BUSINES ECONOMICES AND FINANCIAL ANALYSIS

B .Tech

WELCOME

BUSINESS ECONOMICS AND FINANCIAL ANALYSIS

Course code:AHSB11

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Regulation: IARE R-18)

BY

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CO's	Course outcomes
CO1	Understand microeconomic factors in related to demand analysis and its forecasting
CO2	Apply the theory of production function and Cost concepts to determine the Break Even Analysis.
CO3	Remember different market structures, pricing strategies and different forms business organization
CO4	Determine the investment decisions of organizations by applying capital budgeting methods and Strategies
CO5	Interpret the financial statement by using Fundamental accounting concepts and Ratio analysis

INTRODUCTION TO MANAGERIAL ECONOMICES

CLOs	Course Learning Outcome
CLO 01	Describe the economic activities performed by the businessmen in the business for profit earning.
CLO 02	Understand the significance of demand, its analysis, measurement of demand and its forecasting.

INTRODUCTION

The word "economics" is derived from a Greek word "okionomia", which means "household management" or "management of house affairs"

however, economics considers how a society provides for its needs. Its most basic need is survival; which requires food, clothing and shelter.

Economics is the social science of studying the production, distribution and consumption of goods and services. ...

Definitions of Managerial Economics

"The integration of economic theory with business practice for the purpose of facilitating decision-making and forward planning by management"– Spencer and Siegelman

" the study of how to direct scarce resources in a way that most efficiently achieves a managerial goal". --- Michael R.baye

Features of Economics

Of all the above alternatives, which one do I choose? How do I behave in satisfying my unlimited wants with the scarce resources?

Types of Economics

MICRO ECONOMICS

- **The study of an individual consumer or a firm is called microeconomics (also called the Theory of the Firm)**
- **It deals with behavior and problems of single individual and micro organization.**
- **It concerns with the application of the concepts such as price theory , Law of Demand and theories of market structures and so on.**

MACRO ECONOMIC

- **The study of 'aggregate ' or total level of economic activity in a country is called macroeconomics.**
- **It include national income analysis , balance of payments, theories of employment, and so on.**
- **It provides the necessary framework in term of government policies etc.,**

Nature of Managerial Economics

Close to micro economics

Operate against the backdrop of micro economics

Normative statements

Perspective actions

Applied in nature

Offers scope to evaluate each alternative

Interdisciplinary

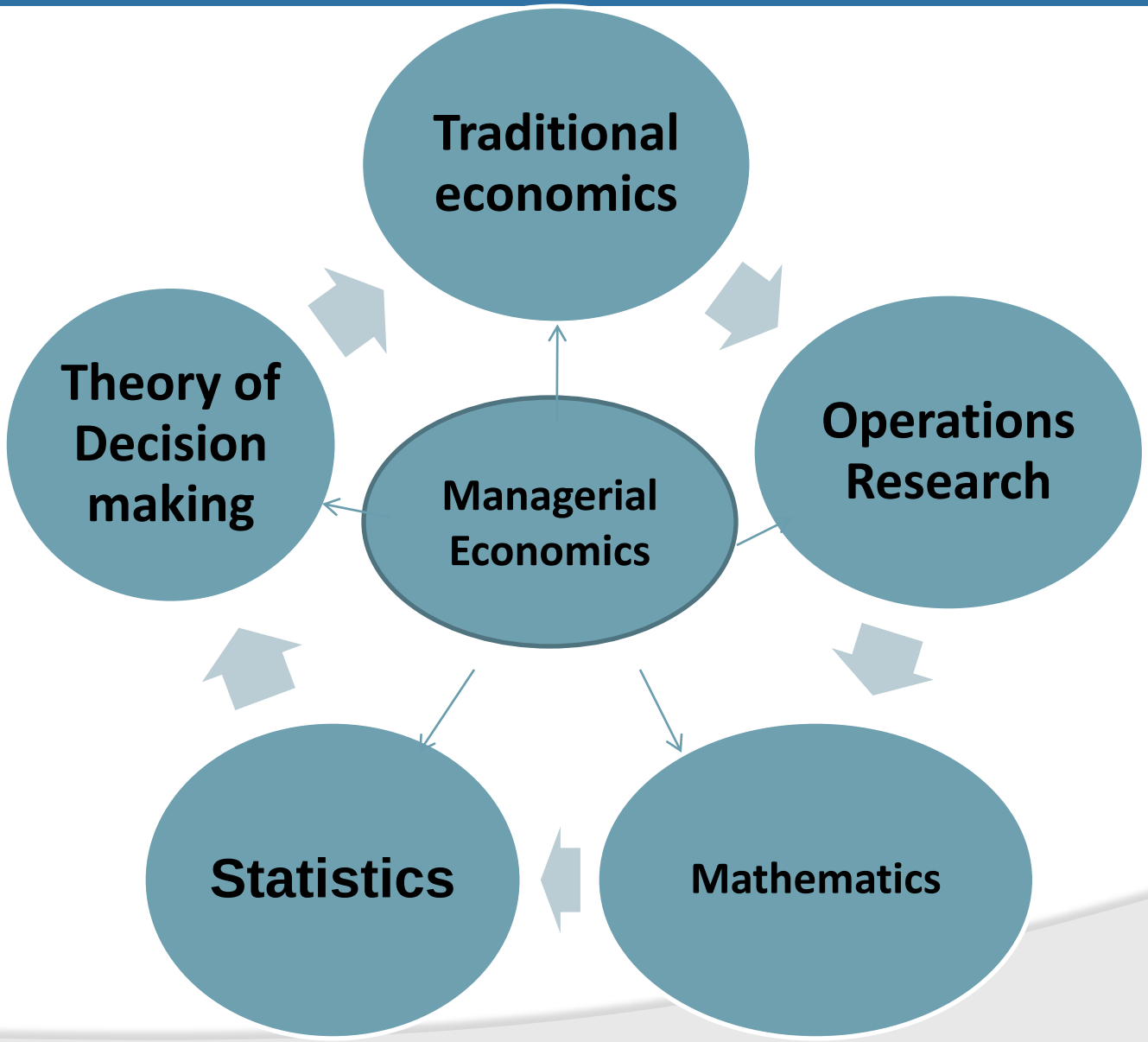
Scope of Managerial Economics

A professional managerial economist has to integrate concepts and methods from all these disciplines and functional areas in order to understand and analyze practical managerial problems.

Objectives of the firm

- Demand analysis and Demand forecasting
- Production and cost
- Competition
- Pricing and output
- Profit
- Investment and capital budgeting
- Product policy, sales promotion, and Market Strategy

Relation with other subjects



ELASTICITY OF DEMAND

Demand Analysis

Meaning of Demand: Demand for a commodity refers to the quantity of the commodity which an individual consumer or a household is willing to purchase per unit of time at a particular price.

Dealing with a good demanded by an individual we call it as **Individual demand**

If the good is demanded by a household we call it as **house hold demand**

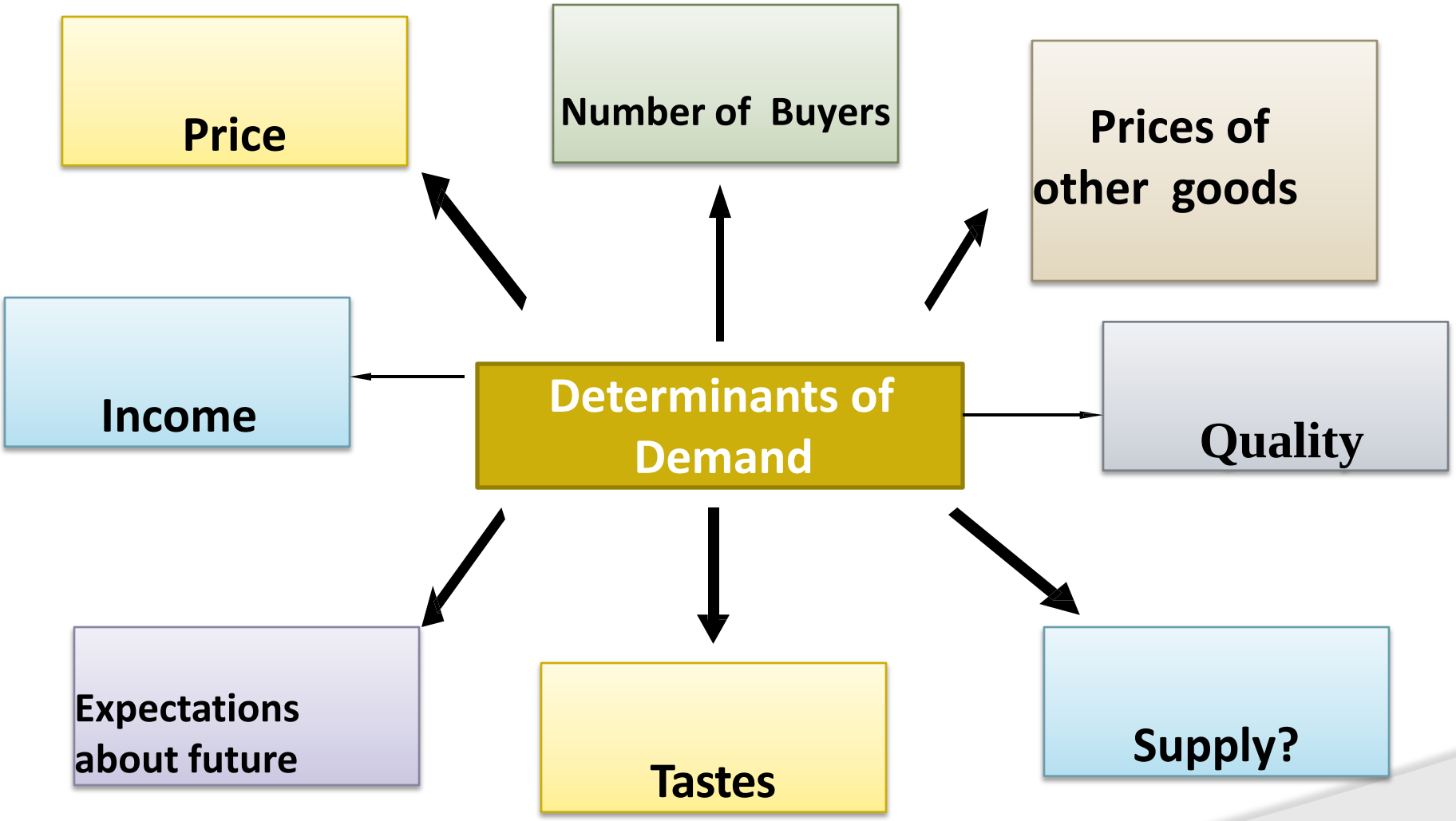
If all the individuals/ house holds together demanded we call it as **Market demand (or) Aggregate Demand**.

Nature and Types of Demand

The nature of Demand is better understood when we see these variations given below

Consumer Goods vs. Producer Goods	• Example : Bread, apple / Machinery , cars
Autonomous Demand vs. Derived Demand	• Example : super specialty Hospital/ around that Hospital
Durable vs. Perishable Demand	• Example : Milk, Vegetables / TV, Mobile Phone
Firm Demand vs. Industry Demand	• Example : Cement by firm / cement by whole industry
Short-run demand vs. Long-run Demand	• Example: Seasonal products vs. Non-Seasonal Products
New demand vs. Replacement Demand	• Example : New Model car / Washing machine
Total market and segment market Demand	• Example : Sugar / Sweet making industry-Sugar

Determinants of Demand



Demand Function

Meaning : A mathematical expression of the relationship between quantity demanded of the commodity and its determinants is known as the demand function.

When this relationship relates to the demand by an individual consumer it is known as individual demand function, while if it relates to the market it is called market demand function.

Market Demand Function

$$Q_{dx} = f(Px, Y, P_{1,\ldots\ldots} P_{n-1}, T, A, Ey, Ep, P, D, u)$$

Where

QDX = Quantity demanded of good X

Px = Price of the product X

Y = Level of Household income

P1…pn-1 = Price of all other related Products in Economy

T = Tastes of the Consumer

A = Advertising

Ey = Consumer expected future income

Ep = consumer's expectations about future prices

P = Population

D = Distribution of consumers like age, gender, income

U = refers to all those determinants which are not covered

Individual Demand Function

$$Qdx = f(Px, Y, P1,\ldots\ldots Pn-1, T, A, Ey, Ep, u)$$

Where

QDX = Quantity demanded of good X

Px = Price of the product X

Y = Level of Household income

P1…pn-1 = Price of all other related Products in Economy

T = Tastes of the Consumer

A = Advertising

Ey = Consumer expected future income

Ep = consumer's expectations about future prices

U = refers to all those determinants which are not covered

Law of Demand

Meaning: **Law of demand states that higher the price lower the quantity demanded, and vice versa, other things being constant.**

$$Q_{dx} = f(p)$$

The Assumptions of Law of Demand

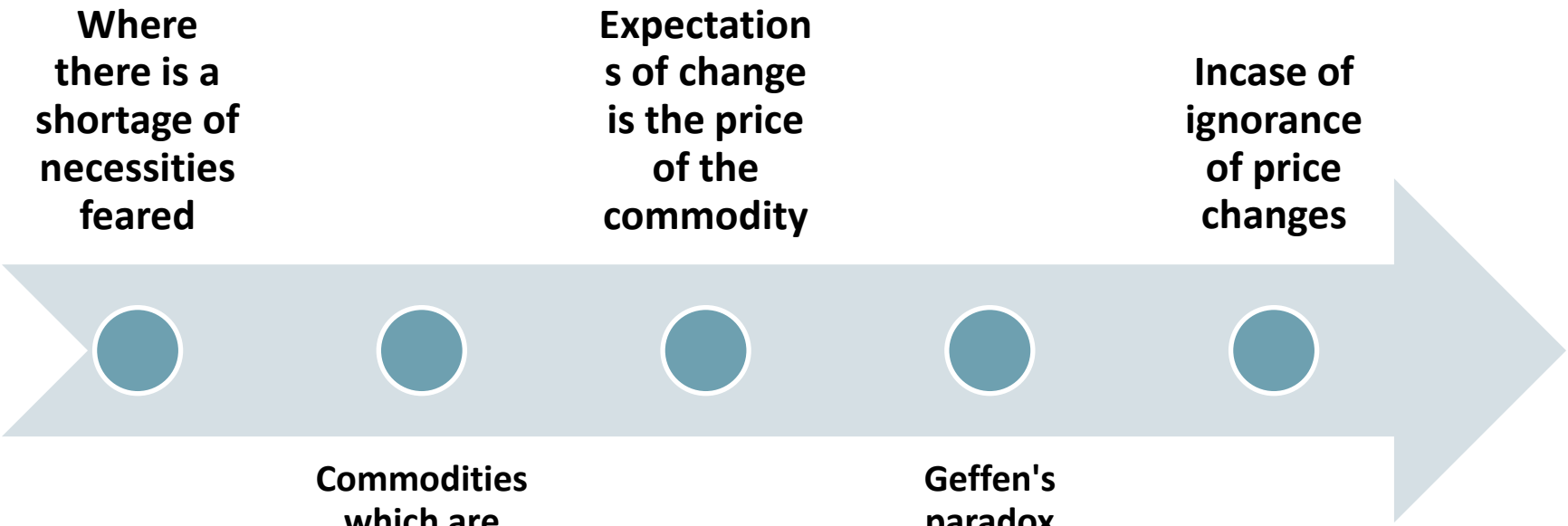
Law of Demand is based on the following assumptions. The Law will hold good only if the following assumptions are fulfilled.
That the tastes and fashions of the people remain unchanged.

That the people's income remains unchanged / constant.
That the prices of related goods remain unchanged / same.

That there are no substitutes for the commodity in the market.
That the commodity is not the one which has prestige value such as diamonds etc.

That the demand for the commodity should be continuous.
That the people should not expect any change in the price of the commodity.

Exceptions to the Law of Demand



Elasticity of Demand

Most of the times , it is not enough to understand the increase or decrease in price and its consequential impact of change in the quantity demanded. It is necessary to find out the extent of increase or decrease in each variables for taking certain managerial decisions.

Definition : " The percentage change in quantity demanded caused by one percent change in the demand determinant under consideration , while other determinants are held constant."

$$E = \frac{\text{Percentage change in quantity demanded of good X}}{\text{Percentage change in determinant Z}}$$

Symbolically it may be stated as

$$\varepsilon = \frac{\text{Percentage change in quantity demanded of good X}}{\text{Percentage change in determinant Z}}$$

Symbolically, it may be stated as:

$$\varepsilon = \frac{\Delta Q / Q}{\Delta Z / Z} = \frac{\Delta Q}{\Delta Z} \cdot \frac{Z}{Q}$$

Where refers to elasticity of demand

Refers to change

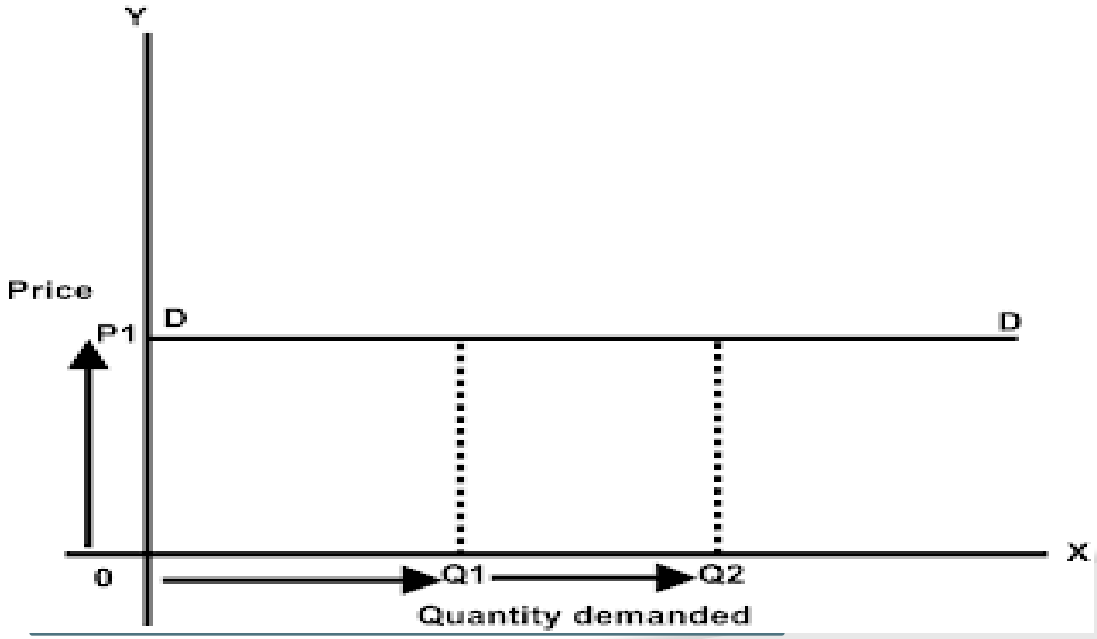
q Refers to quantity demanded, and

Z refers to demand determinant which may be one of the following;

- Current price of the commodity
- Current price of related good
- Current income
- The expected price of the commodity , and
- Advertisement expenditure ,etc

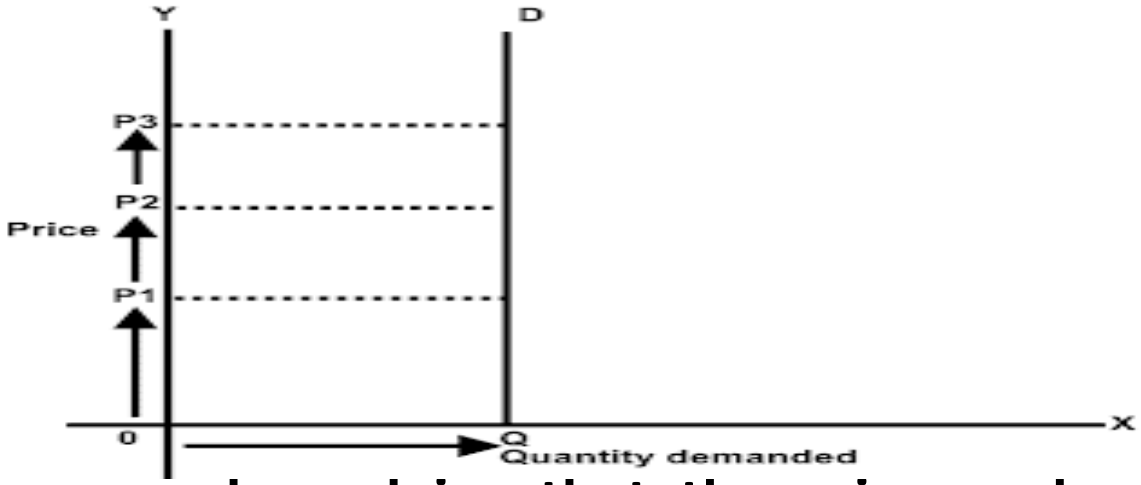
Measurement of Elasticity

Perfectly Elastic Demand : When any quantity can be sold at a given price, and when there is no need to reduce price , the demand is said to be perfectly elastic. In such cases , even a small increase in price will lead to complete fall in demand.



Perfectly Inelastic demand

When a significant degree change in price leads to little or no change in the quantity demanded then elasticity is said to be perfectly inelastic.

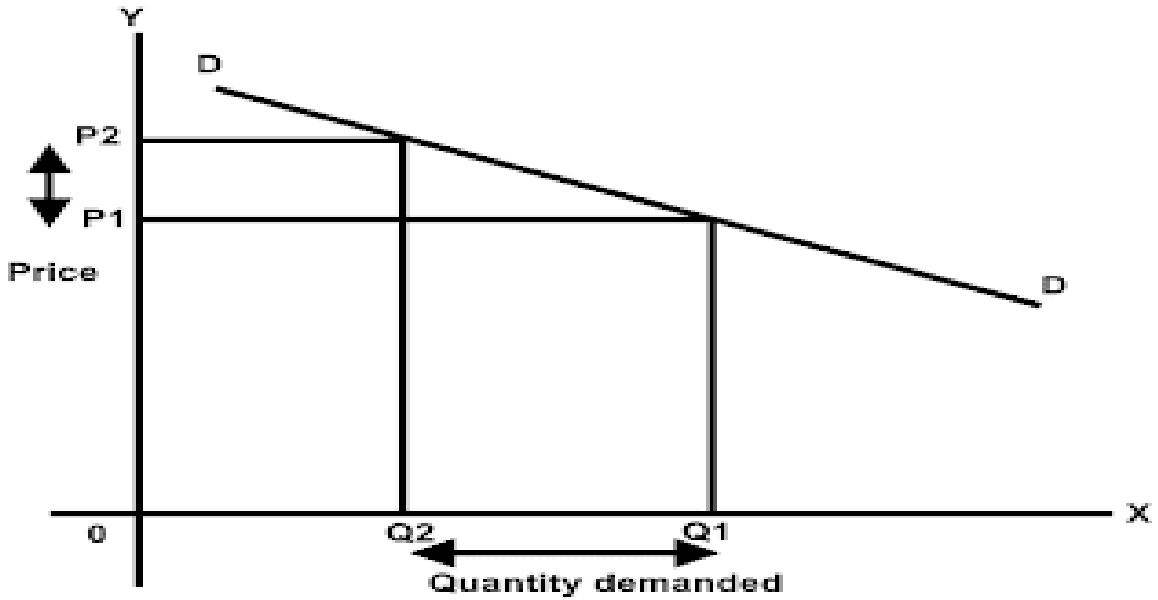


Above graph explains that there is no change in the quantity demanded though there is change in price, say increase or decrease.

The increase in price from OP to OP1, the quantity demanded has not fallen down. Similarly there is a fall in the price from OP3 to OP2 , the quantity demanded remains unchanged.

Relatively Elastic Demand

The demand is said to be relatively elastic when the change in demand is more than the change in the price.



The above graph explains that the quantity demanded increases from OQ1 to OQ2 because of a decrease in price from OP1 to OP2. the extent of increase in the quantity demanded is greater than the extent of in the price.

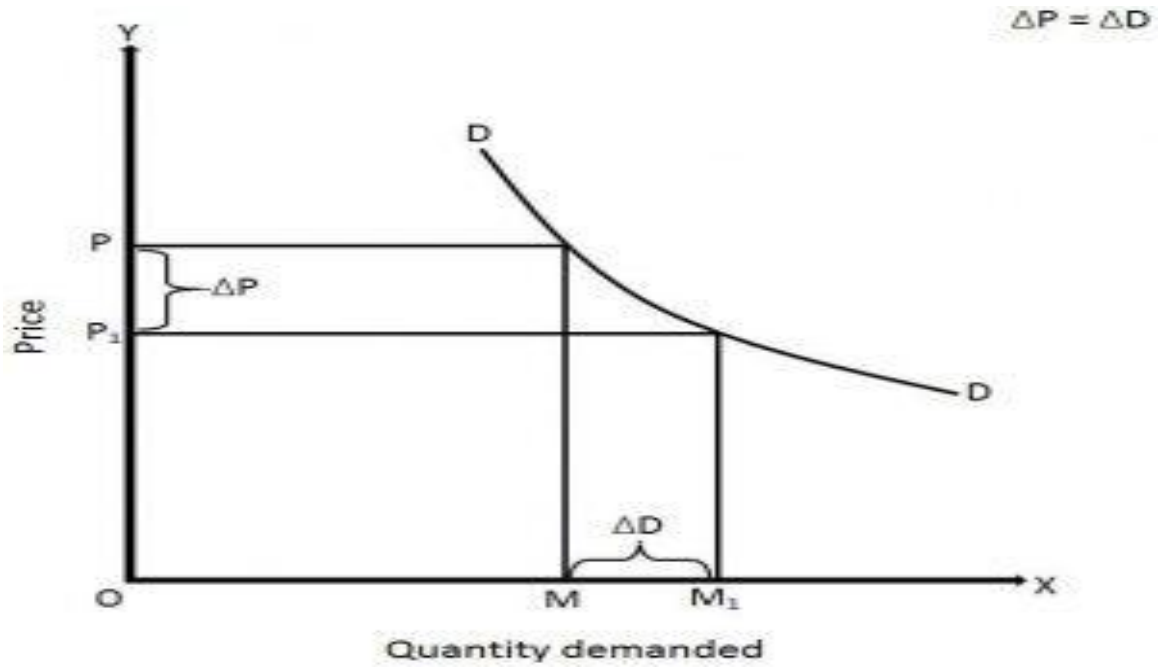
Relatively Inelastic Demand

The demand is said to be relatively inelastic when the change in demand is less the change in the price.

The above graph explains that the quantity demanded increase from OQ1 to OQ2 because of a decrease in price from OP1 to OP2. The extent of increase in the quantity demanded is lesser than the extent of fall in the price.

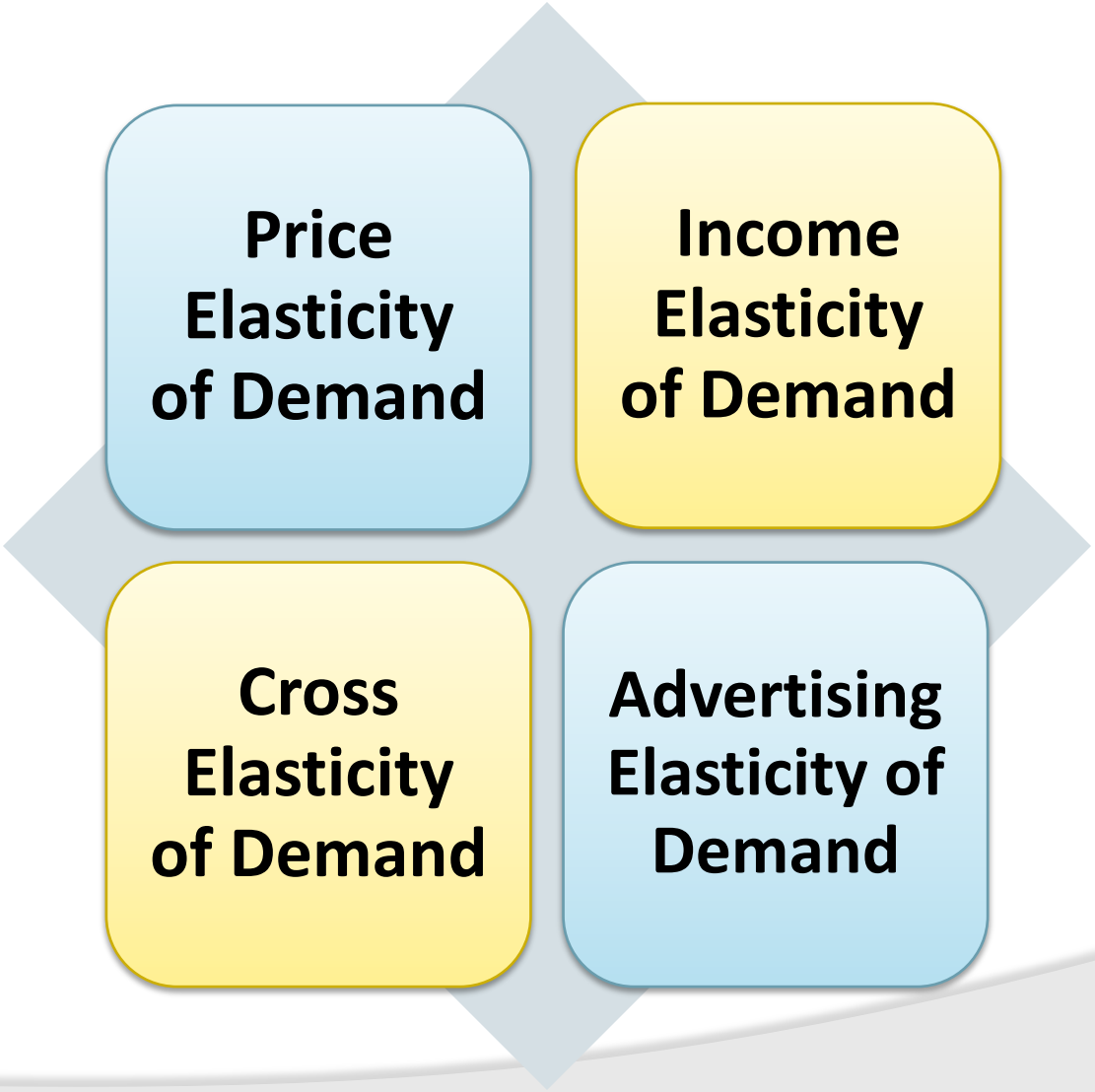
Unit Elasticity

The elasticity in demand is said to be unity when the change in demand is equal to the change in price.



From the above graph the quantity demanded increases from OM1to OM2 because of decrease in price from OP1 to OP. The extent of increase in the quantity demanded equal to the extent of fall in the price.

Types of Elasticity of Demand



Price Elasticity of Demand

Meaning: *The measure of relative responsiveness of quantity demanded curve is known as price elasticity of demand*. It can be represented mathematically as, price elasticity of demand.

$$= \frac{\text{Proportionate change in quantity demanded of good X}}{\text{Proportionate change in price of good X}} = -\frac{(Q_2 - Q_1)/Q_1}{(P_2 - P_1)/P_1}$$

(Minus sign is put to make the value of ε absolute)

Where q1 and p1 are original quantity and price respectively, and q2 and p2 are the new quantity and price respectively. The above equation can be written as

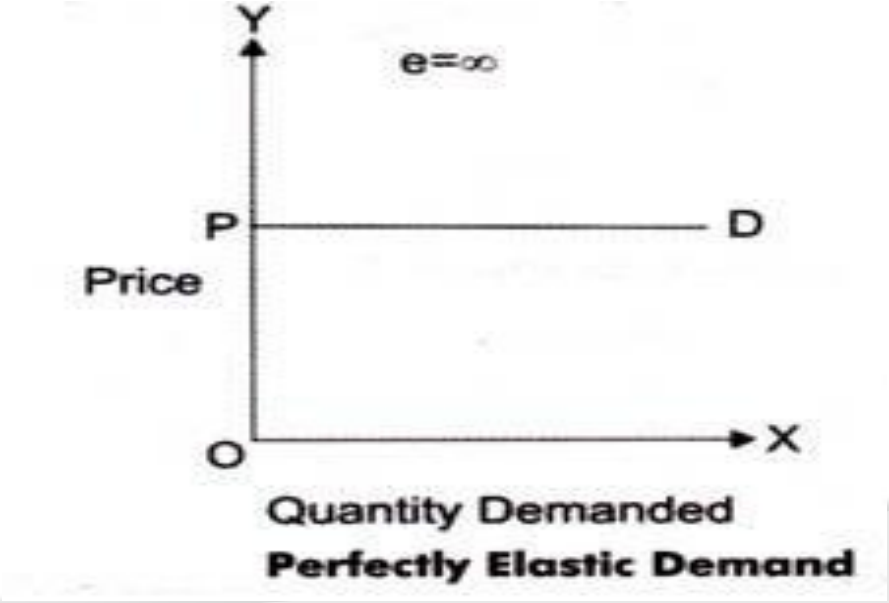
$$\varepsilon = -\frac{\Delta Q / Q_1}{\Delta P / P_1} = -\frac{\Delta Q}{Q_1} \cdot \frac{P_1}{\Delta P} = -\frac{\Delta Q}{\Delta P} \cdot \frac{P_1}{Q_1}$$

DD is the demand curve of a consumer for good. At price =Rs 10, 4 units of good X are demanded .When price goes down to Rs.8 quantity demanded increases to 6. So $\Delta P = 8-10 = -2$: and $\Delta Q = 6-4 = 2$, and $\left(\frac{2}{-2}\right)\left(\frac{10}{4}\right) = 2.5$

Types of Price Elasticity

In fact, it is the nature of a commodity which is responsible for differing elasticity's of demand in case of different commodities.

1.Perfectly elastic Demand (e=∞) . Where no reduction in price is needed to cause an increase in quantity demanded.



Perfectly Elastic Demand

2. Absolutely inelastic demand : (e=0). Where a change in price, however large, causes no change in quantity demanded

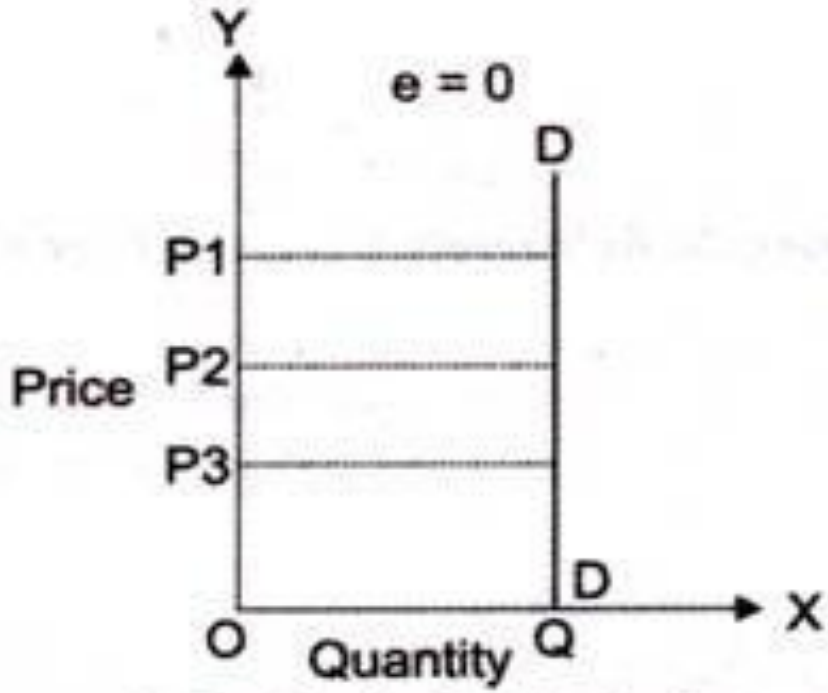


Figure- Perfectly Inelastic Demand

3. Unit elasticity of demand (e=1). Where a given proportionate change in price causes an equally proportionate change in quantity demanded (in this case the demanded curves takes the form a rectangular hyperbola).

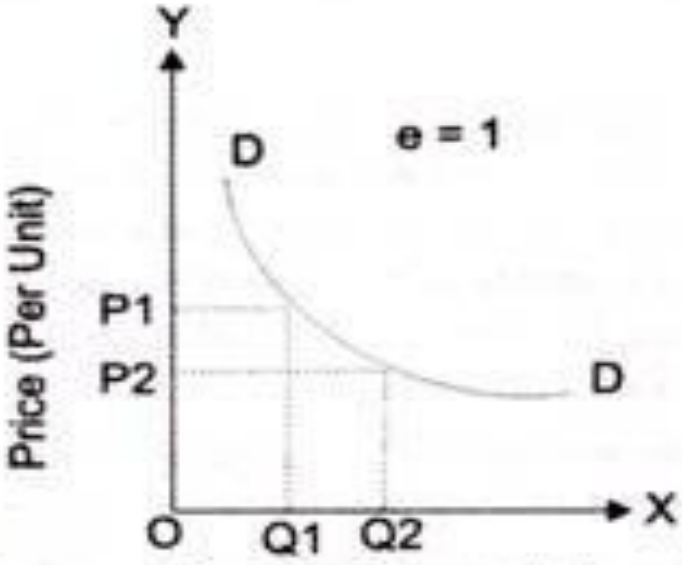


Figure- Unitary Elastic Demand

4. Relatively elastic Demand (e>1)

Where a change in price causes a more than proportionate change in quantity demanded.

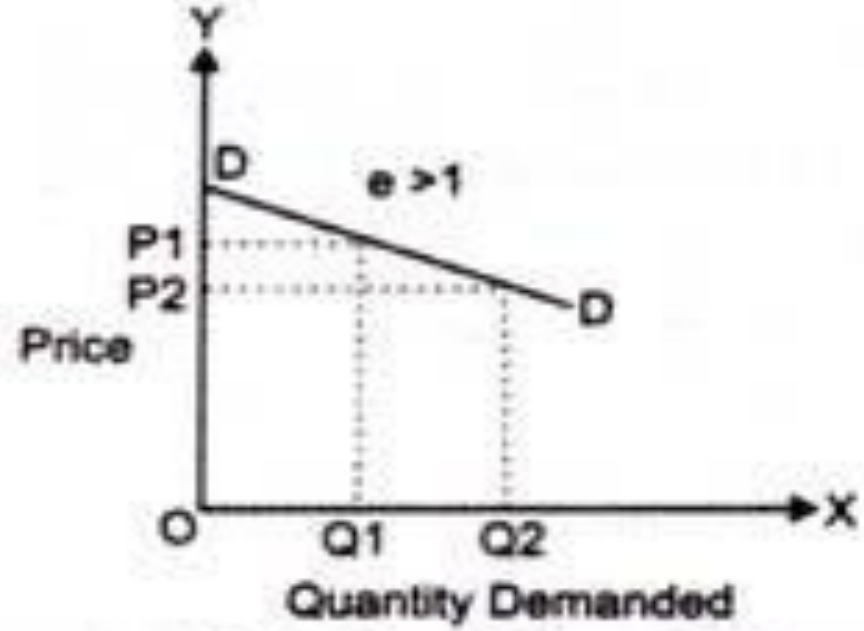


Figure- Relatively Elastic Demand

5. Relatively inelastic Demand (e<1) :

Where a change in price causes a less than proportionate change in quantity demanded.

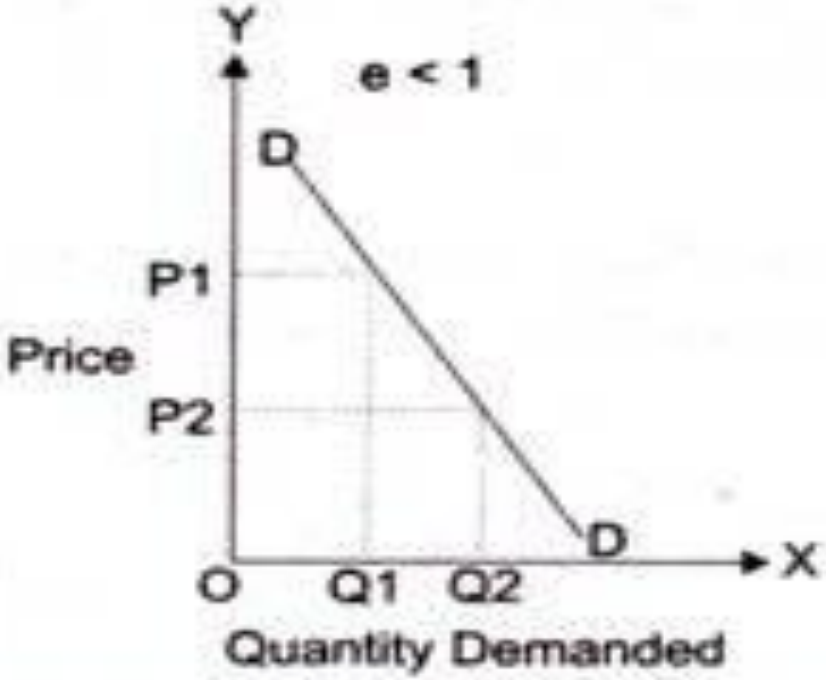


Figure- Relatively Inelastic Demand

Income Elasticity of Demand

Income elasticity of demand for a commodity shows the extent to which a consumer's demand for the commodity changes as a result of a change in his income .like price elasticity of demand, the income elasticity of demand may be a defined as a ratio of percentage change in the quantity demand of a good, say x, to the percentage change income of the consumer .symbolically,

$$E_y = \frac{\text{Percentage change in the quantity demanded of good X}}{\text{Percentage change in income of the consumer}}$$

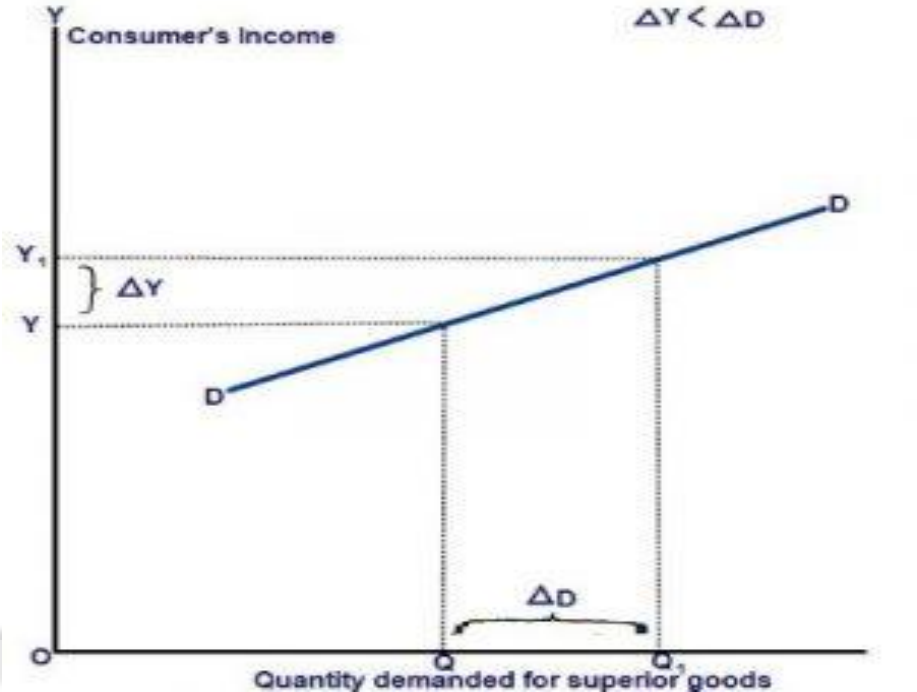
$$= \frac{\Delta q_x}{q_x} / \frac{\Delta Y}{Y}$$

Where q = quantity demand; and

Y = income level of consumer.

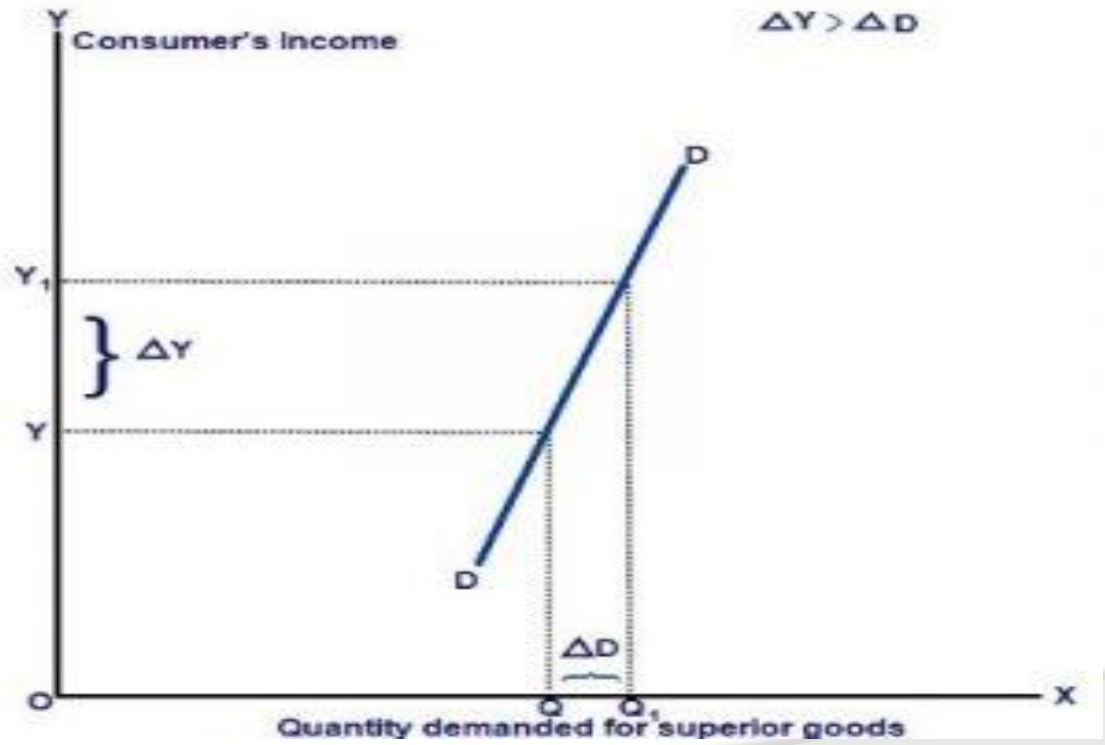
Types of Income Elasticity:

High income elasticity: this is shown in figure. Here the values of the coefficient E is greater than unity, which implies that quantity demanded of good X increases by a larger percentage than the income of the consumer.



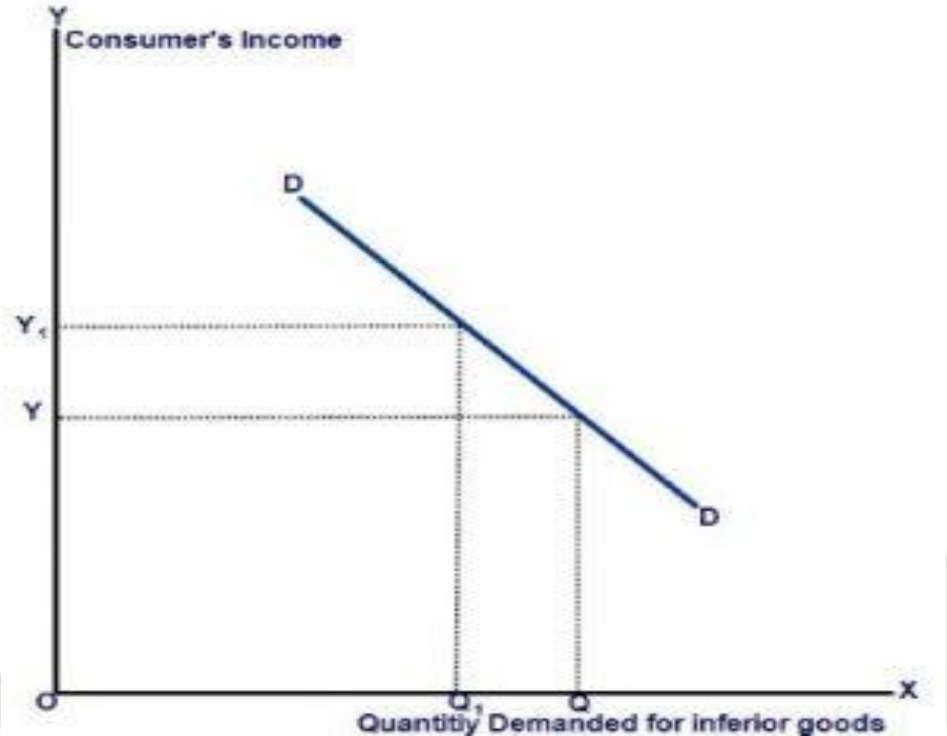
Unitary income elasticity: the figure shows an income-demand curve having this property. It indicates that the percentage change in quantity demand is equal to the percentage change in money income.

Low income elasticity: Income elasticity is elasticity is low if the relative change in quantity demanded is less than the relative change in money income is shown in figure.



Zero income elasticity: Here, a change in income will have no effect on the quantity demanded, like in case of salt .so; the value of the coefficient is equal to zero .such a demand curve is shown in figure.

Negative income elasticity: As pointed out above, inferior goods have negative income elasticity of demand. This is shown in figure it explains that less is bought at lower incomes. The value of the coefficient is less than zero or negative in this case.



CROSS ELASTICITY OF DEMAND:

Cross elasticity of demand is defined as the ratio of the percentage change in demand for one good to the percentage change in the price of some other related to good comes about. This change in the demand for one good due to a change in the price of some other good comes about because of the fact that the two goods may be either substitutes or complements to each other. Once we assume that two commodities x and y are related the expression of cross-elasticity of demand would be,

$$e_{XY} = \frac{\Delta qx}{qx} + \frac{\Delta py}{py} = \frac{\Delta qx}{\Delta py} \times \frac{py}{qx}$$

The same formula is used to find cross elasticity of demand, irrespective of they being substitutes or complements. Their differences are reflected in the sign of gross elasticity (e_{xy}).

Cross elasticity (e_{xy}) will have positive sign if two goods are substitutes.

Cross elasticity (e_{xy}) will have negative sign if two goods are complements. .

PROMOTIONAL (OR, ADVERTISING) ELASTICITY OF DEMAND:

Meaning: advertisement occupies an important place in a competitive or a partially competitive market economy. Its consists of visual and oral activities with an aim to create or expand for the product of the service.

"Advertising elasticity of demand measures the response of quantity demand to change in expenditure on advertising and other sales promotion activities."

The point formula for advertising elasticity of demand is:

$$\varepsilon_A = \frac{\Delta Q}{\Delta A} \cdot \frac{A}{Q}$$

Where q =quantity of good X soled, and A = units of advertising expenditure on good X.

Factors Influencing Advertising Elasticity of Demand

Stage of product market: The advertising elasticity is different for new and old products, and also for products with an established market and a growing market.

Influence of advertising by rivals

Effect of advertising in terms of time

Factors Governing Elasticity of Demand

Elasticity is governed by a number of factors. Change in any on of these factors is likely to affect the elasticity of demand. These factors are:

a) Nature of the Product
b) Time Frame
c) Degree of postponement
d) Number of alternative uses
e) Tastes and preferences of the consumer
f) Availability of close substitutes
g) In case of complementary goods
h) Level of prices

Cont…,

I) Availability of subsides
J)Expectation of prices
K)Durability of the Product
L)Government Policy

Significance of Elasticity of Demand

A. Prices of factors of production
B. Price fixation
C. Government Policies
- Tax polices
- Raising bank deposits
- Public utilities
- Revaluation or devaluation of currencies
- Formulate government policy

D. Forecasting Demand
E. Planning the levels of output and price

ARC AND POINT ELASTICITY

POINT ELASTICITY: Point elasticity of demand relates to the elasticity at a particular point on the demand curve .The formula of elasticity of demand for point elasticity is already given as equation;

$$\varepsilon = \frac{\Delta Q}{\Delta Z} \cdot \frac{Z}{Q}$$

In ΔZ is taken as very small, $\Delta Q / \Delta Z$ approximates to the slope of the demand curve in the neighborhood of original z and q. In other words, when ΔZ approaches its limit of zero, then $\lim_{\Delta Z \to 0} \frac{\Delta Q}{\Delta Z}$ becomes, $\frac{dQ}{dZ}$. Thus

$$\varepsilon = \frac{dQ}{dZ} \cdot \frac{Z}{Q}$$

For example, for a demand function q=10 -3p, the elasticity for p=2 would be:

$$\varepsilon = \frac{dQ}{dP} \cdot \frac{P}{Q} = (-3)\frac{2}{4} = -1.5$$

In case the demand function contains a number of variables that affect demand, then the point elasticity for each of these demand determinants, z p can be found with the help of partial derivatives q/z.

ARC ELASTICITY

ARC ELASTICITY: If instead of measuring elasticity by taking z -> 0 (as we do in case of point elasticity) we measure it over larger segment of the demand curve, we get arc elasticity measure .The arc elasticity is the measure of the demand curve. In the figure the end points of the arc are (p1, q1) and (q2, q2).

Coordinates of the mid-point would, therefore, be $\left(\frac{P_1 + P_2}{2}, \frac{Q_1 + Q_2}{2}\right)$. The changes between the end points would be ΔP and ΔQ. The elasticity at the mid- point of the arc (i.e., arc elasticity) would be:

$$E = \frac{\Delta Q}{\left(\frac{Q_1 + Q_2}{2}\right)} \div \frac{\Delta P}{\left(\frac{P_1 + P_2}{2}\right)} = \frac{\Delta Q}{\Delta P} \cdot \frac{P_1 + P_2}{Q_1 + Q_2}$$

Techniques of Demand Forecasting

Subjective (qualitative) methods :

Rely on human judgment and opinion.

- **Buyers opinion**
- **Sales force Composite**
- **Market Stimulation**
- **Test marketing**
- **Expert's opinions**
- **Group Discussion**
- **Delphi Method**

Techniques of Demand Forecasting

Quantitative methods : use mathematical or simulation models based on historical demand or relationships between variables.

- **Trend projection**
- **Smoothing technique**
- **Barometric Techniques**
- **Economic Techniques**

Opinion polling Methods

Consumer's survey (or survey of Buyers' Intentions) Methods

Consumers are contacted personally to disclose their future purchase plan . This may be attempted with the help of either a complete survey of all consumers (called , complete enumeration)

Or

By selecting few concerning unit out of the relevant population (called, Sample survey).

Advantages:

- To contact a large number of customers, scattered all over the market, is a costly proportion.
- Consumers may be hesitant to divulge their purchase plans because of personal privacy or commercial secrecy.
- The consumers may misjudge their own future purchases or change their intentions due to unexpected changes in conditions.

Sample survey : The probable demand expressed buy each selected unit is summed up to get the total demand of sample units in the forecast period.

A variant of Sample Survey technique is Test marketing. It is especially useful for forecasting sales of new products or the potential of existing products in new geographical areas. It involves selecting a test area which can be regarded as a truly representative portion of the total market.

Disadvantages:

- It is exceptionally costly in both time and money
- Test must be continued long time-otherwise false predictions may be made.
- Difficult to select test area which is 'typical' of the total market.
- It is not uncommon for a company to test market a product.

Sales –force Opinion (or collective opinion, or Reaction survey) Method:

A cursory look at this technique also gives an impression that this is an attractive technique.

The men who are closest to the market (viz., salesmen) are questioned and their responses (or reactions) aggregated.

Advantages:

It is cheap and very easy

First hand knowledge of the sales–men

It is very use full for new products and is, therefore, known as reaction survey method.

Statistical Methods

For forecasting the demand for goods and services in the long-run, statistical and mathematical methods are used considering the past data.

Trend Projection Method :

Definition: The Trend Projection Method is the most classical method of business forecasting, which is concerned with the movement of variables through time. This method requires a long time-series data.

In predicting demand for a product, the **trend projection method** is applied to the **long time-series data.**

There are **five main techniques** of mechanical extrapolation. In extrapolation, it is assumed that existing trend will maintain all through.

Fitting Trend Line by Observation (or, Visual Series Projection)

This method of forecasting trend is elementary, easy and quick as it involves merely the plotting the actual sales data on a chart and then estimating just by observation where the trend line lies.

The line can be extended towards a future period and corresponding sales forecast read from the graph.

When a more detailed estimate is needed, a time series analysis using least squares equation in used.

Time Series Analysis employing LeastSquares Method :

The trend line is the basis to extrapolate the line for future demand for the given product or service in a graph..

Here it is assumed that there is proportional (linear) change in sales over a period of time.

In such case , the trend line equation is in linear form. Where this assumption does not hold good, the evaluation can be in non-linear form. The estimating linear trend equation of sales is written as:

$$S = x + y\,(T)$$

Where x and y have been calculated from the past data S is sales and T is the year number for which the forecast is made. To find the values of x and y, the following normal equations have to be stated and solved:

$$ES = Nx + y\,E\,T$$

$$EST = xET + y\,E\,T2$$

Where S is the sales; T is the year number, n= number of years

TIME SERIES ANALYSIS :

Where the surveys or market tests are costly and time-consuming, statistical and mathematical analysis of past sales data offers another method to prepare the forecasts, that is , time series analysis.

The following are the four major components analyzed from time series while forecasting the demand.

Trend (T) , also called the long-term trend, is the result of basic developments in the population, capital formation of technology. These developments relate to over a period of long time say five to ten years, not definitely overnight.

Cyclic Trend (c) is seen in the wave like movement of sales. The sales data is quite often affected by swings in the levels of general economic activity, which tend to be somewhat periodic.

Cont…

Seasonal Trend (s) refers to a consistent pattern of sales movements within the year. More goods are sold during the festival seasons. The seasonal components may be related to weather factors, holidays, and so on.

Erratic Trend (E) results from the sporadic occurrence of strikes, riots, and so on. These erratic components can even damage the impact of more systematic components, and thus make the forecasting process much more complex.

Models- Time series analysis:

$$Y = T+C+S=E \text{ ,}$$

$$Y = TX\ CX\ SX\ E.$$

Y is the product of all these components

MOVING AVERAGE METHOD

This method considers that the average of past events determine the future events. In other words, this method provides consistent results when the past events are consistent and unaffected by wide changes.

BAROMETRIC TECHNIQUES : In this method one set of data is used to predict another set. In other words, to forecast demand for a particular product or service, use some other relevant indicator (which is known as Barometer) of future demand.

in this method difficult to determine the time lag between the change in one variable and change in the forecast variable.

Ex: Number of scooters vs. Income level

Simultaneous Equation Method :

in this method all variables are simultaneously considered , with the conviction that every variable influences the other variables in an economic environment. hence, the set of equations equal the number of dependent (controllable) variable which is also called endogenous variables.

Correlation and Regression Methods : Correlation describes the degree of association between two variables such as sales and advertisement expenditure. When two variables tend to change together , then they are said to be correlated.

Regression Analysis : It is estimated which best fits in the sets of observation of dependent variables and independent variables. The best estimate of the true underlying relationship between these variables is thus generated.

OTHER METHODS

Expert Opinion : An expert is good at forecasting and analyzing the future trends in a given product or service at a given level of technology.

Advantages :

results would be more reliable

Forecast can be made relatively quickly and cheaply

Differences can be sorting out by using Delphi technique

TEST MARKETING :

The term 'test marketing' is also some- times called 'field-testing'. The word 'test' means examination or trial. Test marketing, thus, means testing the product in the market before the product is commercialized on a large scale.

This is done with a view to understand the market and the marketing considerations like nature of compe-tition, nature of demand, and the consumers' needs, etc.

CONTROLLED EXPERMINTS :

it refers to such exercises where some of the major determinants of demand are manipulated to suit the customers with different tastes and preferences, income groups, and such others.

It is used to gauge the effect of a change in some demand determinant like price, product, design, advertisement, packaging, and so on.

JUDGMENTAL APPROACH :

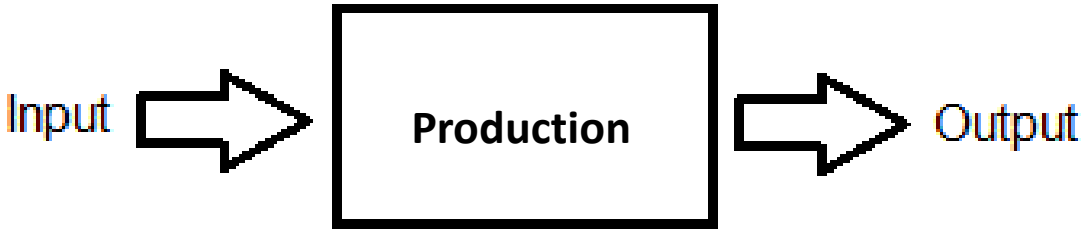
Judgmental forecasting methods incorporate intuitive **judgment**, opinions and subjective probability estimates. **Judgmental forecasting** is used in cases where there is lack of historical data or during completely new and unique market conditions

THEORY OF PRODUCTION FUNCTION AND COST ANALYSIS

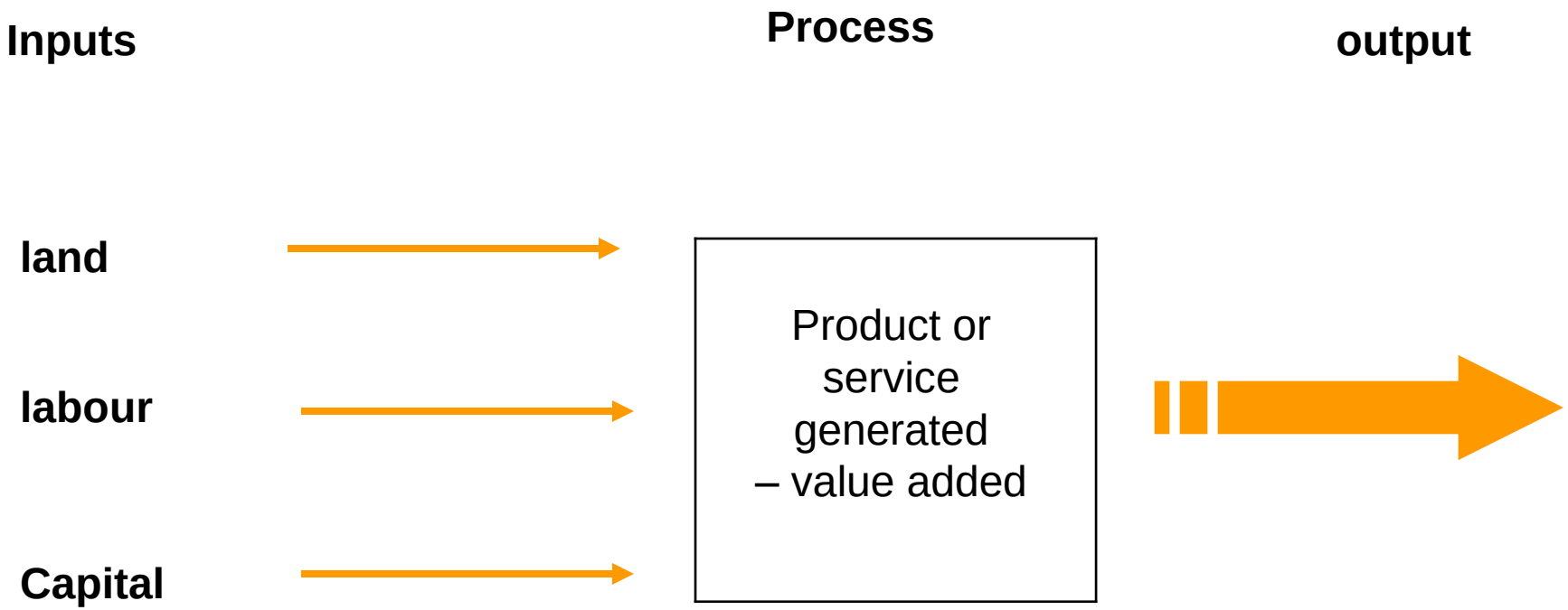
CLOs	Course Learning Outcome
CLO 03	Write the production function through Different Combination of variable inputs with Economies of Scale
CLO 04	Analyze the Different cost concepts and determine the significance of Break Even Analysis

WHAT IS PRODUCTION

It's an activity that transforms input into output.



Production Function



Production Function

Mathematical representation of the relationship:

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

Output (Q) is dependent upon the amount of capital (K), Land (L) and Labour (La) used

Uses of Production Function

- How to obtain Maximum output
- Helps the producers to determine whether employing variable inputs /costs are profitable
- Highly useful in longrun decisions
- Least cost combination of inputs and to produce an output

TYPES OF PRODUCTION FUNCTION

Types

Short –Run
(Inputs kept constant
One input **(Labour**) is varied)

Long – Run
(Varying all inputs)

Law of variable proportion

Law of returns to scale

Production factor with one variable input

The Law of returns state that when at least one factor of production is fixed and when all other factors are varied, the output in the initial stage will increase at an increasing rate and after reaching certain level of output the total output will increase at declining stage

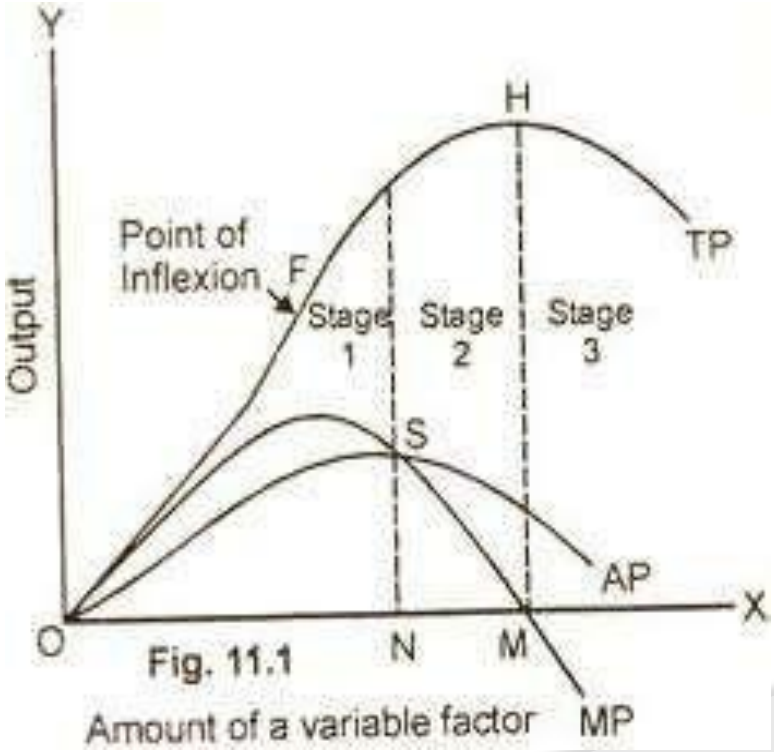


Fig. 11.1

Production function with two variable input

Normally both capital and labour are required to produce a product. To some extent, these two inputs can be substituted for each other . Hence the producer may choose any combination of labour and capital to give the required output

ISOQUANTS

A isoquant is a firm's counterpart of the consumer's indifference curve. An isoquant is a curve that shows all the combinations of inputs that yield the same level of output. 'Iso' means equal and 'quant' means quantity. Therefore, an isoquant represents a constant quantity of output.

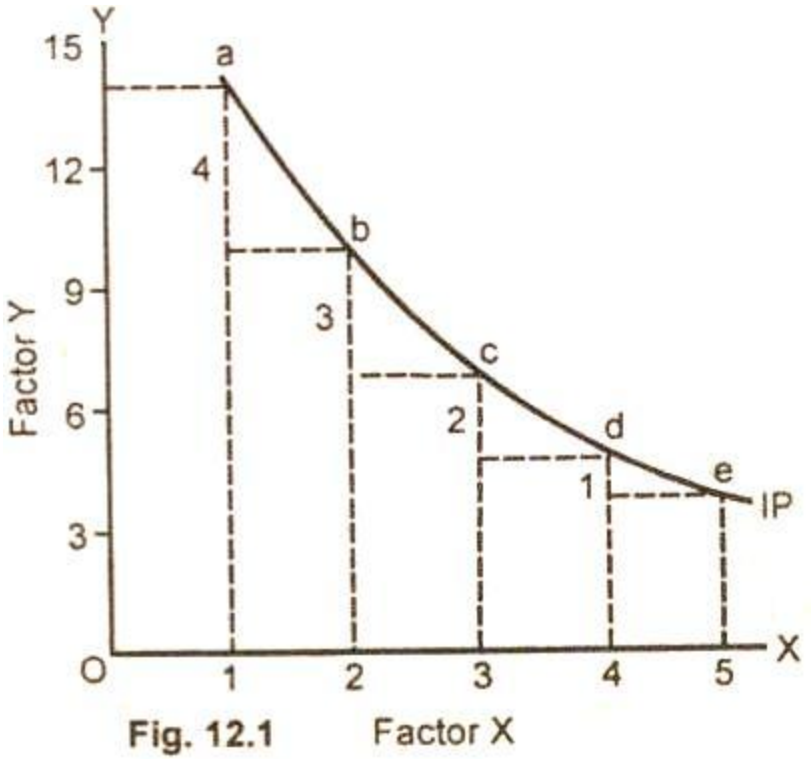


Fig. 12.1

Features of isoquant

1. Downward sloping
2. Convex to origin
3. Do not intersect
4. Do not touch axes

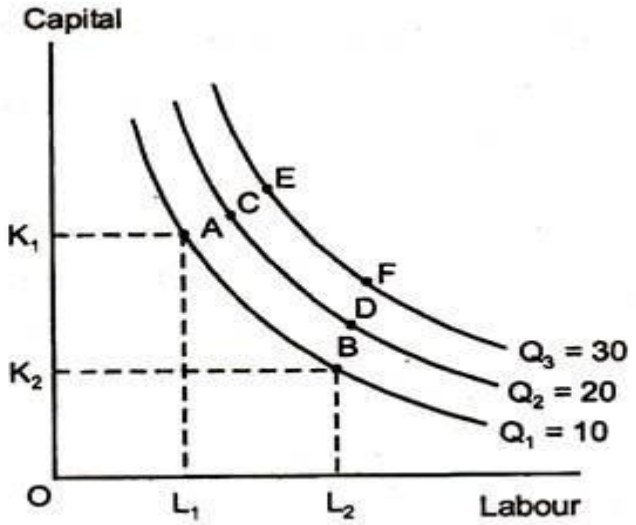


Fig. 6.3 : Isoquant Curve/Isoquant Map

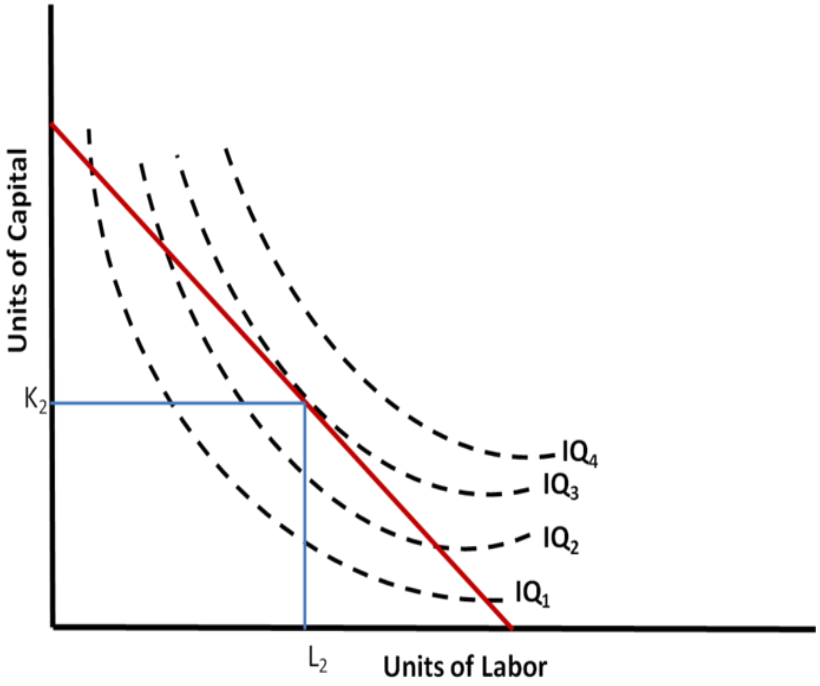
MARGINAL RATE OF TECHNICAL SUBSTIITUTION

The MRTS refers to the rate at which one input factor is substituted with the other to attain a given level of output. in other words the lesser units of input must be compensated by increasing amount of other input to produce the same level of output

$$MRTS = \frac{\text{Change in one input, say, CAPITAL}}{\text{Change in another input, say LABOUR}}$$

ISOCOSTS

In economics an isocost line shows all combinations of inputs which cost the same total amount. ... The slope is: The isocost line is combined with the isoquant map to determine the optimal production point at any given level of output..



COBB DOUGLAS PRODUCTION FUNCTION

P=bLaC1-a

Where p= total output

L=the index of employment of labour in manufacturing

C= the index of fixed capital in manufacturing

The function estimated for the USA by Cobb Douglas is

$$p=1.01L0.75C0.25$$

The production Function shows that one percent change in labour input, capital remains the same, is associates with a 0.75 percentage change in out put, similarly one percent change in capital labour remaining same is associated with 0.25 percentage change in output

Returns to sale & returns to factors

Returns to scale refer to returns enjoyed by the firm as a result of change in all the inputs. It explain the behavior of the returns when the inputs are changed simultaneously

Law of returns to sale

There are three laws of returns governing production function

(a)Law of increasing Returns to scale

(b)Law of constant Returns to scale

(c) Law of Decreasing Returns to scale

Returns to Factor

Returns to Factor is also called factor productivities. Productivity is the ratio of output to inpute. Factor productivity refers to the short run relationship of input and output

Return to factor refer to the output or return generated as a result of change in one or more factors keeping the other factors unchanged

The Change in productivity can be measured in terms of

(a)Total Productivity

(b)Average productivity

(c) Marginal Productivity

ECONOMIES AND DISECONOMICS OF SCALE

The economics of scale results because of increase in the scale of production

ALFRED MARSHEL divides the economics of scale into two groups

1. Internal
2. External

Internal Economies

Refers to the economies in production cost which accrue to firm alone when it expand its output

Types of Internal Economies

(a)Managerial Economics
(b) Commercial Economics
(c) Financial Economics
(d)Technical Economics
(e)Marketing Economics
(f) Risk-bearing Economics
(g)Individual and Automated Machinery
(h)Economies of Larger Dimension
(i)Economies of Research And development

EXTERNAL ECONOMIES

External Economics Refers to all the firms in the industry as the industry expands

<u>External economics can be grouped under three types</u>

1) **Economies of concentration**
2) **Economies of R&D**
3) **Economies of welfare**

DISECONOMIES OF SCALE

Diseconomies are mostly managerial in nature. Problem of planning, coordination, communication and control may become increasingly complex as firm grows in size resulting in average cost per unit. Sometimes the firm may also collapse

What is cost?

In producing a commodity a firm has to employ an aggregate of various factors of production such as land, labour, capital and entrepreneurship.

- These factors are to be compensated by the firm for their contribution in producing the commodity.
- This compensation (factor price) is the cost.

COST CONCEPT & TYPES

OPPORTUNITY COST –

- Opportunity cost of a product is value of the next best alternative forgone (that is not chosen).
- It can also defined as the revenue forgone for not making the best alternative use.
- The concept of opportunity cost is useful for manager in decision making

ECONOMIC COST

This cost includes explicit and implicit cost both. In other words, economic cost includes both recorded and unrecorded cost.

❖ EXPLICIT COST is the actual money expenditure on inputs or payments made to the outsiders for hiring the factor services. Example – wages paid to employees, payment for raw materials etc.

❖IMPLICIT COST is the cost of self supplied factors . Example- Interest on own capital ,Rent of own land etc.

❖The sum of explicit cost and implicit cost is the total cost of production of a commodity.

ACCOUNTING COST

- Accounting cost is the cost based upon accounting records in the book of accounts.
- They are recorded in the book of accounts when they are actually incurred . Its based on Accrual concept.
- Accounting costs are explicit cost and must be paid

Incremental and Sunk Costs

- Incremental costs are closely related to marginal costs, incremental costs refers to the total additional cost associated with the expand in output.
- Sunk Costs are those which cannot be altered, increased or decreased by varying the rate of output.

Short Run and long run costs

Short run costs are costs that vary with variation in output. Short run costs are the same as variable costs

Long run costs are costs that are incurred on fixed assets like plant, machinery, etc

TOTAL COST

Total cost is the actual money spends to produce a particular quantity of output.

It is the summation of fixed and variable costs

TC = TFC+ TVC

- **TFC(Total Fixed Cost):**

Total fixed costs, i.e the cost of plant, building, equipment etc. remain fixed with a change in output.

- **TVC(Total Variable Cost):**

The total variable cost i.e the cost of labour,raw material etc varies with the variation in output.

AVERAGE COST

Average cost is the total cost of producing per unit of commodity. It can be found out as follows

AC= AFC +AVC

AC= Total cost/no.of units produced

➢AFC (Average fixed Cost)-

Fixed cost of producing per unit of the commodity.

AFC= total fixed cost / no. of units produced.

➢AVC (Average Variable Cost)

Variable cost of producing per unit of the commodity.

AVC= total fixed cost / no. of units produced.

MARGINAL COST

- **Marginal cost is the additional to total cost when one more unit of output is produced .**

- **It can be arrived by dividing the change in total cost by the change in total output**

Cost-output Relationship

Cost-output relationship has 2 aspects

- Cost-output relationship in the short run,
- Cost-output relationship in the long run

- The SHORT RUN is a period which doesn't permit alterations in the fixed equipment (machinery , building etc.) & in the size of the org.

- The LONG RUN is a period in which there is sufficient time to alter the equipment (machinery, building, land etc.) & the size of the org. output can be increased without any limits being placed by the fixed factors of production

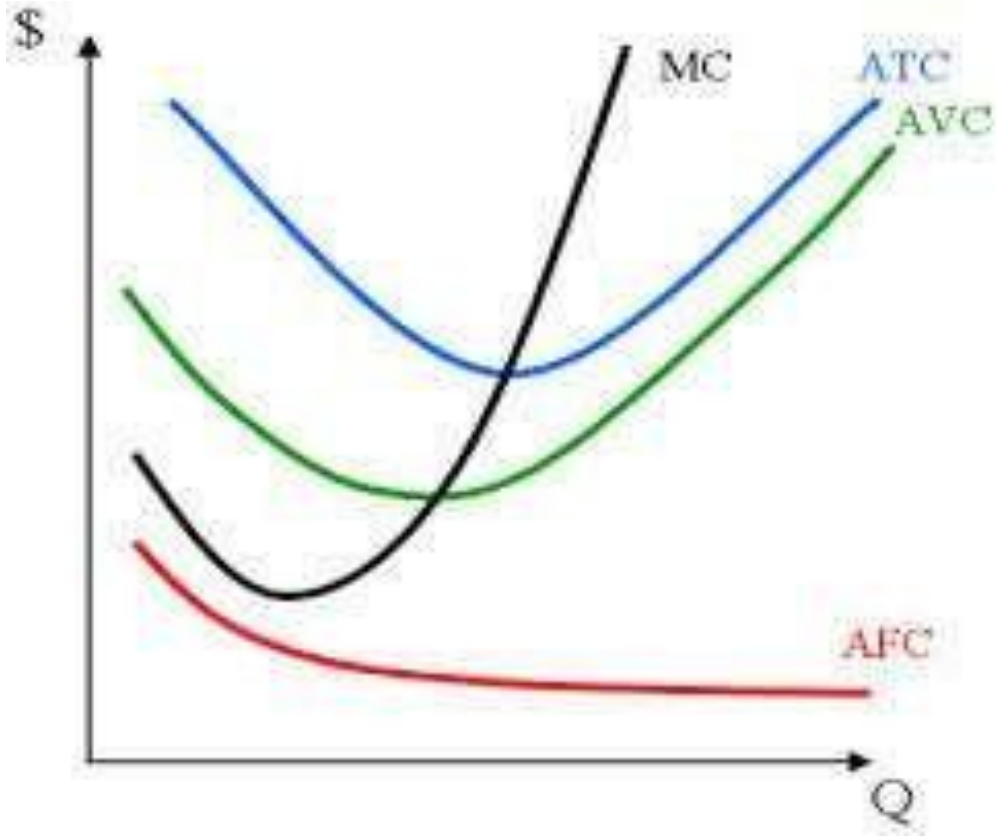
Cost-output Relationship In The Short Run

Short Run can be studied in terms of

Short Run may be studied in terms of

- **Average Fixed Cost**
- **Average Variable Cost**
- **Average Total cost**

BEHAVIOUR OF COST IN THE SHORT- RUN



Total, average & marginal cost

Total, average & marginal cost

TC) = TFC + TVC, rise as output rises

1. Total cost (TC) = TFC +TVC, rise as output rises
2. Average cost (AC) = TC/output
3. Marginal cost (MC) = change in TC as a result of changing output by one unit

Fixed cost & variable cost

1.Total fixed cost (TFC) = cost of using fixed factors = cost that does not change when output is changed, e.g.

2.Total variable cost (TVC) = cost of using variable factors = cost that changes w

Average Fixed Cost and Output

- The greater the output, the lower the fixed cost per unit, i.e. the average fixed cost.

- Total fixed costs remain the same & do not change with a change in output.

The Break Even Analysis

The Break Even Analysis (BEA) is a useful tool to study the relation between fixed costs and variable costs and revenue. It's inextricably linked to the Break Even Point (BEP), which indicates at what moment an investment will start generating a positive return.

KEY TERM USED IN BREAK EVEN ANALYSIS

- FIXED COST
- VARIABLE COST
- TOTAL COST
- CONTRIBUTION MARGINE
- PROFIT
- CONTRIBUTION MARGINAL RATIO
- MARGIN OF SAFETY IN UNITS
- MARGINAL OF SALES IN SALES VOLUME
- ANGLE OF INCIDENCE
- P/V RATIO

DETERMINATION OF BREAK EVEN POINT

Selling price = Fixed cost+ Profit

Selling price- Variable cost =Fixed cost+profit

= Contribution

Contribution per unit = Selling price-Variable cost

DETERMINATION OF BREAK EVEN POINT IN UNITS

Break even point = Fixed cost /Contribution margin per unit

Determination of BEP in value

BEP= Fixed cost/ Contribution Margin ratio

DIFFERENT FORMULAS USED UNDER BEA AND THERE APPLICATIONS

Profit volume Ratio=Contribution/sales

Margina of safety=profit/p/v ratio

Volume of sales to attain profit =$\frac{\text{FC+Targete Profit}}{\text{Contribution margin}}$

CONTRIBUTION RATIO

$$\text{Contribution Ratio} = \frac{\text{Selling price} - \text{Variable cost}}{\text{Selling price}} * \%\text{sales}$$

MARKET &
NEW ECONOMIC
ENVIRONMENT

CLOs	Course Learning Outcome
CLO 05	Design and implement different structures of market covering how price is determined under different market structures
CLO 06	Analyze different forms of business organizations existing in the modern business.

MARKET STRUCTURE

- **Market: A regular gathering of people for the purchase and sale of provisions, livestock, and other commodities.**

- **Market structure: It is the interconnected characteristics of a market, such as the number and relative strength of buyers and sellers, degree of freedom in determining the price, level and forms of competition, extent of product differentiation and ease of entry into and exit from the market**

TYPES OF MARKET STRUCTURE

PERFECT COMPETITION

1. All firms sell an identical product.
2. All firms are price takers.
3. All firms have a relatively small market share.
4. Buyers know the nature of the product being sold and the prices charged by each firm.
5. The industry is characterized by freedom of entry and exit.

It is also referred as “PURE COMPETITION”.

PERFECT COMPETITION

1. Large no. of sellers
2. Large no. of buyer
3. Homogeneous products
4. Free entry and exit
5. Perfect knowledge
6. Perfect mobility of factors of production
7. Seller is the price-taker

PERFECT COMPETITION

- Potatoes

- Potatoes are sold in markets where all vendors sell homogenous products at homogeneous prices.

•Example- Potato is sold at markets etc. where all vendors sell homogenous products, i.e. potato.

MONOPOLY

- **A Monopoly is a market structure in which there is only one producer/seller for a product. In other words, the single business *is* the industry.**
- **Entry into such a market is restricted due to high costs or other impediments, which may be economic, social or political.**

MONOPOLISTIC COMPETITION

- **Monopolistic competition is a type of imperfect competition such that one or two producers sell products that are differentiated from one another as goods but not perfect substitutes .**
  (such as from branding, quality, or location).
- **In monopolistic competition, a firm takes the prices charged by its rivals as given and ignores the impact of its own prices on the prices of other firms.**
- **Consumers may like some sp**  **n the particular brand.**

MONOPOLISTIC COMPETITION

DUOPOLY

- A situation in which two companies own all or nearly all of the market for a given product or service.
- It is a specific type of oligopoly where only two producers exist in one market.

In reality, this definition is generally used where only two firms have dominant control over a market.

- In the field of industrial organization, it is the most commonly studied form of oligopoly due to its simplicity.

OLIGOPOLY

- It is a situation in which a particular market is controlled by a small group of firms.
- An oligopoly is a market form in which a market or industry is dominated by a small number of sellers (oligopolists). Because there are few sellers, each oligopolist is likely to be aware of the actions of the others.
- The decisions of one firm influence, and are influenced by, the decisions of other firms.

PRICE & OUTPUT DETERMINATION

Perfect Competition for Short run

- Under perfect competition Price determined by the market
- In short run one can make any changes in variable factors but it does not allow any change in fixed factors.
- Every firm under perfect competition produces same cost curve.
- Under perfect competition for short run always the demand curve and average revenue curve will be one and a same.

PERFECT COMPETITION FOR SHORT RUN

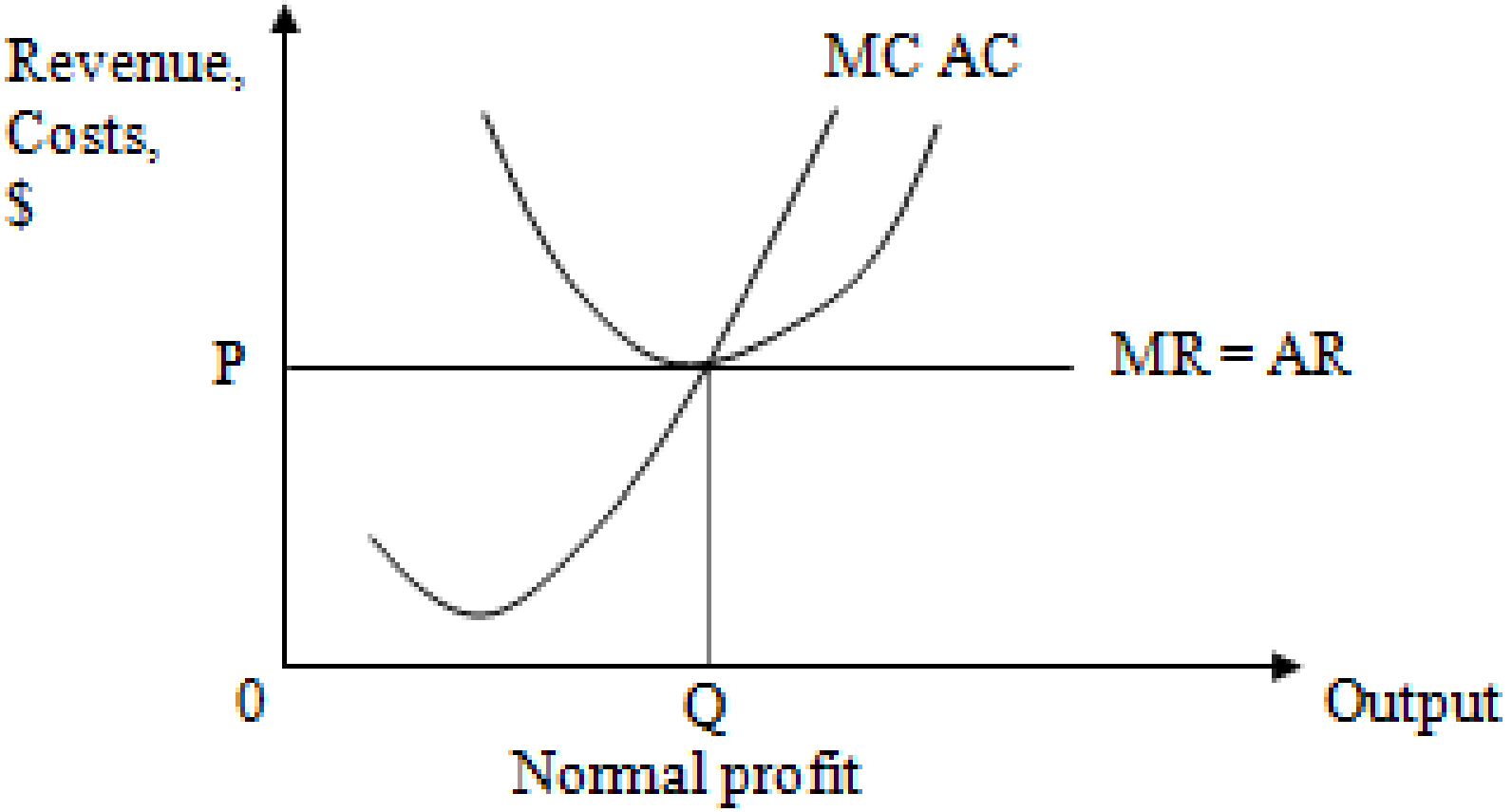
- Firm sales additional units at the same price so that average revenue curve and marginal revenue curve will be one and a same.
- Avg. cost curve and Marginal cost curve as usual found

normally as “U” shaped.

- In short run there are three possibilities as below to earn profit:Super Normal Profit,Normal Profit,Sub Normal Profit
- After attaining the equilibrium the firm will not increase or decrease its output.

Equilibrium = MR = MC

PERFECT COMPETITION FOR SHORT RUN



PERFECT COMPETITION FOR LONG RUN

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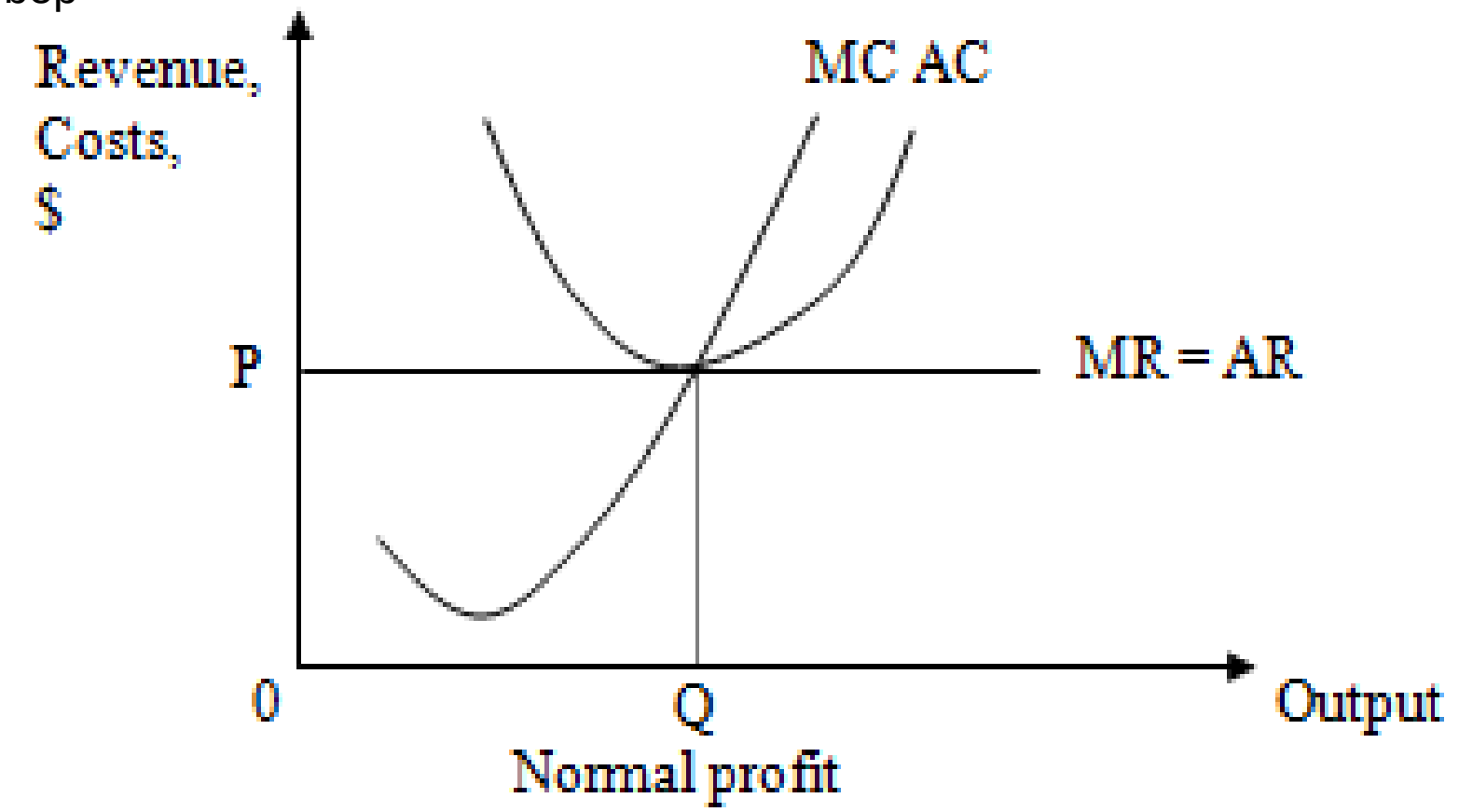


PRICE DETERMINATION UNDER MONOPOLY FOR SHORT RUN

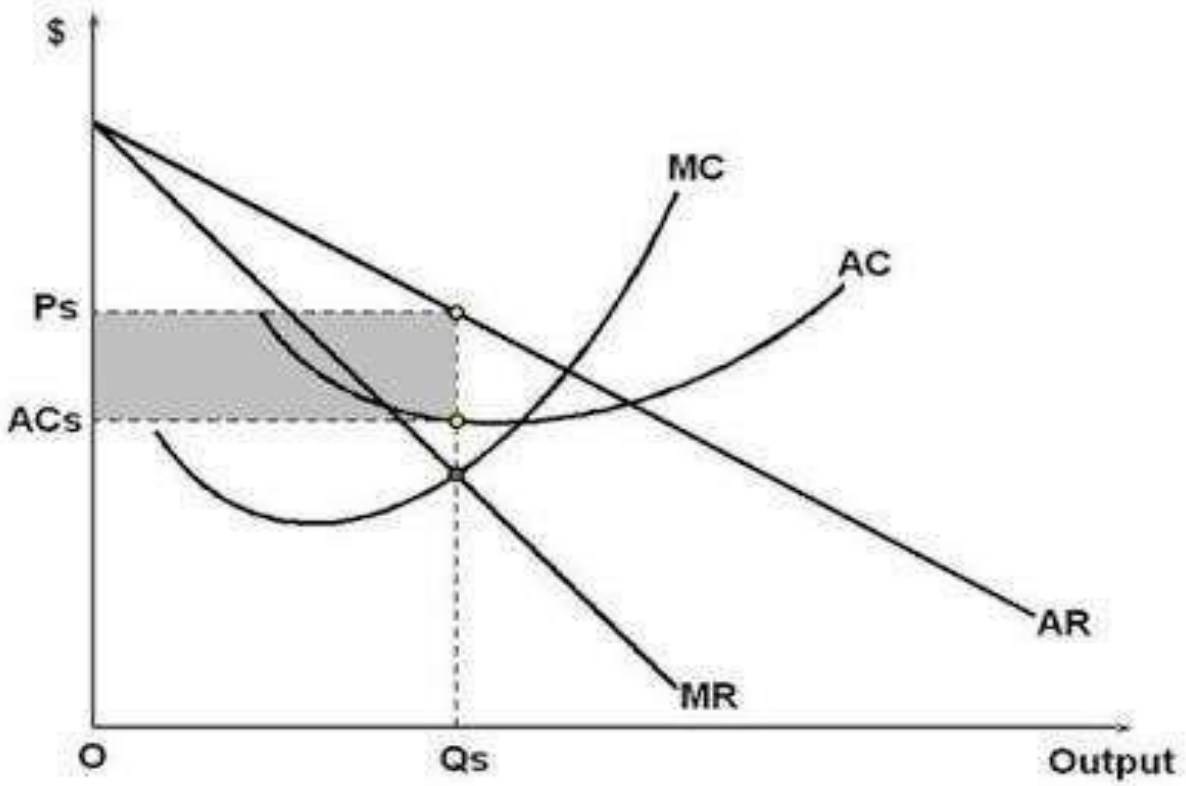
Short run period allows change in variable factors only. In Monopoly the firm will achieve its equilibrium . where MR = MC

In short run there are three possibilities as below to earn profit:

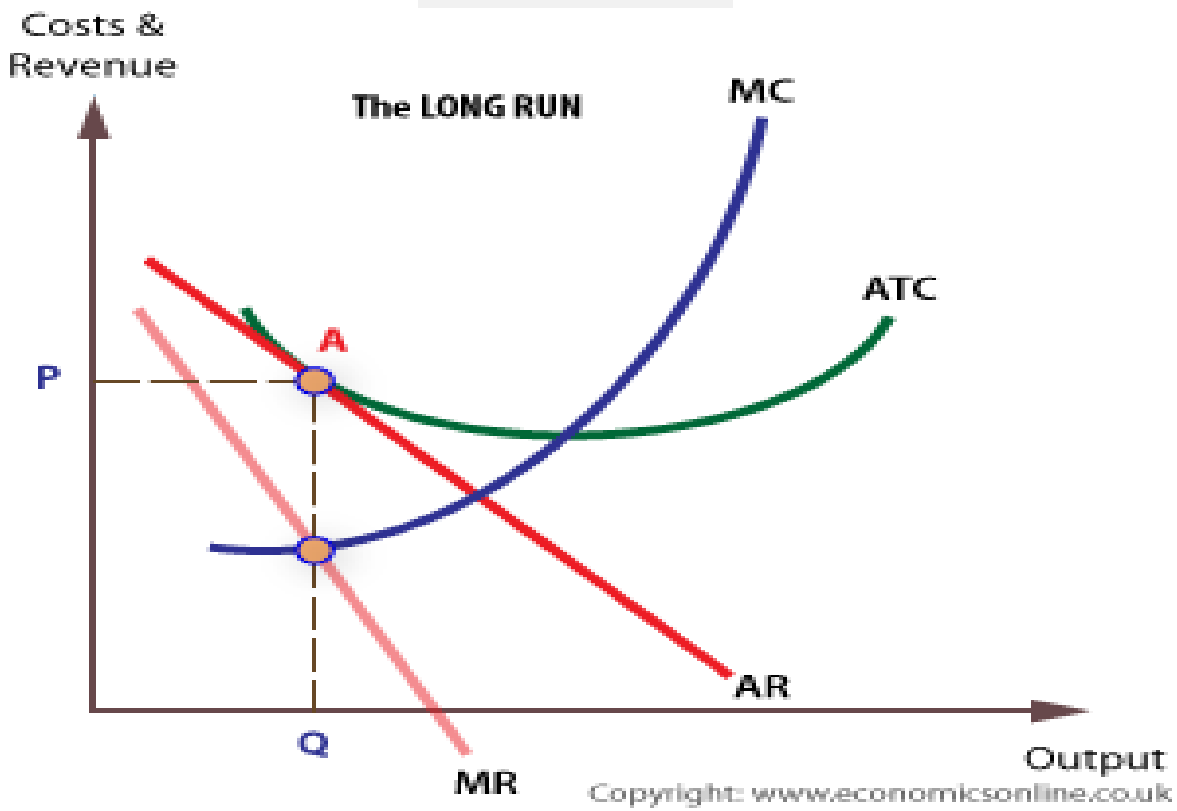
- Super Normal Profit
- Normal Profit
- Sub Normal Profit

But generally thefirm will earn supernormal profit because there is no direct competition.

PRICE DETERMINATION UNDER MONOPOLY FOR SHORT RUN

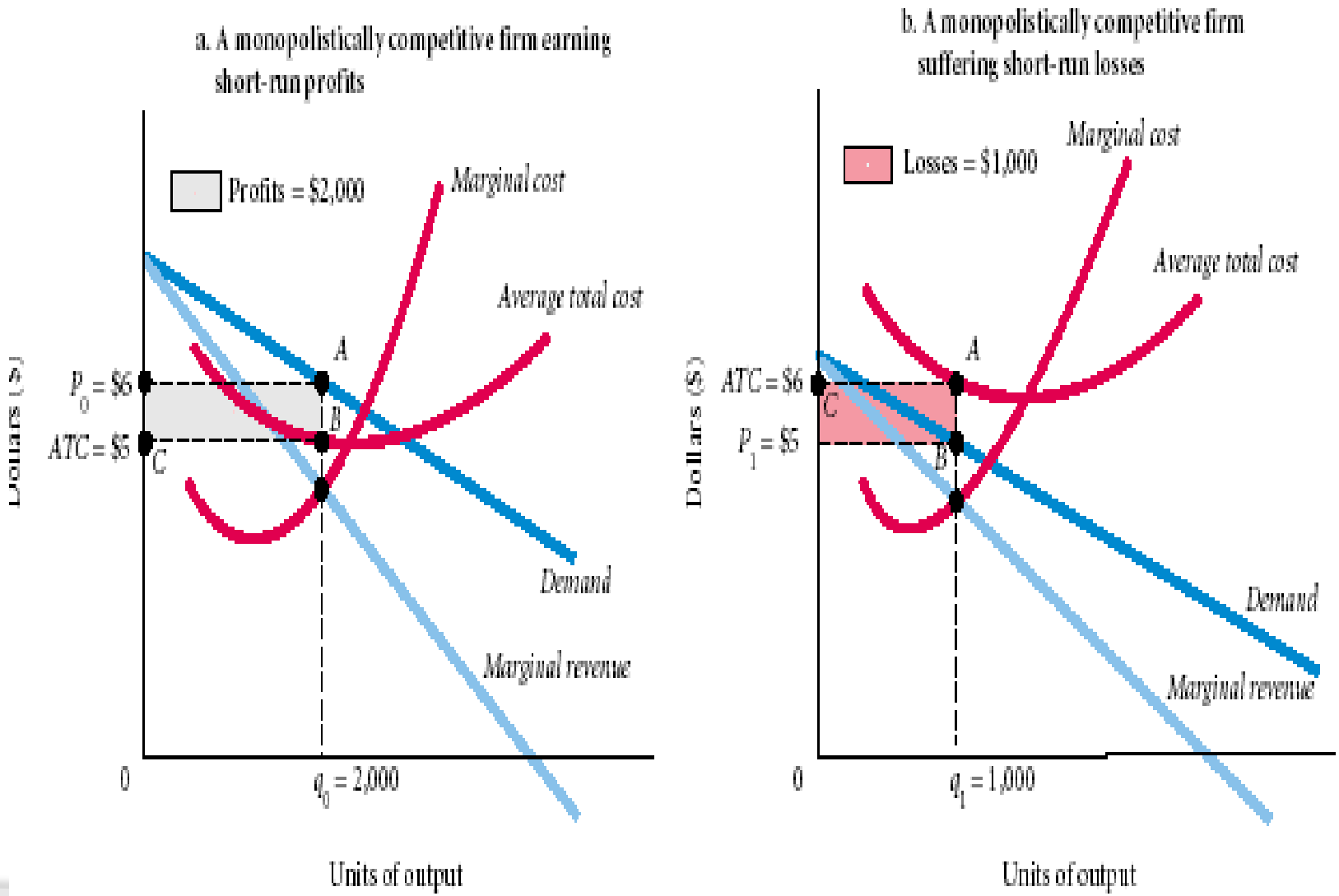


PRICE DETERMINATION UNDER MONOPOLY FOR LONG RUN



PRICE DETERMINATION UNDER MONOPOLISTIC FOR SHORT RUN

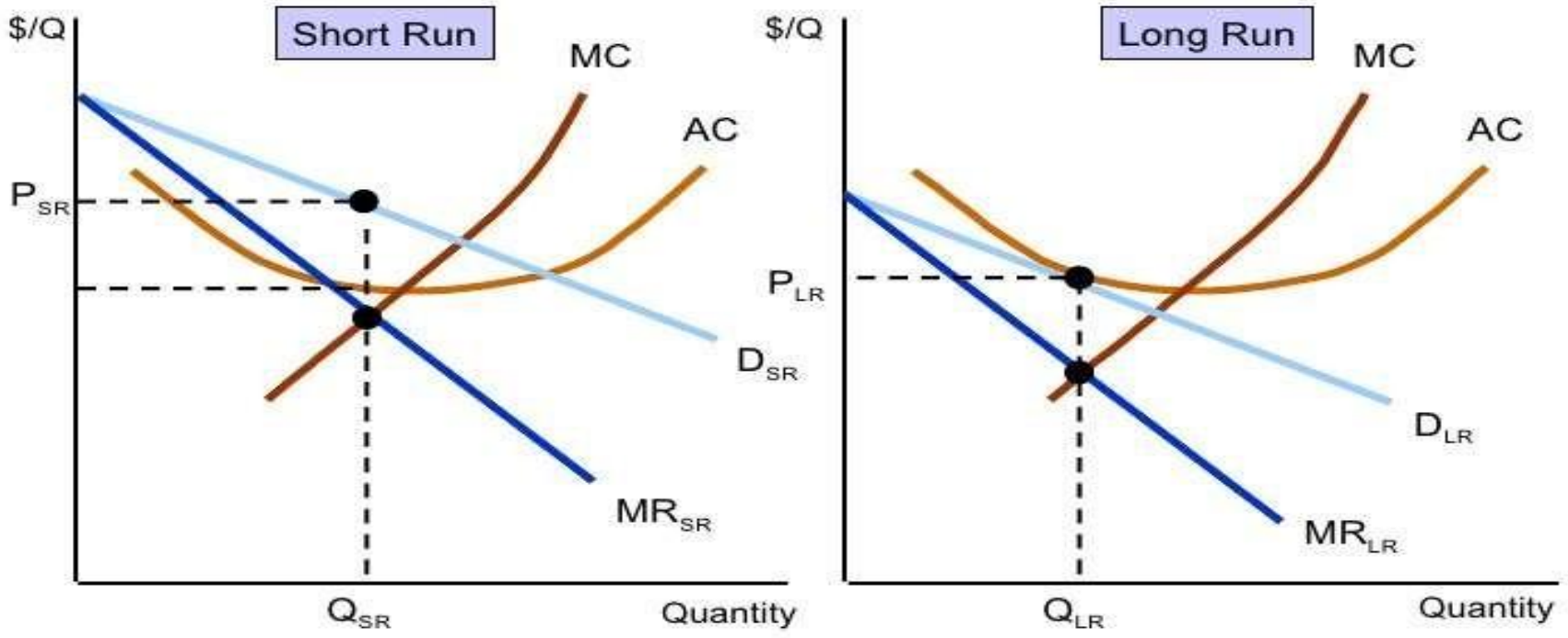
- Long run is that period which allows the firm to change the factors of production that is fixed and variable.
- If the existing firms are earning super normal profit then there will be new entry in the market this will be resuled in the firm will only earn Normal profit.
- But compared to supply demand not increased so that the firm will start selling at a lower price.
- Same would be done by the other firms to maintain their sales. Thus, price will increase and super normal profit will disappear.


a. A monopolistically competitive firm earning short-run profits
Profits = $2,000
Marginal cost
Average total cost
A
P_0 = $6
ATC = $5
B
C
Demand
Marginal revenue
0
q_0 = 2,000
Dollars ($)
Units of output
b. A monopolistically competitive firm suffering short-run losses
Losses = $1,000
Marginal cost
Average total cost
A
ATC = $6
C
P_1 = $5
B
Demand
Marginal revenue
0
q_1 = 1,000
Dollars ($)
Units of output

PRICE DETERMINATION UNDER MONOPOLISTIC FOR LONG RUN

- Long run is that period which allows the firm to change ll the factors of production that is fixed and variable.
- If the existing firms are earning super normal profit then there will be new entry in the market this will be resuled in the firm will only earn Normal profit.
- Thus, total supply of the group will increase.
- But compared to supply demand not increased so that the firm will start selling at a lower price.

A Monopolistically Competitive Firm in the Short and Long Run



NEW ECONOMIC ENVIRONMENT

The term "business organization" refers to how a business is structured.

It refers to a commercial or industrial enterprise and the people who constitute it.

TYPES OF BUSINESS ORGANISATIONS

- Sole Proprietorship
- Joint Hindu Family Business
- Partnership Firm
- Joint Stock Company
- 1.) Private Limited

  2.) Public Limited
- Co-operative Society

SOLE PROPRIETERSHIPc

When the ownership and management of a business are in control of one individual the form of business is called sole proprietorship.

SOLE PROPRIETERSHIP

Characteristics:

- **The business enterprise is owned by one single individual (i.e. both profit and risk belong to him)**
- **Owner is the Manager**
- **Owner is the only source of Capital**
- **The proprietor and business enterprise are same in the eyes of the law.**

ADVANTAGES OF SOLE PROPREITORSHIP

- Easy formation
- Better Control

  (Prompt decision

  making and

  Flexibility in Operations)
- Subject to fewer regulations
- Not subject to corporate income tax
- Ownership of all profits

DISADVANTAGES OF SOLO ROPREITORSHIP

- Owner has unlimited liability
- Difficult to raise capital
- Business has a limited life
- Difficult to do business beyond a certain size

PARTNERSHIP FIRM

A Partnership consists of two or more individuals in business together

ADVANTAGES OF PARTNERSHIP

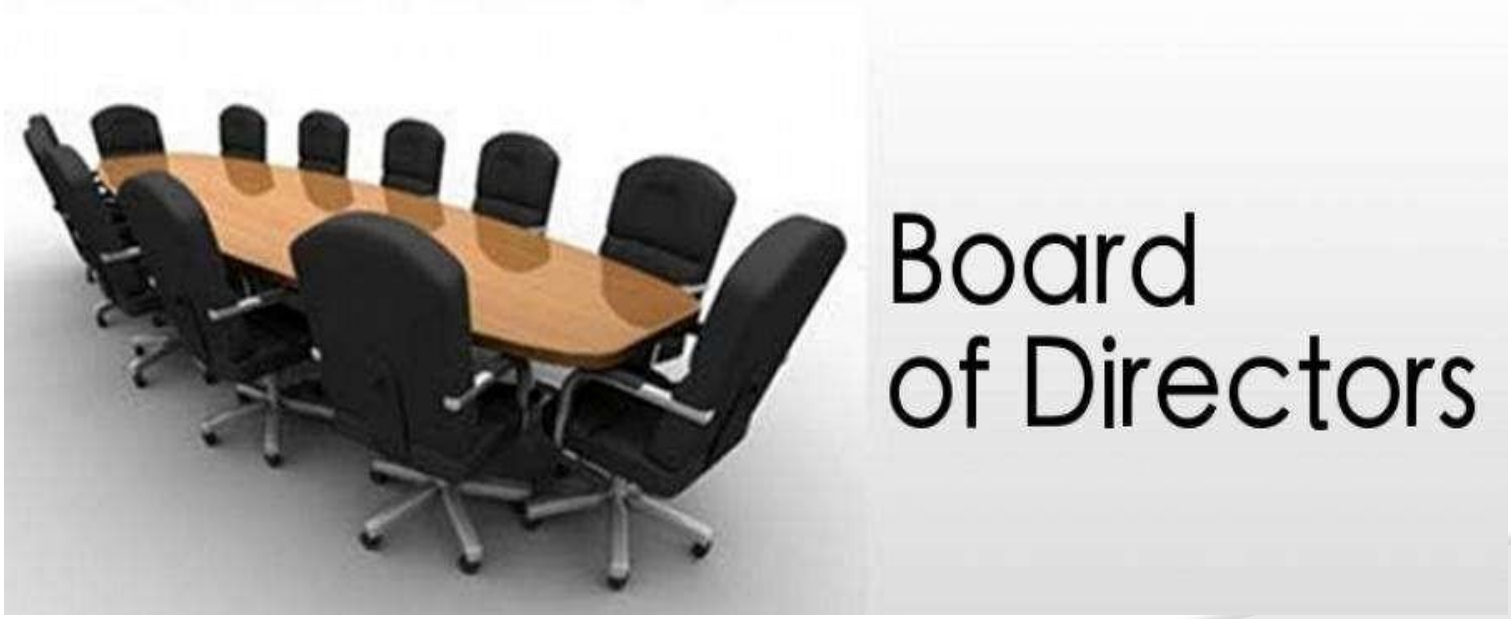
- Easy Formation
- Larger Resources
- Sharing Of Risk
- Better Management and Flexibility of Operation
- No corporate income tax
- Subject to fewer regulations as compared to companies

DISADVANTAGES OF PARTNERSHIPS

- Unlimited Liability
- Limited Life
- Difficult to raise capital
- Chances of Dispute

JOINT STOCK COMPANY

A joint stock company is a voluntary association of people who contribute money to carry on business



CHARACTERISTICS OF A CORPORATION

- It is considered as a separate legal entity
- It comes into formation after all formalities under the Indian Companies Act 1956 are completed
- Management and ownership is completely separate
- Capital is raised through shares which are transferable

ADVANTAGES OF A CORPORATION

- Limited liability of the shareholders &promoter
- Can easily raise capital
- Have unlimited life
- Ease of transfer of ownership

DISADVANTAGES OF A CORPORATION

- Formation is not easy
- Excessive Government Regulation
- Subject to Corporate Tax and Dividend Tax (Double Taxation)
- Delay in Policy Decisions
- Control by a Group

TWO TYPES OF CORPORATIONS

1. PRIVATE COMPANY

- Closely held by a few people
- Minimum 2 and maximum 50 shareholders
- Stocks cannot be traded on exchanges and private equity cannot be raised
- Less regulations as compared to Public Companies

2. PUBLIC COMPANY

- Stocks are held by a large number of people
- Minimum 7 shareholders and no limit for maximum
- Can be listed on stock exchange and can go public
- Have to follow many laws with regards to the board composition and AGM.

CO-OPERATIVE SOCIETY

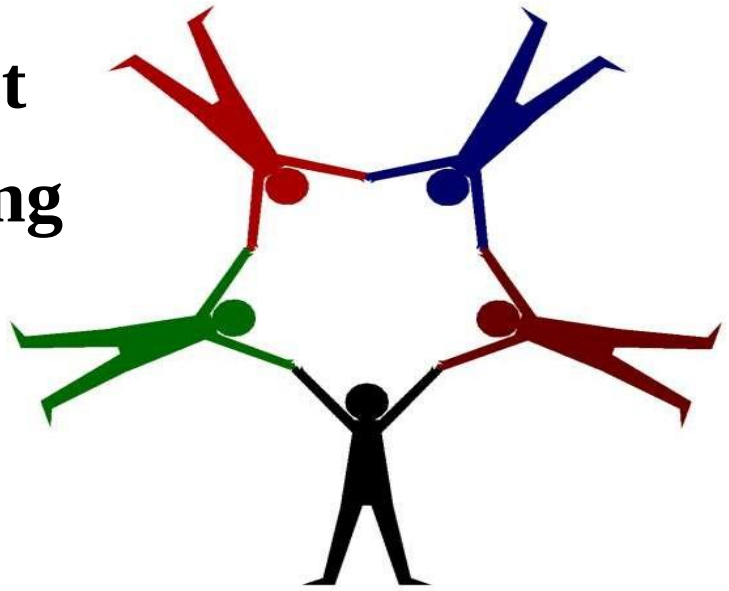
It is a voluntary association of people or business to achieve a an economic goal with a social perspective

ADVANTAGES OF CO-OPERATIVE

- Easy Formation
- Limited Liability
- Stability
- Democratic Management
- State Assistance

DISADVANTAGES OFA COOPERATIVE

- **Possibility of conflict**
- **Long decision making process**
- **Not enough capital**



CAPITAL BUDGETING

CLOs	Course Learning Outcome
CLO 07	Describe the allocation and sources of capital which plays a vital role in a business organization.
CLO 08	Demonstrate the concept of capital budgeting and allocations of the resources through capital budgeting methods

Definition of capital

- **"Capital is a necessary factor of production and, like any other factor, it has a cost,"**

  - Eugene F. Brigham

- **"Firms with the most profitable investment opportunities are willing and able to pay the most for capital, so they tend to attract it away from inefficient firms or from those whose products are not in demand,“**

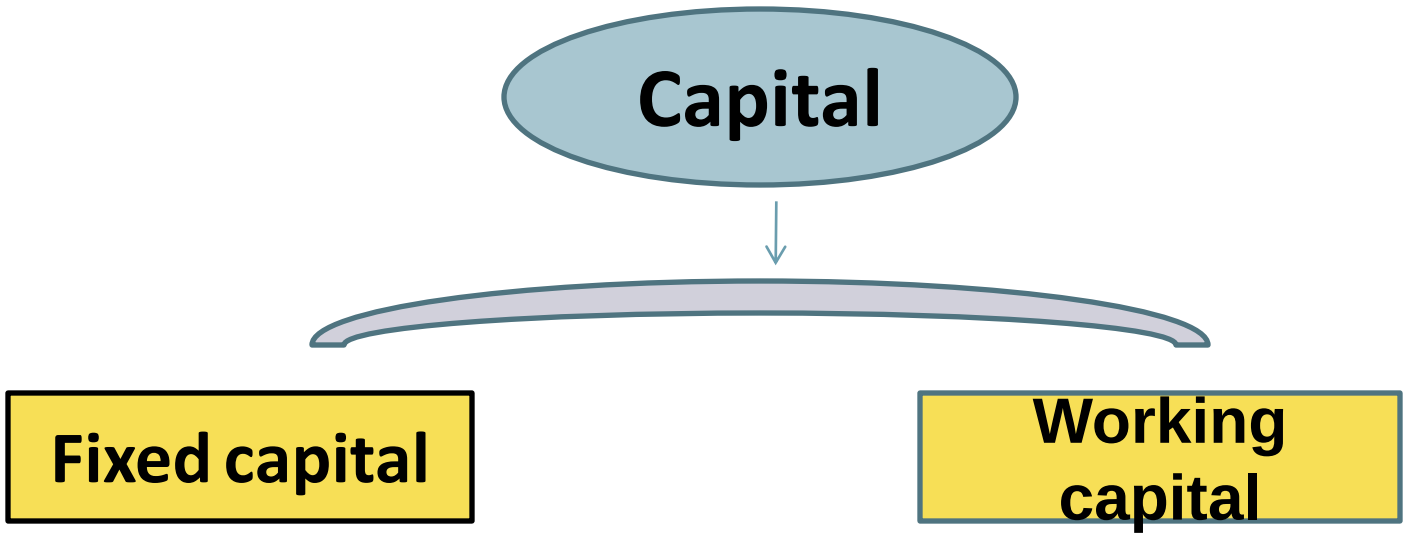
  - Brigham

- **Capital is the money or wealth needed to produce goods and services. In the most basic terms, it is money. All businesses must have capital in order to purchase assets and maintain their operations.**

Need for capital

- To promote a business
- To conduct business operations smoothly
- To expand and diversify
- To meet contingencies
- To pay taxes
- To pay dividends and interests
- To replace the assets
- To support welfare programmes
- To wind up

Types of capital



Features of fixed capital

Permanent in nature
Profit generation
Low liquidity
Amount of fixed capital
Utilised for promotion and expansion

Types of fixed assets

- Tangible fixed assets
- Intangible fixed assets
- Financial fixed assets

Working capital

Definition:

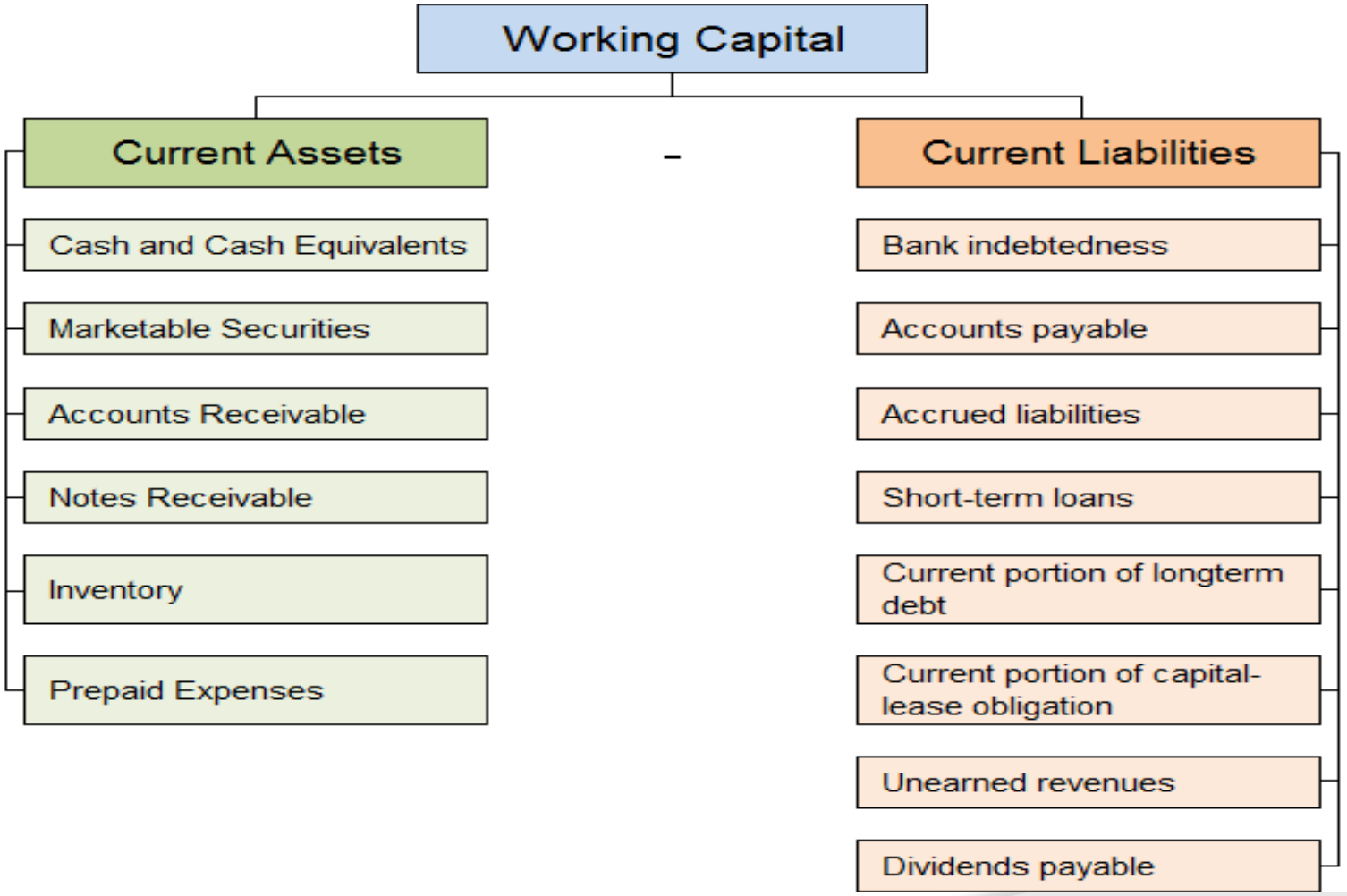
Working capital is money available to a company for day-to-day operations. It is also called as circulating capital.

Simply put, working capital measures a company's liquidity, efficiency, and overall health of business.

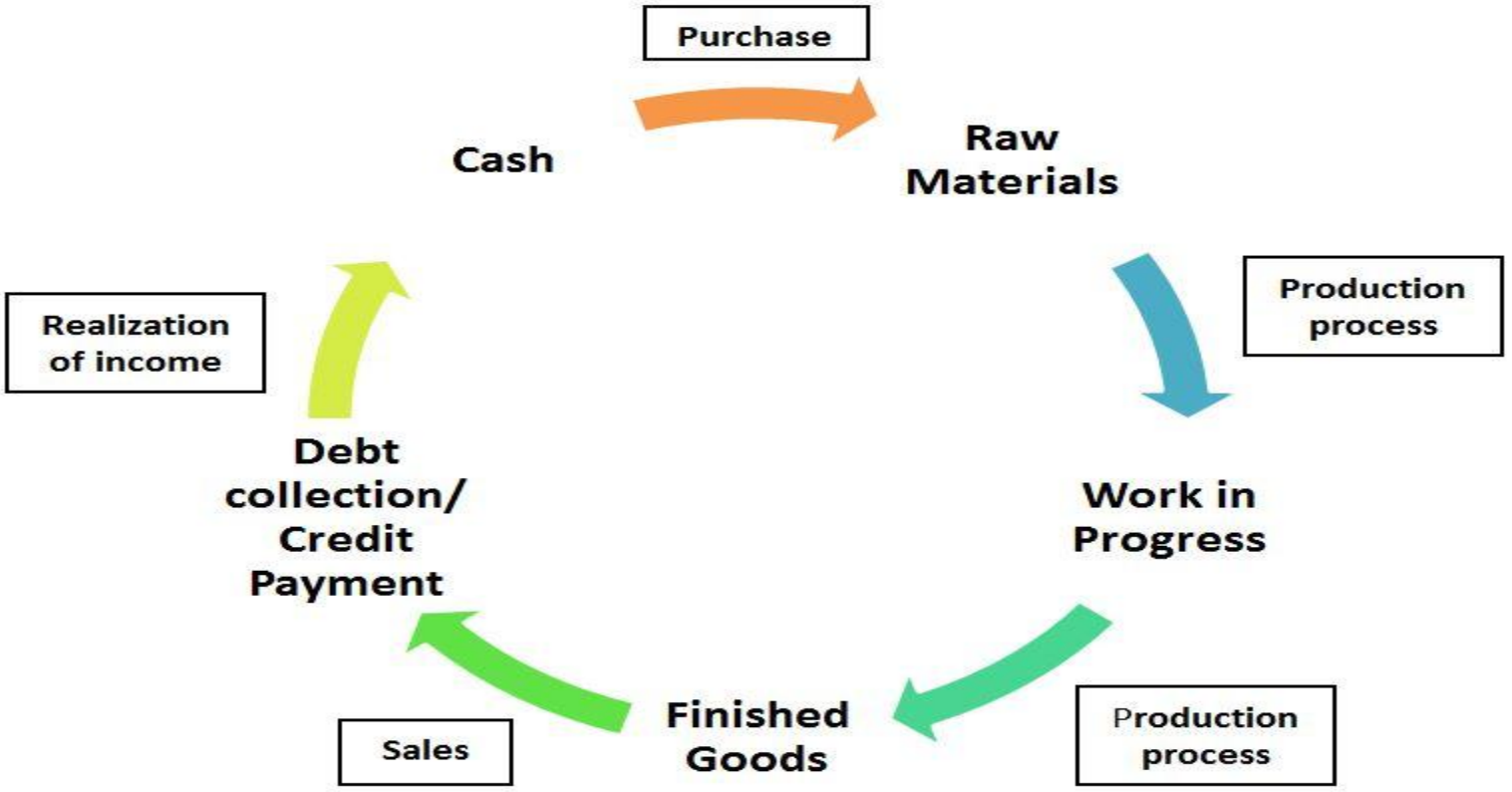
Features of working capital

Short life span
Smooth flow of operations
Liquidity
Amount of working capital
Utilized for payment of current expenses

Components of working capital



Working capital cycle



Operating Cycle of a Business

Methods and sources of finance

Method of finance is the type of finance used such as loan or mortgage

Source of finance would be where the money was obtained from

- a loan may be obtained from a bank while the mortgage may be obtained from a credit soceity.

Methods of finance

The following are the common methods of finance :

- **Long - term finance**
- **Medium - term finance**
- **Short - term finance**

Sources of finance

Long – term finance

Own capital

Share capital

Preference share capital

Equity share capital

Retained profits

Long term loans

Debentures

Government grants and loans

Sources of finance

Medium - term finance
Bank loans
Hire purchase
Leasing or renting
Venture capital

Sources of finance

Short - term finance
Commercial paper
Bank overdraft
Trade credit
Debt factoring or credit factoring
Advance from customers
Short – term deposits from the customers, sister companies and outsiders
Internal funds

Capital Budgeting

Definition of Budget:

Budgeting is a management toolfor planning and controlling future activity.

Financial Buzz Words: A plan for saving, borrowing and spending.

Budget is a financial plan and a list of all planned expenses and revenues.

Capital Budgeting

An Investment Decision Method

Capital Budgeting

Capital: Operating assets used for production.

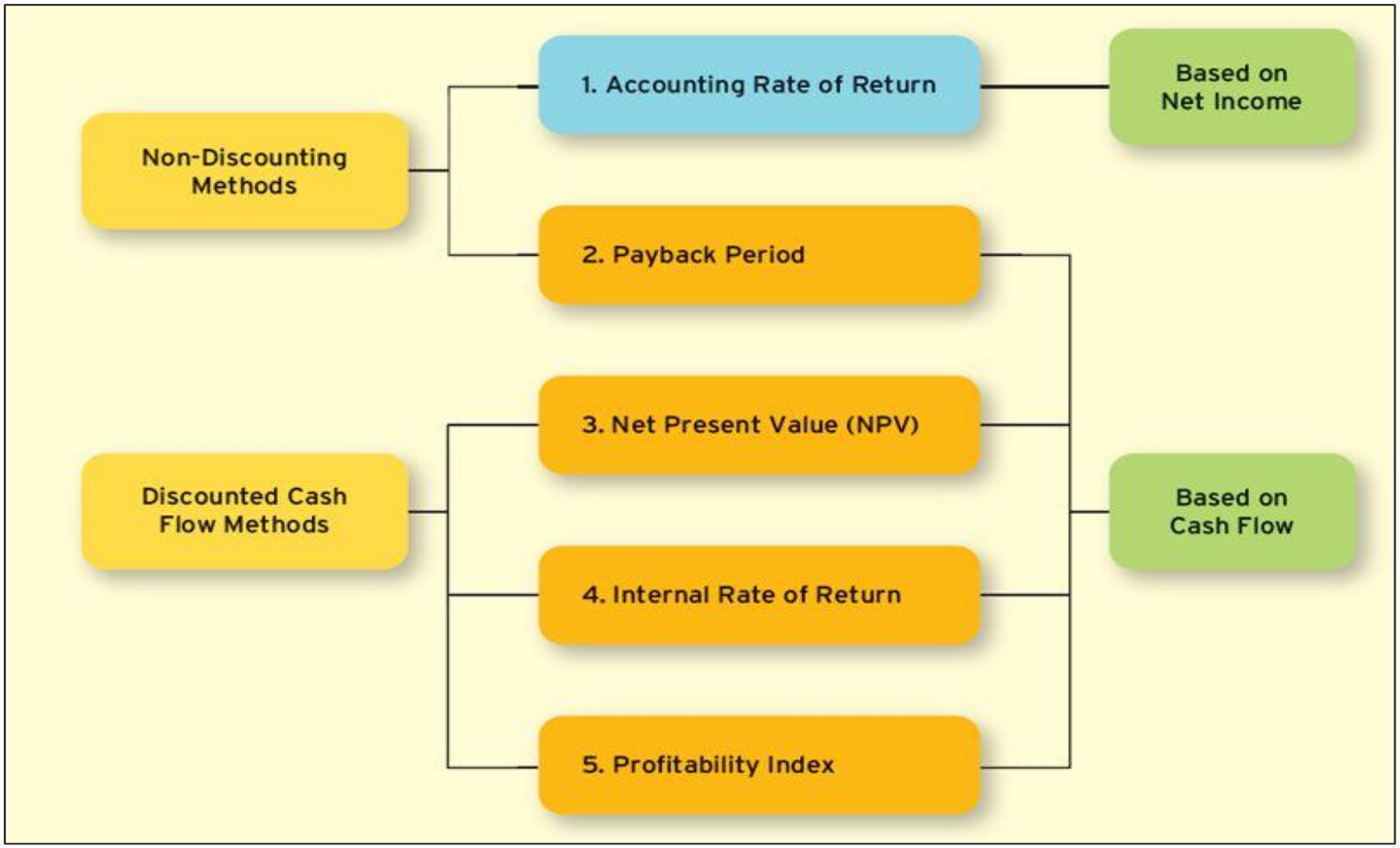
Budget: A plan that details projected cash flows during some period.

Capital Budgeting: Process of analyzing projects and deciding which ones to include in capital budget.

Significance of Capital Budgeting

Substantial capital outlays
Long term implications
Strategic in nature
Irreversible

Capital Budgeting Methods



Non discounting: Pay-Back Period

Pay-Back Period Method- It is defined as the number of years required to recover original cost invested in a project. It has two conditions

- **When cash inflow is constant every year**

  PBP= Cash outflow/cash inflow (p.a.)

- **When cash inflow are not constant every year**

  PBP = Completed years + required inflow * 12

  inflow of next year

Non discounting: Annual Rate of Return

Average Rate of Return Method - ARR means the average annual earning on the project. Under this method, profit after tax and depreciation is considered. The average rate of return can be calculated in the following two ways.

ARR on average investment = Average profit after tax / Average investment *100

ARR on initial investment = Average profit after tax / Initial investment *100

Discounting Criteria: Pay-Back Period

Discounted Pay-Back Period Method - In discounted pay- back period method, the cash inflows are discounted by applying the present value factors for different time periods. For this, discounted cash inflows are calculated by multiplying the P.V. factors into cash inflows.

Discounted pay back = completed years + Required inflow / Inflow of next year *12

Discounting Criteria: Net Present Value

Net Present Value Method:- It is the best method for evaluation of investment proposal. This method takes account time value of money.

NPV= PV of inflows- PV of outflows

- **Evaluation of Net Present Value Method:-Project with the higher NPV should be selected.**

Accept	**NPV>0**
if Reject	**NPV<0**
May or may not accept	**NPV=0**

Discounting Criteria: Profitability Index

Profitability Index Method - As the NPV method it is also shows that project is accepted or not. If Profitability index is higher than 1, the proposal can be accepted.

Accepted PI > 1

Rejected PI < 1

Profitability index = Total Cash Inflows /Total Cash Outflows

Discounting Criteria: Internal Rate of Return

Internal Rate of Return Method:- IRR is the rate of return that a project earns. The rate of discount calculated by trial and error , where the present value of future cash flows is equal to the present value of outflows, is known as the Internal Rate of Return.

$$IRR = LDR + \frac{NPV\ @LDR}{NPV@LDR - NPV\ @\ HDR} * (HDR - LDR)$$

Introduction to Financial Accounting and Analysis

CLOs	Course Learning Outcome
CLO 09	Interpret the financial position of business by applying accounting concepts and conventions
CLO 10	Apply the ratio Analysis to assess the operating efficiency and profitability of business.

Accounting

Process of identifying, recording, summarizing, and reporting economic information to decision makers in the form of financial statements

Definitions of Accounting

The process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information."—American Accounting Association (AAA)

- **"A service activity whose function is to provide quantitative information, primarily financial in nature, about economic entities that is intended to be useful in making economic decisions." —American Institute of Certified Public Accountants (AICPA)**

Accounting Concepts, Conventions, Bases & Policies

The basic ideas, the theories on how and why certain categories of transactions should be treated in a particular manner. Once the theories have been established and tested and proved to be acceptable, the task of the Conventions is to set out the limit of their applications.

FUNCTIONS / SCOPE OF FINANCIAL ACCOUNTING

- Recording
- Classifying
- Summarizing
- Deal with financial transactions
- Interpretation
- Communicating

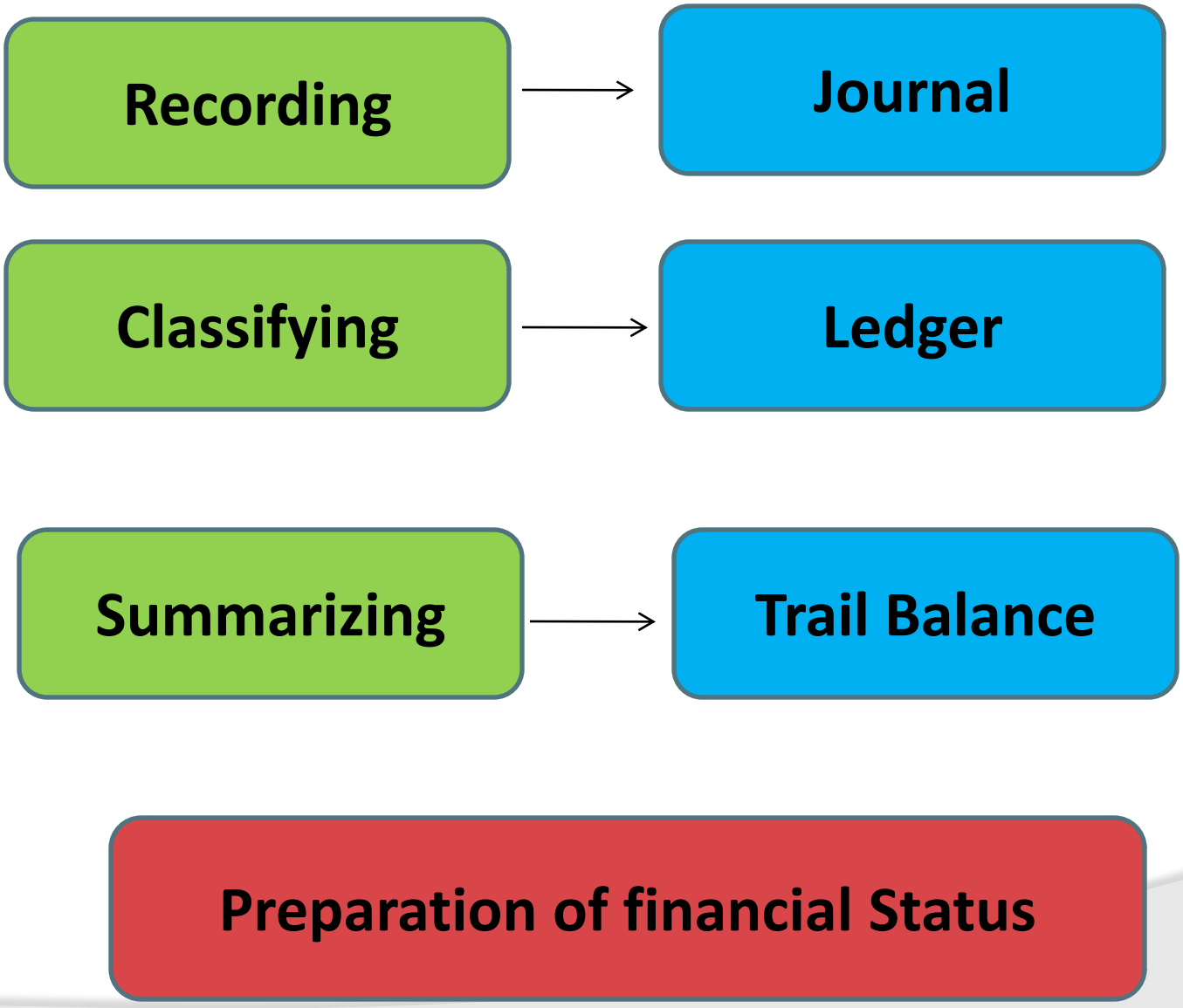
1. **Deals with financial transactions : Accounting records only those transactions and events, which are of a financial character.**
2. **Recording : This is the basic function of Accounting. It is essentially concerned with not only ensuring that all business transaction of financial character are in fact recorded but also that they are recorded in an orderly manner. Recording is done in the book called “Journal”**
3. **Classifying : Classification is concerned with the systematic analysis of the recorded data, with view to group transactions or entries of one nature at one place .The work of classification is done in the book called “Ledger**

4. Summarizing : This involves presenting the classified data in a manner, which is understandable and useful to the internal as well as external end –users of accounting statements. This process leads to the preparation of the following statement :- Trial Balance Trading Account Profit and Loss Account Balance Sheet
5. Analysis and Interpretation : This is the final function of accounting. The recorded financial data is analyzed and interpreted in a manner that the end-users can make a meaningful judgment about the financial condition and profitability of the business operations.

OBJECTIVES OF FINANCIAL ACCOUNTING

1. Maintaining proper/systematic record of Business Transactions
2. To ascertain the financial results of the enterprise
3. To ascertain financial position or financial health of the business
4. To help in decision making: Accounting serves as an information system
5. Providing Effective Control over the Business
6. Making Information to various groups

PROCESS OF ACCOUNTING



Users of Accounting Information

External Users →

- Security analysts & Investors
- Creditors/suppliers
- Government & regulatory authorities
- customers
- Competitors Researchers
- Taxing authorities

Internal Users →

- Owners
- managers
- employees

ADVANTAGES/ SIGNIFICANCE OF FINANCIAL ACCOUNTING:

1. Replacement of memory
2. Evidence in court
3. Settlement of taxation liability
4. Comparative study
5. Sale of the business
6. Assistance to the insolvent person
7. Assistance to various interested parties
8. Preparation of Financial Statements
9. Decision Making
10. Planning and Control of Operations
11. Value of Business

LIMITATIONS/DISADVANTAGES OF ACCOUNTING

1. Records only monetary transactions
2. Effect of price level changes not considered
3. No realistic information
4. No real test of managerial performance
5. Historical in nature
6. Personal bias / judgment of Accountant affects the accounting Statements
7. Permits alternative treatments

DOUBLE ENTRY SYSTEM

MEANING:

Double entry system is a scientific way of presenting accounts. As such all the business concerns feel it convenient to prepare the accounts under double entry system. The taxation authorities also compel the businessmen to prepare the accounts under Double Entry System. Under dual aspect the Account deals with the two aspects of business transaction i.e.,

(1) Receiving Aspect and
(2) Giving Aspect.

PRINCIPLE OF DOUBLE ENTRY SYSTEM

Every business transaction has got two accounts, where one account is debited and the other account is credited. If one account receives a benefit, there should be another account to impart/give the benefit.

- The principle of Double Entry is based on the fact that there can be no giving without receiving nor can there be receiving without something giving. The receiving account is debited (i.e., entered on the debit side of the account) and the giving account is credited (i.e., entered on the credit side of the account).
- The principle under which both debit and credit aspects are recorded is known as the principle of double entry. According to this principle every debit must necessarily have a corresponding credit and vice versa.

ADVANTAGES OF DOUBLE ENTRY SYSTEM

1. **Scientific system:**
   Double entry system records, classifies and summarizes business transactions in a systematic manner and, thus, produces useful information for decision makers. It is more scientific as compared to single entry of book-keeping.
2. **Full Information:**
   Full and authentic information can be had about all transactions as the trader maintains the ledger with all types of accounts.
3. **Assessment of Profit and Loss:**
   The businessman/trader will be able to know correctly whether he had earned

4. Knowledge of Creditors:

The trader is also knows the exact amounts owed by the firm to others and he will be able to arrange prompt payment to obtain cash discount.

5. Assessment of Financial Position:

The trader will be able to prepare the Balance Sheet which will help the interested parties to know fully about the financial position of the firm.

6. Comparison of Results:

It facilitates the comparison of current year results with those of previous years.

7. Maintenance according to Income Tax Rules:

Proper maintenance of books will satisfy the tax authorities and facilitates accurate assessment. In India Joint stock companies should maintain accounts under double entry system.

LIMITATIONS / DISADVANTAGES OF DOUBLE ENTRY SYSTEM:

The Double Entry System however may not provide any solution to the following errors.

1. Not Practical to All Concerns: This system requires the maintenance of a number of books of accounts which is not practical in small concerns.
2. Costly system: This system is costly because of a number of records are to be maintained.
3. No guarantee of Absolute Accuracy of the Books of Account: There is no guarantee of absolute accuracy of the books of account inspite of agreement of the trial balance because of there are some errors like errors of principles, errors of omission, compensating errors etc., which remain understand inspite of agreement of trial balance.

4. Errors of Omission: In case the entire transaction is not recorded in the books of accounts, the mistake cannot be detected by accounting. The Trial Balance will tally inspite of the mistakes.
5. Errors of Principle: Double entry is based upon the fact that every debit has its corresponding credit and vice versa. It will not be able to detect the mistake such as debiting Ram‟s account instead of Rao‟s account or Building account in place of Repairs account.
6. Compensating Errors: If Rahim‟s account is by mistake debited with Rs. 15 lesser and Mohan‟s account is also by mistake credited with Rs.15 lesser, the Trial Balance will tally but mistake will remain in accounts.

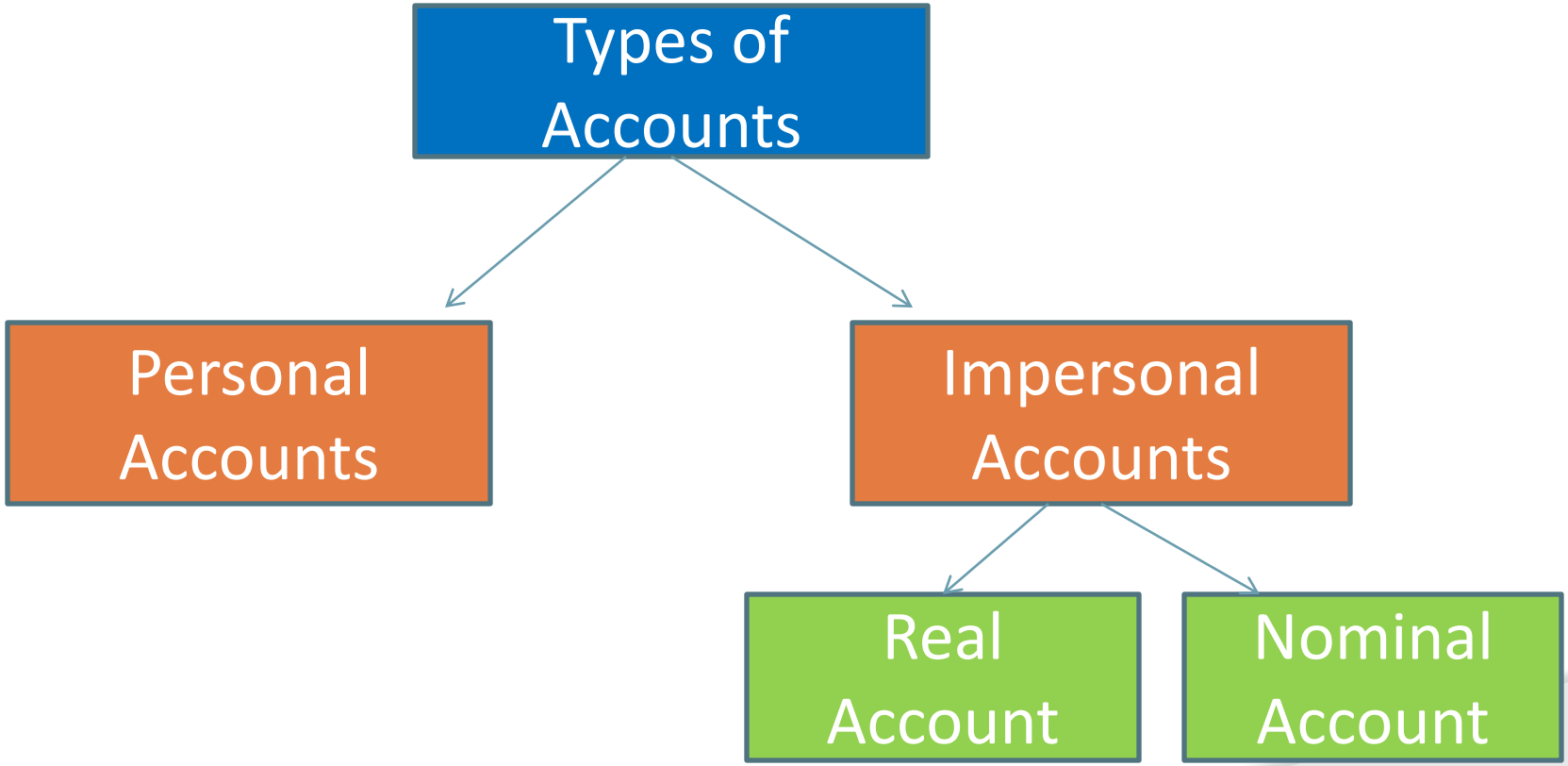
PROFARMA FOR DOUBLE ENTRY SYSTEM

An account contains the following columns on the following columns on either side. 1) Date column 2) Particulars column 3) Journal Folio column 4) Amount column. The format or ruling of an account is as follows:

Date	Particulars	J.F	Amount Rs	Date	Particulars	J.F	Amount Rs
	To Particulars of benefits received		xxxxx		By Particulars of benefits given		xxxxx

Classification of Accounts

Broadly speaking accounts are classified into two types



Personal Accounts

Personal Accounts are those which are opened in the names of persons. These are accounts of persons and institutions with whom the business deals. A separate account is kept for each person.

Personal accounts can be also sub classified into three categories:

They are

i) Natural personal accounts: Natural Personal Accounts: The term Natural Persons means who are creations of Gods. For example Ravi Account, Rani Account, Raghu account Nagarjuna Account etc., are called as Natural Personal Accounts.

Artificial Personal accounts: Artificial Personal Accounts: These accounts include accounts of corporate bodies or institutions which are recognized as persons in business dealings. The account of a Limited Company, the accounts of co-operative society, the accounts of clubs, the account of Government, the account of insurance company, the account of Colleges, Schools, Universities and Hotels etc., are examples of Artificial Personal Accounts.

iii)Representative Personal accounts: Representative Personal Accounts: These are accounts which represent a certain person or group of persons. For example, Outstanding expenses A/c, Prepaid expenses A/c, Income Receivable A/c and Income received in advance A/c, Drawings A/c and Capital A/c are termed as Representative Accounts

Principle/ Rule of Personal Account

1. Debit the receiver and
2. Credit the giver.

Example:

If cash has been paid to Raja, the account of Raja will have to be debited since Raja is the receiver of cash. Similarly, if cash received from Krishna, the account of Krishna will have to be credited since Krishna is the giver of cash.

Real Account

Real Accounts are those which are relating to Properties and Assets of the business concern. Accounts relating to properties or assets or possessions of the firm are called Real Accounts. Every business firm needs Fixed Assets such as Land and Buildings, Plant and Machinery, Furniture and Fixtures etc for running its business.

There are Four types of Assets.

Fixed Assets: Those assets which are acquired for long term use by the business concern are known as Fixed assets. For example Land and Buildings, Plant and Machinery, Furniture and Fixtures etc are called as Fixed Assets.

Current Assets: Those assets which are possible to convert into cash are known as known as Current assets. For example cash in hand, cash at Bank, Stock in trade, Debtors, Bills Receivable etc., are called as current assets

Tangible Assets: Tangible assets are those which relate to such things which can be touched, felt, measured etc., Tangible assets have physical existence. Hence these assets may be transferred from one place to another place. Fixed assets and Current assets are the examples of Tangible assets.

Intangible Assets: These accounts represent such things which cannot be touched. Of course, they can be measured interms of money. Intangible assets haven't any physical existence. Goodwill, copy rights, patents and trademarks are the examples of Intangible assets

Principle/Rule of Real Account:

1. **Debit what comes into the business and**
2. **Credit what goes out of the business.**

Example:

If machinery has been purchased for cash, is coming into the business, while machinery account should be debited since Machinery h account should be credited since cash is going out of the business. If furniture is sold for cash, cash account should be debited since cash is coming into the business, while Furniture account should be credited since

Nominal Accounts

Nominal accounts include accounts of all Expenses, Losses, Incomes and Profits or Gains.

- **The examples of Expenses and Losses are salaries, wages, rent, taxes, lighting charges, transport charges, travelling charges, coolie charges, warehouse rent, insurance, advertisement paid, Bad debts, commission paid, Discount allowed, interest paid, interest paid on capital.**
- **The examples of Incomes and Profits are rent received, interest received, commission received, discount received, dividend received, interest on investment received, bad debts recovered etc.,**

These accounts are opened in the books to simply explain the nature of the transactions. They do not really exist. For example, in a business when salary is paid to the manager, commission is paid to the salesmen, rent is paid to landlord, cash goes out of the business and it is something real, while salary, commission, or rent as such does not exist.

The accounts of these items are opened simply to explain how the cash has been spent. In the absence of such information, it may be difficult for the cashier to explain how the cash at his disposal was utilized. Nominal accounts are also called Fictitious Accounts.

Principle or Rule of Nominal Account

1. **Debit all Expenses and Losses and**
2. **Credit all Incomes and Profits/Gains.**

Example:

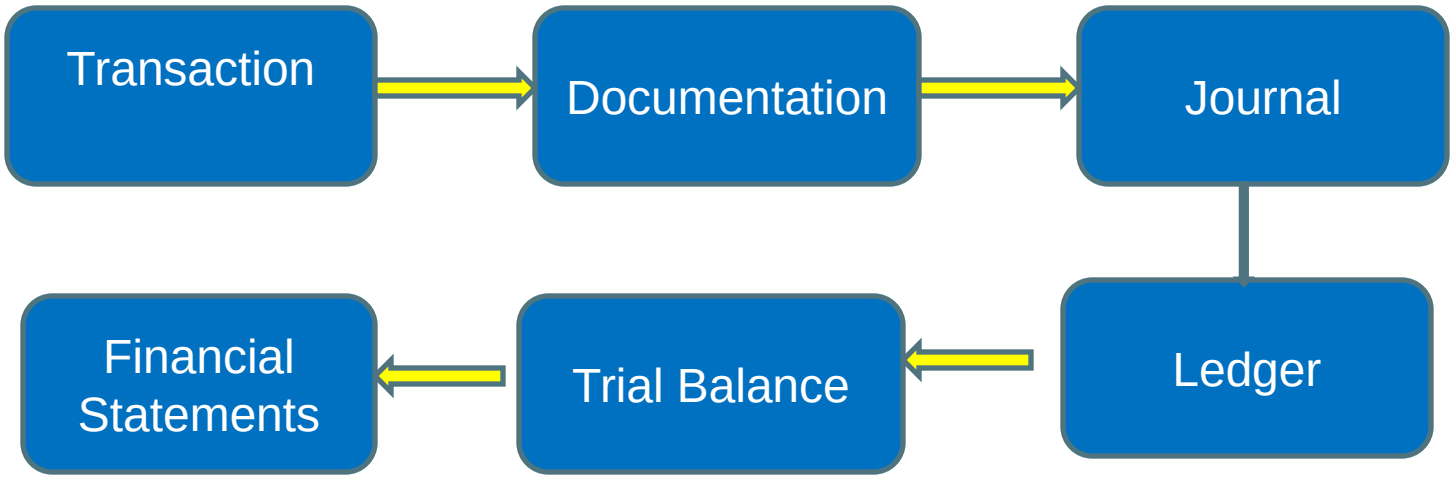
When salaries paid in cash, salaries account should be debited since Salaries is expenditure to the business, while cash account should be credited since cash is going out of the business.

The Accounting Cycle

1. Analyze the transaction
2. Journalize the transaction
3. Post the transaction to accounts in ledger
4. Prepare the trial balance
5. Prepare financial statements

The Recording Process

The sequence of steps in recording transactions



Journal

What is a journal?

- **It is a list in chronological order of all the transactions for a business.**

1 Identify transaction from source documents.

2 Specify accounts affected.

3 Apply debit/credit rules.

4 Record transaction with description.

Journalizing

- **Journalizing –**

It is the process of entering transactions into the journal

Journal entry

- Journal entry - an analysis of the effects of a transaction on the accounts, usually accompanied by an explanation of the transaction
  - This analysis identifies the accounts to be debited and credited.

- What does a journal entry include?
  - date of the transaction
  - title of the account debited
  - title of the account credited
  - amount of the debit and credit
  - description of the transaction (narration)

PROFARMA FOR JOURNAL ENTRIES

Date	Account Name	Debit	Credit
March 15			
	Cash	500.00	
	Cost of Goods Sold	100.00	
	-Revenues		500.00
	-Inventory		100.00
(6)	To record sale of inventory.		

LEDGER

A book containing all accounts of a business enterprise is known as ledger and transferring transactions from the books of original entries to their respective ledger accounts is known as posting. Ledger serves as the main book for an effective and result oriented accounting system.

Date	Particulars	F	Amount Rs	Date	Particulars	F	Amount Rs
	To The Name of Credit Account		Rs.		By Name of debit Account		Rs.

Cr.

TRAIL BALANCE

What is a Trial balance?

- **It is an internal document.**
- **It is a listing of all the accounts with their related balances.**
- **It provide a check on accuracy by showing whether total debits equal total credits.**

A listing of all accounts with balances at the end of the accounting period after all transactions have journalized and posted

- **Purpose**

– to determine that debits = credits

– to identify accounts to be adjusted


Thank you