts....

**1. Personal Accounts:** The account of the person receiving benefit (receiver) is to be debited and the account of the person giving the benefit (given) is to be credited.

**Rule:** “Debit----The Receiver  
Credit---The Giver”

**2. Real Accounts:** When an asset is coming into the business, account of that asset is to be debited .When an asset is going out of the business; the account of that asset is to be credited.

**Rule:** “Debit----What comes in  
Credit---What goes out”

**3. Nominal Accounts:** When an expense is incurred or loss encountered, the account representing the expense or loss is to be debited. When any income is earned or gain made, the account representing the income of gain is to be credited.

**Rule:** “Debit----All expenses and losses  
Credit---All incomes and gains”

## JOURNAL

The first step in accounting therefore is the record of all the transactions in the books of original entry viz., Journal and then posting into ledges.

**JOURNAL:** The word Journal is derived from the Latin word ‘journ’ which means a day. Therefore, journal means a ‘day Book’ in day-to-day business transactions are recorded in chronological order.

Journal is treated as the book of original entry or first entry or prime entry. All the business transactions are recorded in this book before they are posted in the ledges. The journal is a complete and chronological (in order of dates) record of business transactions. It is recorded in a systematic manner. The process of recording a transaction in the journal is called “JOURNALISING”. The entries made in the book are called “Journal Entries”.

The Performa of Journal is given below.

Date	Particulars	L.F. no	Debit RS.	Credit RS.
1998 Jan 1	Purchases account to cash account (being goods purchased for cash)		10,000/-	10,000/-

## LEDGER

All the transactions in a journal are recorded in a chronological order. After a certain period, if we want to know whether a particular account is showing a debit or credit



balance it becomes very difficult. So, the ledger is designed to accommodate the various accounts maintained the trader. It contains the final or permanent record of all the transactions in duly classified form. "A ledger is a book which contains various accounts." The process of transferring entries from journal to ledger is called "POSTING".

Posting is the process of entering in the ledger the entries given in the journal. Posting into ledger is done periodically, may be weekly or fortnightly as per the convenience of the business. The following are the guidelines for posting transactions in the ledger.

1. After the completion of Journal entries only posting is to be made in the ledger.
2. For each item in the Journal a separate account is to be opened. Further, for each new item a new account is to be opened.
3. Depending upon the number of transactions space for each account is to be determined in the ledger.
4. For each account there must be a name. This should be written in the top of the table. At the end of the name, the word "Account" is to be added.
5. The debit side of the Journal entry is to be posted on the debit side of the account, by starting with "TO".
6. The credit side of the Journal entry is to be posted on the debit side of the account, by starting with "BY".

*Proforma for ledger: LEDGER BOOK*

Particulars account

Date	Particulars	Lfno	Amount	Date	Particulars	Lfno	amount

Sales account

Date	Particulars	Lfno	Amount	Date	Particulars	Lfno	amount

Cash account

Date	Particulars	Lfno	Amount	Date	Particulars	Lfno	amount

## TRAIL BALANCE

The first step in the preparation of final accounts is the preparation of trail balance. In the double entry system of book keeping, there will be credit for every debit and there will not be any debit without credit. When this principle is followed in writing journal entries, the total amount of all debits is equal to the total amount all credits.

A trail balance is a statement of debit and credit balances. It is prepared on a particular date with the object of checking the accuracy of the books of accounts. It indicates that all the transactions for a particular period have been duly entered in the book, properly posted and balanced. The trail balance doesn't include stock in hand at the end of the period. All adjustments required to be done at the end of the period including closing stock are generally given under the trail balance.

**DEFINITIONS: SPICER AND POGLAR:** A trail balance is a list of all the balances standing on the ledger accounts and cash book of a concern at any given date.

*J.R.BATLIBOI:* A trail balance is a statement of debit and credit balances extracted from the ledger with a view to test the arithmetical accuracy of the books.

Thus a trail balance is a list of balances of the ledger accounts' and cash book of a business concern at any given date.

### PROFORMA FOR TRAIL BALANCE:

Trail balance for MR..... as on .....

	NAME OF ACCOUNT (PARTICULARS)	DEBIT AMOUNT (RS.)	CREDIT AMOUNT (RS.)
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Trail Balance

Specimen of trial balance

1	Capital	Credit	Loan
2	Opening stock	Debit	Asset
3	Purchases	Debit	Expense
4	Sales	Credit	Gain
5	Returns inwards	Debit	Loss
6	Returns outwards	Debit	Gain
7	Wages	Debit	Expense
8	Freight	Debit	Expense
9	Transport expenses	Debit	Expense
10	Royalties on production	Debit	Expense
11	Gas, fuel	Debit	Expense
12	Discount received	Credit	Revenue
13	Discount allowed	Debit	Loss
14	Bad debts	Debit	Loss
15	Dab debts reserve	Credit	Gain

16	Commission received	Credit	Revenue
17	Repairs	Debit	Expense
18	Rent	Debit	Expense
19	Salaries	Debit	Expense
20	Loan Taken	Credit	Loan
21	Interest received	Credit	Revenue
22	Interest paid	Debit	Expense
23	Insurance	Debit	Expense
24	Carriage outwards	Debit	Expense
25	Advertisements	Debit	Expense
26	Petty expenses	Debit	Expense
27	Trade expenses	Debit	Expense
28	Petty receipts	Credit	Revenue
29	Income tax	Debit	Drawings
30	Office expenses	Debit	Expense
31	Customs duty	Debit	Expense
32	Sales tax	Debit	Expense
33	Provision for discount on debtors	Debit	Liability
34	Provision for discount on creditors	Debit	Asset
35	Debtors	Debit	Asset
36	Creditors	Credit	Liability
37	Goodwill	Debit	Asset
38	Plant, machinery	Debit	Asset
39	Land, buildings	Debit	Asset
40	Furniture, fittings	Debit	Asset
41	Investments	Debit	Asset
42	Cash in hand	Debit	Asset
43	Cash at bank	Debit	Asset
44	Reserve fund	Credit	Liability
45	Loan advances	Debit	Asset
46	Horse, carts	Debit	Asset
47	Excise duty	Debit	Expense
48	General reserve	Credit	Liability
49	Provision for depreciation	Credit	Liability
50	Bills receivable	Debit	Asset
51	Bills payable	Credit	Liability
52	Depreciation	Debit	Loss
53	Bank overdraft	Credit	Liability
54	Outstanding salaries	Credit	Liability
55	Prepaid insurance	Debit	Asset
56	Bad debt reserve	Credit	Revenue
57	Patents & Trademarks	Debit	Asset
58	Motor vehicle	Debit	Asset
59	Outstanding rent	Credit	Revenue

## FINAL ACCOUNTS

In every business, the business man is interested in knowing whether the business has resulted in profit or loss and what the financial position of the business is at a given time. In brief, he wants to know (i) The profitability of the business and (ii) The soundness of the business.

The trader can ascertain this by preparing the final accounts. The final accounts are prepared from the trial balance. Hence the trial balance is said to be the link between the ledger accounts and the final accounts. The final accounts of a firm can be divided into two stages. The first stage is preparing the trading and profit and loss account and the second stage is preparing the balance sheet.

### TRADING ACCOUNT

The first step in the preparation of final account is the preparation of trading account. The main purpose of preparing the trading account is to ascertain gross profit or gross loss as a result of buying and selling the goods.

**Trading account of MR..... for the year ended .....**

Particulars	Amount	Particulars	Amount
To opening stock	Xxxx	By sales   xxxx	
To purchases   xxxx		Less: returns   xxx	Xxxx
Less: returns   xx	Xxxx	By closing stock	Xxxx
 To carriage inwards	Xxxx		
To wages	Xxxx		
To freight	Xxxx		
To customs duty, octroi	Xxxx		
 To gas, fuel, coal, Water	Xxxx		
 To factory expenses			
To other man. Expenses	Xxxx		
To productive expenses	Xxxx		
To gross profit c/d	Xxxx		
	Xxxx		
			Xxxx
	Xxxx		

Finally, a ledger may be defined as a summary statement of all the transactions relating to a person , asset, expense or income which have taken place during a given period of time. The up-to-date state of any account can be easily known by referring to the ledger.

## PROFIT AND LOSS ACCOUNT

The business man is always interested in knowing his net income or net profit. Net profit represents the excess of gross profit plus the other revenue incomes over administrative, sales, Financial and other expenses. The debit side of profit and loss account shows the expenses and the credit side the incomes. If the total of the credit side is more, it will be the net profit. And if the debit side is more, it will be net loss.

### PROFIT AND LOSS A/C OF MR.....FOR THE YEAR ENDED.....

PARTICULARS	AMOUNT	PARTICULARS	AMOUNT
TO office salaries	Xxxxxx	<b>By gross profit b/d</b>	Xxxxxx
TO rent,rates,taxes	Xxxxx	Interest received	Xxxxx
TO Printing and stationery	Xxxxx	Discount received	Xxxx
TO Legal charges		Commission received	Xxxxxx
Audit fee	Xxxx	Income from	
TO Insurance	Xxxx	investments	
TO General expenses	Xxxx	Dividend on shares	Xxxx
TO Advertisements	Xxxxx	Miscellaneous	Xxxx
TO Bad debts	Xxxx	investments	
TO Carriage outwards	Xxxx	Rent received	xxxx
TO Repairs	Xxxx		
TO Depreciation	Xxxxx		
TO interest paid	Xxxxx		
TO Interest on capital	Xxxxx		
TO Interest on loans	Xxxx		
TO Discount allowed	Xxxxx		
TO Commission	Xxxxx		
<b>TO Net profit-----→</b>	Xxxxx		
(transferred to capital a/c)			
	xxxxxx		Xxxxxx

## BALANCE SHEET

The second point of final accounts is the preparation of balance sheet. It is prepared often in the trading and profit, loss accounts have been compiled and closed. A balance sheet may be considered as a statement of the financial position of the concern at a given date.

**DEFINITION:** A balance sheet is an item wise list of assets, liabilities and proprietorship of a business at a certain state.

*J.R.botliboi:* A balance sheet is a statement with a view to measure exact financial position of a business at a particular date.

Thus, Balance sheet is defined as a statement which sets out the assets and liabilities of a business firm and which serves to ascertain the financial position of the same on any particular date. On the left-hand side of this statement, the liabilities and the capital are shown. On the right-hand side all the assets are shown. Therefore, the two sides of the balance sheet should be equal. Otherwise, there is an error somewhere

### BALANCE SHEET OF ..... AS ON .....

Liabilities and capital	Amount	Assets	Amount
Creditors	Xxxx	Cash in hand	Xxxx
Bills payable	Xxxx	Cash at bank	Xxxx
Bank overdraft	Xxxx	Bills receivable	Xxxx
Loans	Xxxx	Debtors	Xxxx
Mortgage	Xxxx	Closing stock	Xxxx
Reserve fund	Xxxx	Investments	Xxxx
Capital xxxxxx		Furniture and fittings	Xxxx
Add:		Plants & machinery	
Net Profit xxxx		Land & buildings	Xxxx
-----		Patents, tm	Xxxx
xxxxxxx		,copyrights	Xxxx
-----		Goodwill	
Less:		Prepaid expenses	Xxxx
Drawings xxxx	Xxxx	Outstanding incomes	Xxxx
-----	XXXX		XXXX

### Advantages:

The following are the advantages of final balance.

1. It helps in checking the arithmetical accuracy of books of accounts.
2. It helps in the preparation of financial statements.
3. It helps in detecting errors.
4. It serves as an instrument for carrying out the job of rectification of entries.
5. It is possible to find out the balances of various accounts at one place.

## **UNIT-V**

### **INVESTMENT DECISIONS**

#### **Introduction**

Finance is the prerequisite to commence and vary on business. It is rightly said to be the lifeblood of the business. No growth and expansion of business can take place without sufficient finance. It shows that no business activity is possible without finance. This is why; every business has to make plans regarding acquisition and utilization of funds.

#### **Function of finance :**

- Investment Decision
- Capital budgeting:
- Working Capital Management
- Finance Decision
- Dividend Policy decision

The second aspect of the financing decision is the determination of an appropriate capital structure, which will result, is maximum return to the shareholders and in turn maximizes the worth of the firm. Thus, the financing decision covers two inter-related aspects: (a) capital structure theory, and (b) capital structure decision.

**Capital Budgeting:** Capital budgeting is the process of making investment decision in long-term assets or courses of action. Capital expenditure incurred today is expected to bring its benefits over a period of time. These expenditures are related to the acquisition & improvement of fixes assets.

Capital budgeting is the planning of expenditure and the benefit, which spread over a number of years. It is the process of deciding whether or not to invest in a particular project, as the investment possibilities may not be rewarding. The manager has to choose a project, which gives a rate of return, which is more than the cost of financing the project. For this the manager has to evaluate the worth of the projects in-terms of cost and benefits. The benefits are the expected cash inflows from the project, which are discounted against a standard, generally the cost of capital.

#### **Capital Budgeting Process:**

1. Project generation
2. Project evaluation
3. Project selection
4. Project execution

Project generation

Replacement of equipment:.

Expansion.

Diversification.

Research and Development

### **Capital budgeting Techniques:**

The capital budgeting appraisal methods are techniques of evaluation of investment proposal will help the company to decide upon the desirability of an investment proposal depending upon their; relative income generating capacity and rank them in order of their desirability. These methods provide the company a set of norms on the basis of which either it has to accept or reject the investment proposal. The most widely accepted techniques used in estimating the cost-returns of investment projects can be grouped under two categories.

#### **1. Traditional methods**

#### **2. Discounted Cash flow methods**

#### **Traditional methods**

These methods are based on the principles to determine the desirability of an investment project on the basis of its useful life and expected returns. These methods depend upon the accounting information available from the books of accounts of the company. These will not take into account the concept of 'time value of money', which is a significant factor to determine the desirability of a project in terms of present value.

#### **A. PAY-BACK PERIOD METHOD**

$$\text{Pay-back period} = \frac{\text{Cash outlay (or) original cost of project}}{\text{Annual cash inflow}}$$

#### **MERITS:**

1. It is one of the earliest methods of evaluating the investment projects.
2. It is simple to understand and to compute.
3. It does not involve any cost for computation of the payback period
4. It is one of the widely used methods in small scale industry sector
5. It can be computed on the basis of accounting information available from the books.



**DEMERITS:**

1. This method fails to take into account the cash flows received by the company after the payback period.
2. It doesn't take into account the interest factor involved in an investment outlay.
3. It doesn't take into account the interest factor involved in an investment outlay.
4. It is not consistent with the objective of maximizing the market value of the company's share.
5. It fails to consider the pattern of cash inflows i. e., the magnitude and timing of cash inflows.

**B. ACCOUNTING (OR) AVERAGE RATE OF RETURN METHOD (ARR):**

It is an accounting method, which uses the accounting information repeated by the financial statements to measure the probability of an investment proposal. It can be determined by dividing the average income after taxes by the average investment i.e., the average book value after depreciation.

According to 'Soloman', accounting rate of return on an investment can be calculated as the ratio of accounting net income to the initial investment, i.e.,

$$\text{ARR} = \frac{\text{Average net income after taxes}}{\text{Average Investment}} \times 100$$

$$\text{Average net income after taxes} = \frac{\text{Total Income after Taxes}}{\text{No. Of Years}}$$

$$\text{Average investment} = \frac{\text{Total Investment}}{2}$$

On the basis of this method, the company can select all those projects who's ARR is higher than the minimum rate established by the company. It can reject the projects with an ARR lower than the expected rate of return. This method can also help the management to rank the proposal on the basis of ARR. A highest rank will be given to a project with highest ARR, where as a lowest rank to a project with lowest ARR.

**MERITS:**

1. It is very simple to understand and calculate.
2. It can be readily computed with the help of the available accounting data.
3. It uses the entire stream of earning to calculate the ARR.

**DEMERITS:**

1. It is not based on cash flows generated by a project.
2. This method does not consider the objective of wealth maximization
3. IT ignores the length of the projects useful life.
4. It does not take into account the fact that the profits can be re-invested.

## II: DISCOUNTED CASH FLOW METHODS:

The traditional method does not take into consideration the time value of money. They give equal weight age to the present and future flow of incomes. The DCF methods are based on the concept that a rupee earned today is more worth than a rupee earned tomorrow. These methods take into consideration the profitability and also time value of money.

### A. NET PRESENT VALUE METHOD (NPV)

The NPV takes into consideration the time value of money. The cash flows of different years and valued differently and made comparable in terms of present values for this the net cash inflows of various period are discounted using required rate of return which is predetermined.

According to Ezra Solomon, "It is a present value of future returns, discounted at the required rate of return minus the present value of the cost of the investment."

NPV is the difference between the present value of cash inflows of a project and the initial cost of the project.

According the NPV technique, only one project will be selected whose NPV is positive or above zero. If a project(s) NPV is less than 'Zero'. It gives negative NPV hence. It must be rejected. If there are more than one project with positive NPV's the project is selected whose NPV is the highest.

The formula for NPV is

NPV= Present value of cash inflows – investment.

$$NPV = \frac{C_1}{(1+K)} + \frac{C_2}{(1+K)} + \frac{C_3}{(1+K)} + \dots + \frac{C_n}{(1+K)}$$

Co- investment

C1, C2, C3... Cn= cash inflows in different years.

K= Cost of the Capital (or) Discounting rate

D= Years.

### MERITS:

1. It recognizes the time value of money.
2. It is based on the entire cash flows generated during the useful life of the asset.
3. It is consistent with the objective of maximization of wealth of the owners.
4. The ranking of projects is independent of the discount rate used for determining the present value.

## **DEMERITS:**

1. It is different to understand and use.
2. The NPV is calculated by using the cost of capital as a discount rate. But the concept of cost of capital is difficult to understand and determine.
3. It does not give solutions when the comparable projects are involved in different amounts of investment.
4. It does not give correct answer to a question whether alternative projects or limited funds are available with unequal lines.

## **B. INTERNAL RATE OF RETURN METHOD (IRR)**

The IRR for an investment proposal is that discount rate which equates the present value of cash inflows with the present value of cash outflows of an investment. The IRR is also known as cutoff or hurdle rate. It is usually the concern's cost of capital.

According to Weston and Brigham "The internal rate is the interest rate that equates the present value of the expected future receipts to the cost of the investment outlay.

When compared the IRR with the required rate of return (RRR), if the IRR is more than RRR then the project is accepted else rejected. In case of more than one project with IRR more than RRR, the one, which gives the highest IRR, is selected.

The IRR is not a predetermined rate, rather it is to be trial and error method. It implies that one has to start with a discounting rate to calculate the present value of cash inflows. If the obtained present value is higher than the initial cost of the project one has to try with a higher rate. Likewise if the present value of expected cash inflows obtained is lower than the present value of cash flow, lower rate is to be taken up. The process is continued till the net present value becomes Zero. As this discount rate is determined internally, this method is called internal rate of return method.

$$IRR = L + \frac{P_1 - Q}{P_1 - P_2} \times D$$

L- Lower discount rate

P1 - Present value of cash inflows at lower rate.

P2 - Present value of cash inflows at higher rate.

Q- Actual investment

D- Difference in Discount rates.

## **MERITS:**

1. It considers the time value of money
2. It takes into account the cash flows over the entire useful life of the asset.

3. It has a psychological appeal to the user because when the highest rate of return projects are selected, it satisfies the investors in terms of the rate of return on capital
4. It always suggests accepting to projects with maximum rate of return.
5. It is inconformity with the firm's objective of maximum owner's welfare.

#### **DEMERITS:**

1. It is very difficult to understand and use.
2. It involves a very complicated computational work.
3. It may not give unique answer in all situations.

#### **C. PROFITABILITY INDEX METHOD (PI)**

The method is also called benefit cost ration. This method is obtained cloth a slight modification of the NPV method. In case of NPV the present value of cash out flows are profitability index (PI), the present value of cash inflows are divide by the present value of cash out flows, while NPV is a absolute measure, the PI is a relative measure.

It the PI is more than one (>1), the proposal is accepted else rejected. If there are more than one investment proposal with the more than one PI the one with the highest PI will be selected. This method is more useful incase of projects with different cash outlays cash outlays and hence is superior to the NPV method.  
The formula for PI is

$$\text{Probability index} = \frac{\text{Present Value of Future Cash Inflow}}{\text{Investment}}$$

#### **Merits:**

1. It requires less computational work then IRR method
2. It helps to accept / reject investment proposal on the basis of value of the index.
3. It is useful to rank the proposals on the basis of the highest/lowest value of the index.
4. It is useful to tank the proposals on the basis of the highest/lowest value of the index.
5. It takes into consideration the entire stream of cash flows generated during the useful life of the asset.

#### **Demerits:**

1. It is somewhat difficult to understand
2. Some people may feel no limitation for index number due to several limitation involved in their competitions
3. It is very difficult to understand the analytical part of the decision on the basis of probability index.

## **RATIO ANALYSIS**

### **Introduction**

Absolute figures are valuable but they standing alone convey no meaning unless compared with another. Accounting ratio shows inter-relationships which exist among various accounting data. When relationships among various accounting data supplied by financial statements are worked out, they are known as accounting ratios.

Accounting ratios can be expressed in various ways such as:

1. a pure ratio says ratio of current assets to current liabilities is 2:1 or
2. a rate say current assets are two times of current liabilities or
3. a percentage say current assets are 200% of current liabilities.

Each method of expression has a distinct advantage over the other the analyst will selected that mode which will best suit his convenience and purpose.

### **Uses or Advantages or Importance of Ratio Analysis**

Ratio Analysis stands for the process of determining and presenting the relationship of items and groups of items in the financial statements. It is an important technique of financial analysis. It is a way by which financial stability and health of a concern can be judged. The following are the main uses of Ratio analysis:

- (i) **Useful in financial position analysis:** Accounting reveals the financial position of the concern. This helps banks, insurance companies and other financial institution in lending and making investment decisions.
- (ii) **Useful in simplifying accounting figures:** Accounting ratios simplify, summaries and systematic the accounting figures in order to make them more understandable and in lucid form.
- (iii) **Useful in assessing the operational efficiency:** Accounting ratios helps to have an idea of the working of a concern. The efficiency of the firm becomes evident when analysis is based on accounting ratio. This helps the management to assess financial requirements and the capabilities of various business units.
- (IV) **Useful in forecasting purposes:** If accounting ratios are calculated for number of years, then a trend is established. This trend helps in setting up future plans and forecasting.
- (V) **Useful in locating the weak spots of the business:** Accounting ratios are of great assistance in locating the weak spots in the business even through the overall performance may be efficient.
- (VI) **Useful in comparison of performance:** Managers are usually interested to know which department performance is good and for that he compare one department with

the another department of the same firm. Ratios also help him to make any change in the organisation structure.

### **LIMITATIONS OF RATIO ANALYSIS:**

These limitations should be kept in mind while making use of ratio analyses for interpreting the financial statements. The following are the main limitations of ratio analysis.

1. **False results if based on incorrect accounting data:** Accounting ratios can be correct only if the data (on which they are based) is correct. Sometimes, the information given in the financial statements is affected by window dressing, i. e. showing position better than what actually is.
2. **No idea of probable happenings in future:** Ratios are an attempt to make an analysis of the past financial statements; so they are historical documents. Now-a-days keeping in view the complexities of the business, it is important to have an idea of the probable happenings in future.
3. **Variation in accounting methods:** The two firms' results are comparable with the help of accounting ratios only if they follow the some accounting methods or bases. Comparison will become difficult if the two concerns follow the different methods of providing depreciation or valuing stock.
4. **Price level change:** Change in price levels make comparison for various years difficult.
5. **Only one method of analysis:** Ratio analysis is only a beginning and gives just a fraction of information needed for decision-making so, to have a comprehensive analysis of financial statements, ratios should be used along with other methods of analysis.
6. **No common standards:** It is very difficult to by down a common standard for comparison because circumstances differ from concern to concern and the nature of each industry is different.
7. **Different meanings assigned to the some term:** Different firms, in order to calculate ratio may assign different meanings. This may affect the calculation of ratio in different firms and such ratio when used for comparison may lead to wrong conclusions.
8. **Ignores qualitative factors:** Accounting ratios are tools of quantitative analysis only. But sometimes qualitative factors may surmount the quantitative aspects. The calculations derived from the ratio analysis under such circumstances may get distorted.
9. **No use if ratios are worked out for insignificant and unrelated figure:** Accounting ratios should be calculated on the basis of cause and effect relationship. One should be clear as to what cause is and what effect is before calculating a ratio between two figures.

### **RATIO ANALYSIS:**

Ratio is an expression of one number is relation to another. It is one of the methods of analyzing financial statement. Ratio analysis facilities the presentation of the information of the financial statements in simplified and summarized from. Ratio is a measuring of two

numerical positions. It expresses the relation between two numeric figures. It can be found by dividing one figure by another ratios are expressed in three ways.

1. Jines method
2. Ratio Method
3. Percentage Method

### **CLASSIFICATION OF RATIOS:**

All the ratios broadly classified into four types due to the interest of different parties for different purposes. They are:

- 1. Profitability ratios**
- 2. Turn over ratios**
- 3. Financial ratios**
- 4. Leverage ratios**

**Profitability ratios:** These ratios are calculated to understand the profit positions of the business. These ratios measure the profit earning capacity of an enterprise. These ratios can be related its save or capital to a certain margin on sales or profitability of capital employ. These ratios are of interest to management. Who are responsible for success and growth of enterprise? Owners as well as financiers are interested in profitability ratios as these reflect ability of enterprises to generate return on capital employ important profitability ratios are:

**Profitability ratios in relation to sales:** Profitability ratios are almost importance of concern. These ratios are calculated is focus the end results of the business activities which are the sole eritesiour of overall efficiency of organisation.

**1. Gross profit ratio:** 
$$\frac{\text{gross profit}}{\text{Nest sales}} \times 100$$

Note: Higher the ratio the better it is

**2. Net profit ratio:** 
$$\frac{\text{Net profit after interest \& Tax}}{\text{Net sales}} \times 100$$

Note: Higher the ratio the better it is

### **3. Operating ratio (Operating expenses ratio)**

$$\frac{\text{Cost of goods sold + operating exenses}}{\text{Net sales}} \times 100$$

Net: Lower the ratio the better it is

**4. Operating profit ratio:** 
$$\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

Note: Higher the ratio the better it is cost of goods sold= opening stock + purchase + wages + other direct expenses- closing stock (or) sales – gross profit.

Operating expenses: = administration expenses + selling, distribution expenses  
operating profit= gross profit – operating expense.

$$\text{Expenses ratio} = \frac{\text{concern expense}}{\text{Net sales}} \times 100$$

Note: Lower the ratio the better it is

### Profitability ratios in relation to investments:

$$1. \text{ Return on investments: } \frac{\text{Net profit after tax \& latest depreciation}}{\text{share holders funds}} \times 100$$

Share holders' funds = equity share capital + preference share capital + reserves & surpluses + undistributed profits.

Note: Higher the ratio the better it is

$$2. \text{ Return on equity capital: } \frac{\text{Net Profit after tax \& interest - preference dividend}}{\text{equity share capital}} \times 100$$

Note: Higher the ratio the better it is

$$3. \text{ Earnings per share} = \frac{\text{Net profit after tax - preference dividend}}{\text{No. of equity shares}}$$

$$4. \text{ Return on capital employed} = \frac{\text{operating profit}}{\text{capital employed}} \times 100$$

$$5. \text{ Return on total assets} = \frac{\text{N. P. after tax and interest}}{\text{Total Assets}}$$

Here, capital employed = equity share capital + preference share capital + reserves & surpluses + undistributed profits + debentures + public deposit + securities + long term loan + other long term liability – fictitious assets (preliminary expenses & profit & loss account debt balance)

### II. TURN OVER RATIOS OR ACTIVITY RATIOS:

These ratios measure how efficiently the enterprise employs the resources of assets at its command. They indicate the performance of the business. The performance of an enterprise is judged with its ratios. It means ratios are also called efficiency ratios.

These ratios are used to know the turn over position of various things in the business. The turnover ratios are measured to help the management in taking the decisions regarding the levels maintained in the assets, and raw materials and in the funds. These ratios are measured in ratio method.

$$1. \text{ Stock turnover ratio} = \frac{\text{cost of goods sold}}{\text{average stock}}$$



Here,  
$$\text{Average stock} = \frac{\text{opening stock} + \text{closing stock}}{2}$$

Note: Higher the ratio, the better it is

**2. Working capital turnover ratio =** 
$$\frac{\text{sales}}{\text{working capital}}$$

Note: Higher the ratio the better it is working capital = current assets – essential liabilities.

**3. Fixed assets turnover ratio =** 
$$\frac{\text{sales}}{\text{fixed assets}}$$

Note: Higher the ratio the better it is.

**3 (i) Total assets turnover ratio is :** 
$$\frac{\text{sales}}{\text{total assets}}$$

Note: Higher the ratio the better it is.

**4. Capital turnover ratio=** 
$$\frac{\text{Sales}}{\text{Capital employed}}$$

Note: Higher the ratio the better it is

**5. Debtors turnover ratio=** 
$$\frac{\text{credits sales or sales}}{\text{average debtors}}$$

**5(i) = Debtors collection period=** 
$$\frac{365 \text{ (or) } 12}{\text{Turnover ratio}}$$

Here,  
$$\text{Average debtors} = \frac{\text{opening debtors} + \text{closing debtors}}{2}$$

**Debtors** = debtors + bills receivable

Note: Higher the ratio the better it is.

**6. Creditors turnover ratio =** 
$$\frac{\text{credit purchasers or purchases}}{\text{average creditors}}$$

**6 (i) creditors collection period=** 
$$\frac{365 \text{ (or) } 12}{\text{Creditor turnover ratio}}$$

Here,  
$$\text{Average creditor} = \frac{\text{opening} + \text{closing creditors}}{2}$$

Creditors = creditors + bills payable.

Note: lower the ratio the better it is.

### 3. FINANCIAL RATIOS OR LIQUIDITY RATIOS:

Liquidity refers to ability of organisation to meet its current obligation. These ratios are used to measure the financial status of an organisation. These ratios help to the management to make the decisions about the maintained level of current assets & current liabilities of the business. The main purpose to calculate these ratios is to know the short terms solvency of the concern. These ratios are useful to various parties having interest in the enterprise over a short period – such parties include banks. Lenders, suppliers, employees and other.

The liquidity ratios assess the capacity of the company to repay its short term liabilities. These ratios are calculated in ratio method.

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

Note: The ideal ratio is 2:1

i. e., current assets should be twice. The current liabilities.

$$\text{Quick ratio or liquid ratio or acid test ratio: } \frac{\text{quick assets}}{\text{current liabilities}}$$

Quick assets = cash in hand + cash at bank + short term investments + debtors + bills receivables short term investments are also known as marketable securities.

Here the ideal ratio is 1:1 is, quick assets should be equal to the current liabilities.

$$\text{Absolute liquid ratio} = \frac{\text{absolute liquid assets}}{\text{current liabilities}}$$

Here,

Absolute liquid assets=cash in hand + cash at bank + short term investments + marketable securities.

Here, the ideal ratio is 0, 0:1 or 1:2 it, absolute liquid assets must be half of current liabilities.

### LEVERAGE RATIO OF SOLVENCY RATIOS:

Solvency refers to the ability of a business to honour long term obligations like interest and installments associated with long term debts. Solvency ratios indicate long term stability of an enterprise. These ratios are used to understand the yield rate if the organisation.

Lenders like financial institutions, debenture, holders, and banks are interested in ascertaining solvency of the enterprise. The important solvency ratios are:

$$\text{1. Debt - equity ratio} = \frac{\text{outsiders funds}}{\text{share holders funds}} = \frac{\text{Debt}}{\text{Equity}}$$

Here,

Outsiders funds = Debentures, public deposits, securities, long term bank loans + other long term liabilities.

Share holders funds = equity share capital + preference share capital + reserves & surpluses + undistributed projects.

The ideal ratio is 2:1

**2. Preprimary ratio or equity ratio=**  $\frac{\text{share holder funds}}{\text{total assets}}$   
The ideal ratio is 1:3 or 0.33:1

**3. Capital – greasing ratio:**

=  $\frac{(\text{equity share capital} + \text{reserves \& surpluses} + \text{undistributed projects})}{(\text{Outsiders funds} + \text{preference share capital})}$   
Here,

Higher gearing ratio is not good for a new company or the company in which future earnings are uncertain.

**11. Debt to total fund ratio=**  $\frac{\text{outsiders funds}}{\text{capital employed}}$

Capital employed= outsiders funds + share holders funds = debt + equity.

The ideal ratio is 0.67:1 or 2:3