

(17E00103) MANAGERIAL ECONOMICS

Objective of this course is to understand the relevance of economics in business management. This will enable the students to study functional areas of management such as Marketing, Production and Costing from a broader perspective.

1. **Introduction to Managerial Economics:** Definition, Nature and Scope, Relationship with other areas in Economics, Production Management, Marketing, Finance and Personnel, Operations research - The role of managerial economist. Objectives of the firm: Managerial theories of firm, Behavioural theories of firm, optimization techniques, New management tools of optimization.
2. **Theory of Demand:** Demand Analysis – Law of Demand - Elasticity of demand, types and significance of Elasticity of Demand. Demand estimation – Marketing research approaches to demand estimation. Need for forecasting, forecasting techniques.
3. **Production Analysis:** Production function, Isoquants and Isocosts, Production function with one/two variables, Cobb-Douglas Production Function, Returns to Scale and Returns to Factors, Economies of scale- Cost concepts - cost-output relationship in the short run and long run, Average cost curves - Break Even Analysis.
4. **Market Structure and Pricing practices:** Features and Types of different competitive situations - Price-Output determination in Perfect competition, Monopoly, Monopolistic competition and Oligopoly. Pricing philosophy – Pricing methods in practice: Price discrimination, product line pricing. Pricing strategies: skimming pricing, penetration pricing, Loss Leader pricing. Pricing of multiple products.
5. **Inflation and Business Cycles:**-Definition and meaning-characteristics of Inflation-types of inflation - effects of inflation - Anti-Inflationary methods - Definition and characteristics of business cycles-phases of business cycle - steps to avoid business cycle

Textbooks:

- Managerial Economics -Analysis, Problems ,Cases ,Mehta,P.L., Sultan Chand & Sons.
- Managerial Economics, Gupta, TMH

References

- Managerial Economics, D.N.Dwivedi,Eighth Edition,Vikas Publications
- Managerial Economics, Pearson Education, James L.Pappas and Engene F.Brigham
- Managerial Economics, Suma Damodaran, Oxford.
- Macro Economics by MN Jhingan-Oxford
- Managerial Economics- Dr.DM.Mithani-Himalaya Publishers
- Managerial Economics-Dr.H.L Ahuja-S.Chand and Com pvt ltd, NewDelhi
- Managerial Economics by Dominick Salvatore, Ravikesh Srivastava- Oxford University press.
- Managerial Economics by Hirschey- Cengage Learning

UNIT-3

PRODUCTION ANALYSIS

1. PRODUCTION FUNCTION:

1.1: PRODUCTION ANALYSIS:

MEANING AND DEFINITION OF PRODUCTION

Production analysis or theory of production deals with a relationship between input factors and output the operational efficiency for optimum output and cost of production is not considered.

ACCORDING TO JAMES BATES AND J.R. PARKINSON,” production is the organized activity of transforming resources into finished products in the form of goods and services and the objective of production is to satisfy the demand of such transformed resources”.

1.2: FACTORS OF PRODUCTION:

Production requires the use of certain resources. Each particular resource may be called a factor of production. Anything that contributes towards output is a factor of production. For the sake of convenience it is usual to group all productive resources fewer than four heads land labor capital and organization each group being called a factor of production.

PRODUCTION

1. LAND:

- The term is used in different sense in economics.
- It does not mean soil or earth's surface alone but refers to all free gift of nature which would include besides the land in common parlance natural resources fertility of soil water air natural vegetation etc.

2. LABOUR:

- The term labor means mental or physical exertion directed to produce goods or services.
- In other words it refers to various types of human effort require the use of physical exertion skill and intellect.
- Labor to have an economic significance must be one which is done with the motive of some economic reward. Division of labor is an important feature of modern industrial organization.

3. **CAPITAL:**

- Capital may be defined as that part of wealth of an individual or community which is used for further production of wealth.
- In fact capital is a stock concept which yields as produced means of production.

4. **ENTREPRENEUR:**

- It is the factor which mobilizes the other factors land, labor, and capital; combines them in the right proportion then initiates the process of production and bears the risk involves in it.
- This factor is known as the entrepreneur. He has also been called the organizer, the manager or the risk taker.

1.3 PRODUCTION FUNTION:

- Production function states the relationship between inputs and output i.e., the amount of output that can be produced with given quantities of inputs under a given state of technical knowledge.
- The output takes the form of volume of goods or services and the inputs are different factors of production i.e., land, labor, capital and enterprise.

Mathematically the production function is described as,

$$Q = f(X_1, X_2, X_3, \dots, X_n)$$

Where,

Q = Quantity produced during a given period of time

(X₁, X₂, X₃X_n) = Quantities of various inputs used in production.

Production function can also be defined in a different way. It shows the minimum quantities of various inputs that are required to yield a given quantity of output.

1.4: ASSUMPTIONS OF PRODUCTION FUNCTIONS

The production function has following assumptions,

1. Perfect divisibility of both inputs and output
2. Limited substitution on one factor for the other.
3. The level of technology remains constant
4. Inelastic supply of fixed factors in the short run
5. It is related to specified period of time.

1.5: SIGNIFICANCE OF PRODUCTION FUNCTIONS

Production function analysis is of practical importance in managerial decision making in business.

Some of its managerial uses are given below,

1. Production function analysis is of great of help in making short period decisions by business executives in two ways.
 - a. How to get optimum level of output from a given set of inputs
 - b. How to get the given level of output from the minimum set of inputs.
2. Production function analysis is of highly useful in making long period decisions by business executives If returns to scale are increasing it will be worthwhile to increase production if returns to scale are diminishing it will be worthwhile to decrease production and if returns to scale remain constant it would be indifferent to the producer whether to increase or decrease production if demand is no constraint.
3. Production function analysis is of great use to calculate the least cost combination of various factors in order for a given level of output or the maximum output input combination for a given cost.
4. Production function analysis is logical and also to common sense if the price of one factor input falls while one for the second.
5. Production function analysis is of great importance in making decision on the utility of employing a variable input in the production process.

1.6: LIMITATIONS OF PRODUCTION FUNCTIONS

Production function analysis has the following limitations.

1. Production function analysis has restricted itself to the case of two inputs and one output. Mathematically, there is no great difficulty in extending this analysis to multiple inputs and outputs.
2. Production function analysis has assumed smooth and continuous curves while in the real world, discontinuities in the production function may appear.
3. Production function analysis assumes that technology remains constant. But in reality it does not remain the same.
4. Production function analysis is also applied under perfectly competitive market situations which are rare in the real world.
5. Production function analysis assumes that units of labor are homogeneous. In reality labor units are not identical but heterogeneous in characters.

2. ISOQUANTS AND ISOCOSTS:

2.1: MEANING AND DEFINITION OF ISOQUANTS

- Isoquant is also known as production function with two variable inputs or equal product curves

DEFINITION:

According to FERGUSON, an isoquant is a curve showing all possible combinations of inputs physically capable of producing a given level of output.

- The combinations of all variable inputs which can yield the same output with various combinations are termed as isoquants.
- They are also known as iso-product or iso-product curve. For better understanding of isoquants following schedule may be seen which gives various combinations of variable factors x and y for a given level of output.

factors x and y for a given level of output.

Table 3.2: combination of two inputs		
Factor combination	Factor X	Factor Y
A	1	12
B	2	08
C	3	05
D	4	03
E	5	02

Each of the factor combinations A, B, C, D and E represents the same levels of production say 100 units. When we plot them we get a curve IQ as shown in figure 3.3

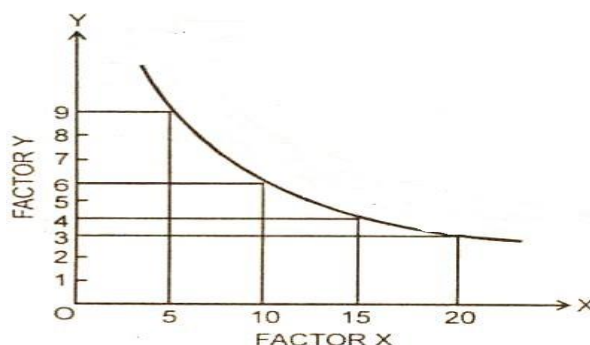


Figure 3.3: equal product curve or isoquant

2.2: ASSUMPTIONS OF ISOQUANTS

Isoquant analysis is normally based on the following assumptions

1. It has been assumed that there are only two factors of input for geometrical representation but in practice there are generally four or five or even more variable used in production.

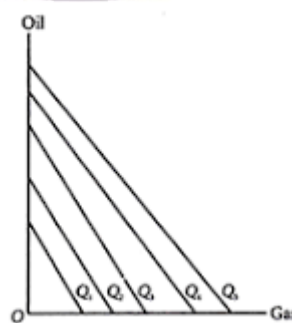
2. It has been assumed that factors of production are divisible in small units and can be used in various proportions. In practice it not feasible for all factors.
3. Technology constraints do not permit to change the input variables at any point of time.
4. During production utmost care is taken to utilize the different factors in most efficient way. This practice has not been followed in this assumption.

2.3: TYPES OF ISOQUANTS

Isoquants assume different shapes depending upon the degree of substitutability of inputs under consideration.

1. LINEAR ISOQUANTS:

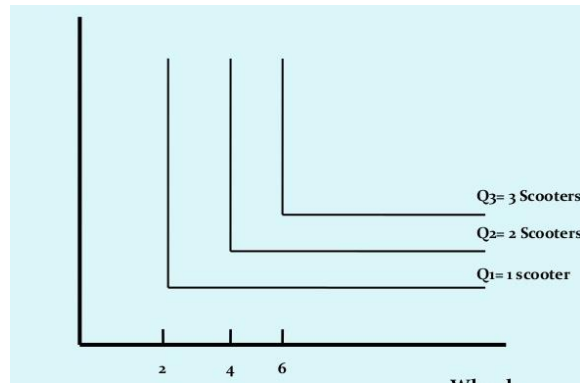
- In this case the inputs are replaceable in direct proportion. For example, a given amount of output say 200 units can be obtained by using 2 units of labor or 1000 units of capital or 4 units of labor and 500 units of capital. It can have various combinations.
- One more example say a particular village can be electrified by use of coal or solar power. The desired amount of electricity can be generated by use of coal or by solar cell. The amount of power generated (say P1, P2, P3P5) can be increased by increasing the consumption of coal or increasing the installed capacity of solar cells. These two are substitute of each other. Hence in such cases the isoquants are straight lines as shown in,



2. RIGHT-ANGLE ISOQUANTS:

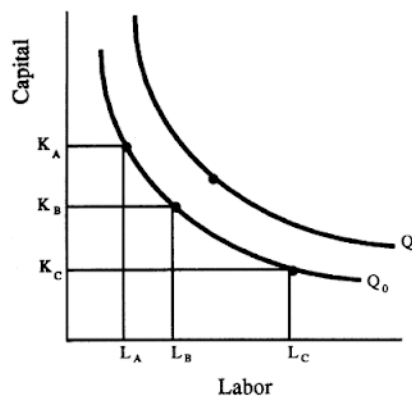
- In such cases there cannot be any substitutability between the inputs. For example for plastering of a room requires 2 units of sand and 1 unit of cement there is no other way to substitute cement by sand (with no quantity compromise) and for increase in number of

rooms of same size the quantity requirements of sand and cement will increase in the same proportion. This is called Leontief or input-output isoquants as shown in figure 3.5



3. CONVEX ISOQUANT:

- In this case the substitution of inputs is not in totality. A particular assignment can be completed by employing minimum labor L_1 in time T_1 . This assignment can still be completed in shorter periods T_2 and T_3 by employing more labor i.e. L_2 and L_3 . Increase in labor reduces the completion time from T_1 to T_2 and T_3 .
- To reach level of T_3 required a significant increase in labor. Thus the substitutability of labor for time increases from L_1 to L_2 to L_3 . Further increase in labor has no benefit of time rather it is a waste. This is shown in figure 3.6.



2.4: GENERAL PROPERTIES OF ISOQUANT CURVES:

The properties of isoquants are describes below

1. **ISOQUANTS ARE NEGATIVELY SLOPED:** Generally isoquants sloe downwards in anticlockwise direction and follow a negative slope. This is due to the fact that reduction of one input factor requirements appropriate increase in other factor for maintaining the same level of output.

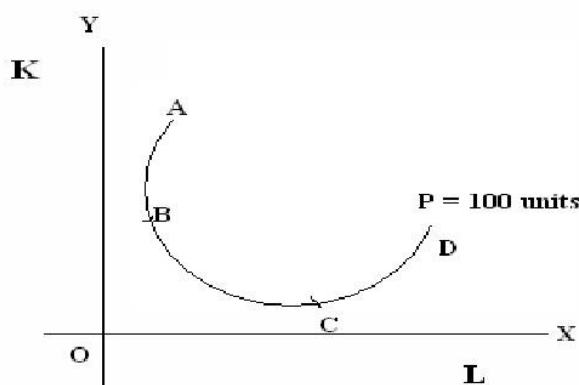


Figure3.7: isoquant having positively-sloped segments

2. **HIGHER ISOQUANT REPRESENTS A LARGER OUTPUT:** the higher isoquant is one which can yield higher output by use of same amount of one factor and higher amount of other factor or higher amount of both the factors.

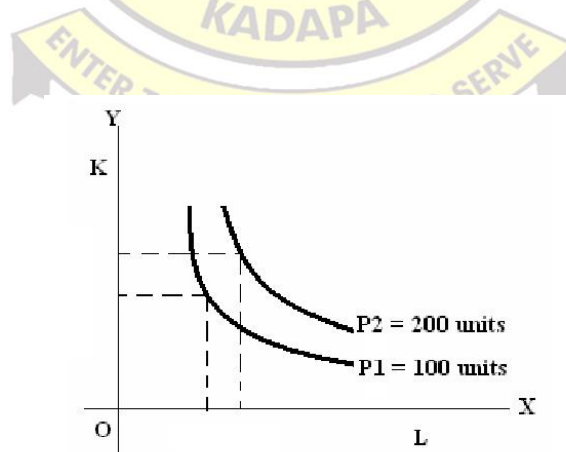


Figure 3.8: two isoquants representing different output levels.

3. **TWO ISOQUANTS INTERSECT OR TOUCH EACH OTHER:** since isoquants represents different level of output and hence they do not intersect or touch each other.

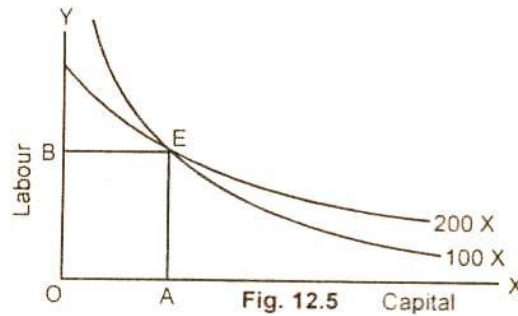


Fig. 12.5

4. **ISOQUANTS ARE CONVEX TO THE ORIGIN:** generally in production processes substitutes can be arranged such as labor can be substituted by capital and vice versa. However the marginal rate of substitution has a decreasing tendency.

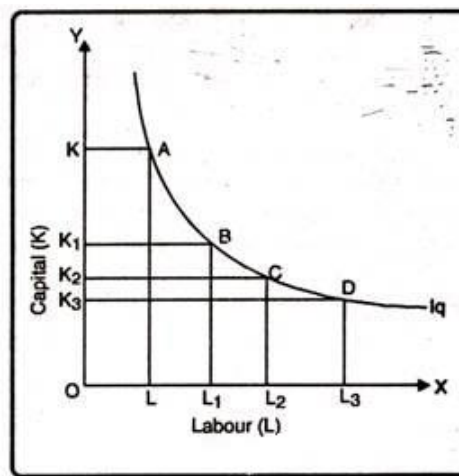


Figure: convexity of an isoquant

2.5: ISOCOSTS:

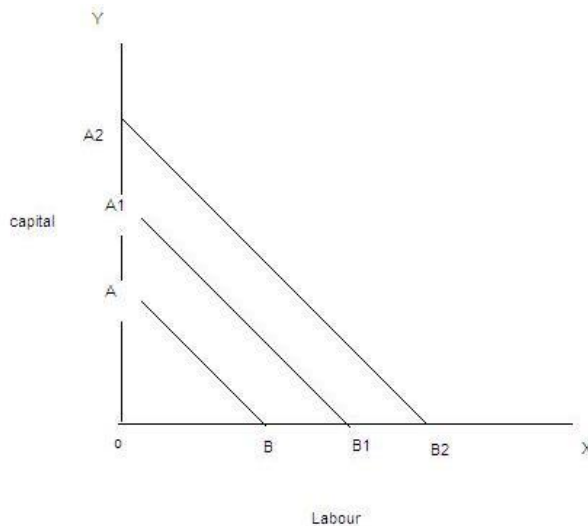
- Iso-cost curve is the path traced by several combinations of L and K where each of them requires the same amount of money for production.
- On differentiating the equation with respect to L we get $dK/dL = -w/r$, that represents the slope of the iso-cost curve.
- Iso-costs line represents the various combination of labor and capital which an industry can use for a given factor price.
- The slope of this line is a ratio dK/dL indicates the factor price. It will shift towards right when money spent on variable factors increases.

SLOPE OF ISO-COST LINE

- It is clear that with variation of factors i.e., labor and capital the slope of the cost line can be varied. If the price of the labor decreases then more

labor can be employed and this will make a shift of cost line away from the origin.

- However the slope is the resultant of price of the variable of price of the variable factors and the money spent by the organization.
- If the price of the variable factor remains fixed the iso-cost lines will shift but the slope of cost line will remain unchanged.



2.6: OPTIMUM COMBINATION OF INPUTS

When producers use the optimal combination of two factors i.e., labor cost and capital cost to earn maximum profit then it is called optimum combination of inputs.

The producer has two options to follow,

1. Expend minimum cost for a given output.
2. Achieve maximum output for a given cost.

2.7: OPTIMISATION OF TWO INPUTS

- In the theory of production the profit maximization firm is in equilibrium when given the cost-price function it maximizes its profits on the basis of the least combination of factors.
- To achieve this stage a selection has to be made for that set of combination which provides minimum cost for a given output.

3. PRODUCTION FUNCTION WITH ONE VARIABLE INPUT RETURNS TO FACTOR

3.1: MEANING AND DEFINITION RETURNS TO FACTORS/LAW OF VARIABLE PROPORTIONS

- Return to factors is known as the law of available proportions or production function with one variable.
- In short period of time during production the technical conditions remain unchanged and it implies that for a specified output the input factors proportions remain unchanged.
- However it is possible to increase one of the input factors for having increased output while maintaining the other input factors as constant.

DEFINITION:

According to **F. BENHA**, 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.

3.2: ASSUMPTIONS OF LAW OF VARIABLE PROPORTIONS

The law of diminishing returns is based on the following assumptions

1. Only one factor is varied and others are kept fixed
2. It is assumed that factors which are variable are same in all respect and there are no variations.
3. There is no change in technology
4. The proportions of inputs can be varied
5. This is applicable for short period only | long terms all factors are variable.
6. Due to fall and rise in price of the product the returns in terms of money may decrease or increase irrespective of output which is measured in physical quantities like tones quintals.

3.3: TOTAL AVERAGE AND MARGINAL PRODUCT

Before discussing the relationship it is important to understand the following terms

1. **TOTAL PRODUCTION:** It is the resultant output of all input factors at any given time.
2. **AVERAGE PRODUCTION:** the average product is one which is obtained at the expense of per unit of input factor. It is shown in column 3 of the table given below. The increase in input variable increases the average

product till it reaches to maximum level and further increase in input variable results in decrease in average product.

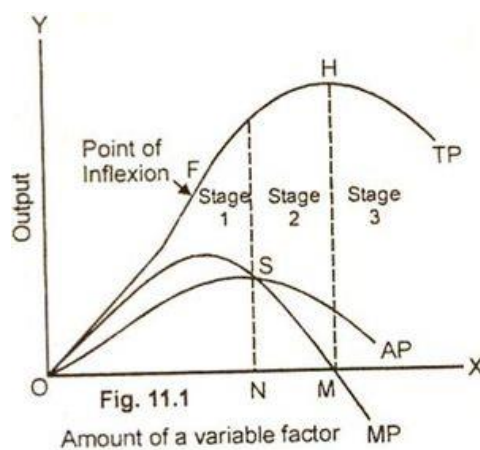
3. **MARGINAL PRODUCTION:** it is the change in total product due to per unit change in input variable factor. In other words it is the increase in total production with per unit increase in input.

3.4: THREE STAGES OF LAW OF VARIABLE PROPORTIONS

These stages are described below

STAGE-1: LAW OF INCREASING RETURNS

The variation characteristics of total product marginal product, and average product are indicated with variation of labor. The total product marginal product and average product increases till point 1 is reached. After this stage although total product rises but rate of increase is reduced considerable.



REASONS FOR INCREASING RETURNS TO A FACTOR

Main reasons of the applications are as under

1. **UNDER-UTILISATION OF FIXED FACTOR:** in the beginning of the production some factors remain unutilized /underutilized and with increase in variable factors these are fully utilized these results in increase in output.
2. **INDIVISIBILITY FACTOR:** Due to technological constraints certain factors remain indivisible and are required to reach a minimum level of that input to run the industry irrespective of the output level. The output can be enhanced with inclusion of other variable factors.
3. **SPECIALISATION AND DIVISION OF LABOR:** increase in variable factors increases the possibility of division of labor which generates specialization of labor increase in efficiency and output.

STAGE-2: LAW OF DIMINISHING RETURNS: the total product keep on increasing with diminishing rate and it reaches to maximum point M, where the second stage ends. In this stage the average and marginal product also fall but marginal product falls at faster rate than average product rate. This is a very important stage since industries are needed to operate at this stage as well.

REASONS FOR LAW OF DIMINISHING RETURNS

The reasons are described as below

1. CERTAIN FACTORS REMAIN FIXED:

- The four factors such as land labor capital and enterprise cannot be increases at any point of time.
- But obtaining a higher rate of production it is required that the factor of production increased at higher rate. Due to constraints it is not possible to increase these production factors any more.
- This may bring new competitors who may adversely affect the business.

2. CERTAIN FACTORS BECOME SCARCE:

- Sometimes factors like land labor or specially trained labor and capital become scarce and cannot be increased any further.
- This will adversely affect the output rate of the organization.

3. LACK OF PERFECT SUBSTITUTION OF PRODUCTION FACTORS:

- During production process some factors become short in supply and producers are forced to use substitutes which are also not always available. This results in decreasing in output.

4. ACHIEVEMENT OF OPTIMUM CAPACITY:

- After optimum utilization of all factors in production and utilization of full plant capacity a saturation point is reached beyond that the output cannot be increased any further.

IMPORTANCE OF THE LAW OF DIMINISHING RETURNS

Law of diminishing returns has a great importance in economics. This can be understood by following points,

1. Universal
2. Basis of the theory of population
3. Basis of theory of rent
4. Basis of theory of distribution
5. Basis of optimum production

STAGE-3: LAW OF NEGATIVE RETURNS: at this stage there is a decline in all respect i.e., total product marginal product and average product. This stage is termed as stage of negative returns.

REASONS FOR LAW OF NEGATIVE RETURNS

1. **REDUCTION IN VARIABLE FACTOR:** in such condition the quantity or number of variable factor is in excess obstruct the movement of other fixed factors resulting in reduction of output. The reduction in quantity or number of variable factor is the right choice in such condition.
2. **MOVING BEYOND OPTIMUM LEVEL:** when the plant has reached at a level where all inputs are being utilized to the maximum limit the further movement will result in under utilization of inputs. This will results in decreased efficiency and losses.

4. COBB-DOUGLAS PRODUCTION FUNCTION

CHARLES W. COBB AND PAUL H. DOUGLAS studied the relationship of inputs and outputs and formed an empirical production function popularly known as COBB-DOUGLAS production function. Originally C-D production function applied not to the production process of an individual form but to the whole of the manufacturing production.

The COBB-DOUGLAS production is expressed by

$$Q = AL$$

Where Q = output

L and K = inputs of labor and capital respectively.

A and α = positive parameters where

The equation tells that output depends directly on L and K and that part of output which cannot be explained by L and K is explained which the residual is often called technical change.

The marginal products of labor and capital are the functions of the parameters A and α the ratios of labor and capital inputs i.e.,

The two parameters and taken together measure the degree of the homogeneity of the function. In other words this function characterizes the returns to scale thus.

- a. Increasing returns to scale
- b. Constant returns to scale
- c. Decreasing returns to scale.

4.1 **PROPERTIES OF COBB-DOUGLAS PRODUCTION FUNCTION**

The COBB-DOUGLAS production function has the following properties,

1. There are constant returns to scale
2. Elasticity of substitution is equal to one.
3. α and β represent the labor and capital shares of output respectively.
4. α and β are also elasticity of output with respect to labor and capital respectively.
5. If one of the inputs is zero, output will also be zero.
6. The expansion path generated by C-D function is linear and it passes through the origin.
7. The marginal product of labor is equal to the increase in output when the labor input is increased by one unit.
8. The average product of labor is equal to the ratio between output and labor input.
9. The ratio $\frac{\beta}{\alpha}$ measures factor intensity. The higher this ratio the more labor intensive is the technique and the lower is this ratio and the more capital intensive is the technique of production.

4.2 **IMPORTANCE OF COBB-DOUGLAS PRODUCTION FUNCTION**

COBB-DOUGLAS production function is most popular in empirical research. The reasons for this are many,

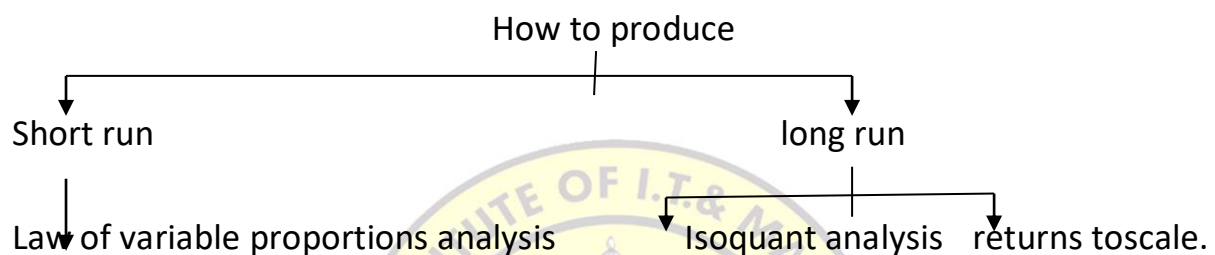
1. The COBB-DOUGLAS function is convenient for international and inter-industry comparisons. Since α and β (which are partial elasticity coefficients) are pure numbers (i.e., independent of units of measurement) they can be easily used for comparing results of different samples having varied units of measurements.
2. Another advantage is that this function captures the essential non-linearities of production process and also the benefit of the simplification of calculation by transforming the function into a linear form with the help of logarithms. The log-linear function becomes linear in its parameters which is quite useful to a managerial economist for his analysis.
3. In addition to being elasticity's the parameters of COBB-DOUGLAS function also possess other attributes. For examples, the sum of α and β shows the returns to scale in the production process and α and β present the labor share and capital share of output respectively and so on.

4. This function can be used to investigate the nature of long run production function increasing constant and decreasing returns to scale.
5. Although in its original form COBB-DOUGLAS production function limits itself to handling just two inputs (e.g., L and K) it can be easily generalized for more than two inputs like,

Where, Q = Output
 $X_1, X_2, X_3, \dots, X_n$ = different inputs.

4.3: TYPES OF PRODUCTION FUNCTION

The law of production can be studied in three ways,



1. LAW OF VARIABLE PROPORTIONS ANALYSIS: where quantities of some factors are kept fixed but the other factors is varied.
2. ISOQUANT ANALYSIS: it is production function with two variable inputs.
3. RETURN TO SCALE ANALYSIS: where quantities of all factors are varied.

5. RETURNS TO SCALE

5.1 MEANING AND DEFINITION OF RETURNS TO SCALE

- It is to be understood that variable and output production can be increased with the increase in one or more input factors in long term.
- This is also termed as return to scale. This indicates the relationship between scale of input and corresponding output when all the inputs are increased in the same ratio.

DEFINITION:

According to **PROF. ROGER MILLER**, returns to scale refer to the relationship between changes in output and proportionate changes in all factors of production.

5.2 ASSUMPTIONS OF RETURNS OT SCALE

Following assumptions are made,

1. All inputs can vary except the enterprise
2. Workers accurately do their assigned work with provided tools
3. There are not technology changes during production
4. There is perfect competition
5. The output product is measured in quantities.

5.3 TYPES OF RETURNS TO SCALE

Following are the types of return to scale

1. Increasing returns to scale
2. Constant returns to scale
3. Diminishing returns to scale

According to the given assumptions with increase in factors of production i.e., labor and capital following possibilities will be found

1. Output may increase in same ratio as input factors
2. Output may rise at much higher rate compared to input factors
3. Output may increase in very small proportion to increase in input factors.

It is generally found that the increase in input factors is in fixed proportions then output increases in following three different phases.

1. **INCREASING RETURNS TO SCALE:** in this case the output increasing rate is faster than the increasing rate of input factors. For example if the input factors are doubled or tripled then the output achieved is more than double or more than triple. Such situation is termed as increasing returns to scale.

FACTOR COMBINATIONS (QUANTALS)	TOTAL PRODUCT (QUANTALS)	MARGIANL PRODUCT (QUANTALS)
1	2	2
2	6	4
3	12	6
4	18	6
5	24	6
6	28	4
7	30	2

2. **CONSTANT RETURN TO SCALE:** when the increase in total output exactly equals to increase in inputs then this situation is termed as constant return to scale. Such situation makes marginal returns constant. It is evident from the table above that for 3rd, 4th and 5th units of sale of production the marginal returns remain constant at 6th. This stage II is indicated in figure 3.15 where the portion B to C of CD curve remains constant. The portion B to C is horizontal or parallel to scale of production which indicates constant return to scale.

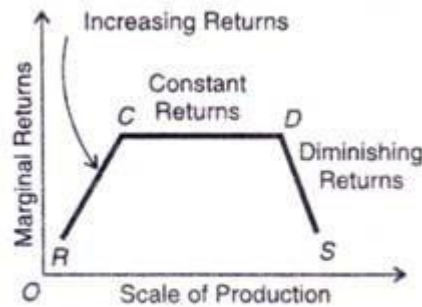


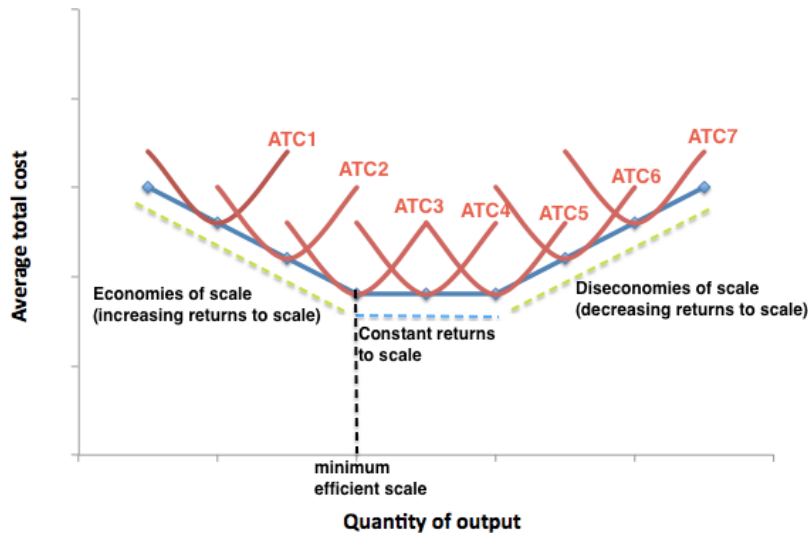
Figure: returns to scale

3. **DIMINISHING RETURNS TO SCALE:** such situation indicates arrival of saturation stage which does not permit further increases in capacity of plant. The output increase rate is much less than the increase rate of input factors of production. This stage of indicated as stage 3 in figure 3.15 which shows a downward trend of returns.

6. ECONOMIES DISECONOMIES OF SCALE

6.1INTRODUCTION

- Important information about the processes of production followed by firm for manufacturing of goods conveyed by the shape of the long-run average total cost curve.
- Economies of scale is when output increases leading to declaiming of long-run average total cost. Similarly when output increases leading to rise of long-run average total cost, it is known as diseconomies of scale.



6.2: MEANING AND DEFINITION OF ECONOMIES OF SCALE

- Economies of scale can be referred to the increasing efficiencies notion of goods production with increasing number of goods produced.
- Average production cost of goods typically diminishes along with additional production. This is because fixed costs of production are shared over the additional goods produced.

MEANING OF DISECONOMIES OF SCALE

- Diminishing returns to scale can be observed due to continue expansion of the firm size. When the firm's expansion goes beyond level growing diseconomies can be encountered. Economies of production at large scale are canceled by these diseconomies leading to a rise in the average production cost.
- Diseconomies of scale are not produced generally due to technical factors rather these technical factors more likely to limit the sources of scale economies.
- In case, inefficiencies are caused because of overlarge size of plant this situation needs to be avoided. Replication of plant units of smaller size may solve the problem in such cases.

6.3: KINDS OF ECONOMIES AND DISECONOMIES OF SCALE

Classification of the economics of scale and diseconomies of scale can be done as follows

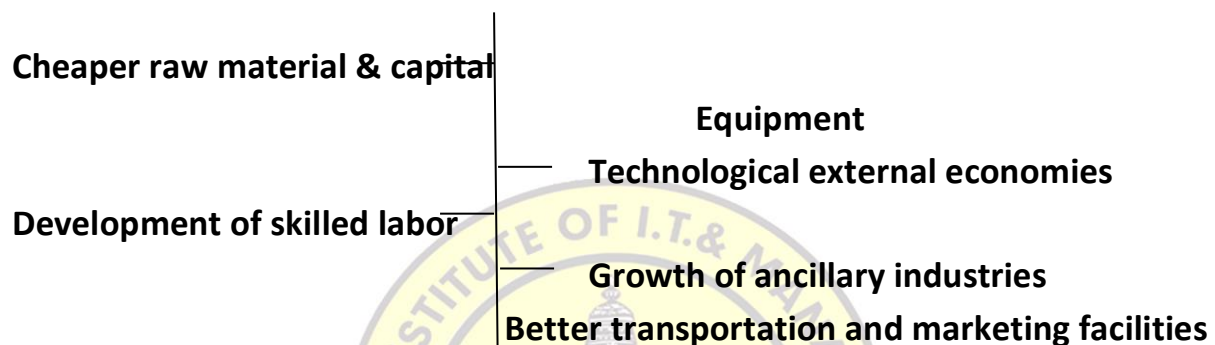
1. Internal economies of scale and internal diseconomies of scale and
2. External economies of scale and external diseconomies of scale.

a) INTERNAL ECONOMIES AND DISECONOMIES OF SCALE

1. Technical economies and diseconomies
2. Managerial economies and diseconomies
3. Commercial economies and diseconomies
4. Financial economies and diseconomies
5. Risk bearing economies and diseconomies

b) EXTERNAL ECONOMIES AND DISECONOMIES OF SCALE

EXTERNAL ECONOMIES AND DISECONOMIES OF SCALE



1. Cheaper raw material and capital equipment.
2. Technological external economies
3. Development of skilled labor
4. Growth of ancillary industries
5. Better transportation and marketing facilities

7. COST CONCEPTS:

7.1: CONCEPT

- The study of the behavior of the cost with respect to several criteria of production such as size of output scale of operations process of factors of production and other relevant economic variables is known as cost analysis.

7.2: MEANING AND DEFINITION OF COST

- The expenses incurred in the business activity of supplying goods and services to consumers are defined as cost.
- In economics the value of the price of the object or condition is the cost of production which is determined by the total cost of resources employed for producing it.

- According to **CAMPBELL**, production costs are those which must be received by resources owners in order to assume that they will continue to supply them in a particular time of production.

7.3: TYPES OF COSTS

The important types of costs are as follows,

1. Opportunity cost and actual cost
2. Business cost and full cost
3. Direct cost and indirect cost
4. Incremental cost and sunk cost
5. Explicit cost and implicit cost
6. Historical cost and replacement cost
7. Past cost and future cost
8. Shut-down cost
9. Real cost and prime cost
10. Urgent cost and post potable cost
11. Escapable cost and unavoidable cost
12. Out-of-pocket cost and book cost
13. Fixed cost and variable cost
14. Total average and marginal cost
15. Short-run cost and long-run cost
16. Private cost and social cost
17. Accounting cost and economic cost
18. Money cost and selling cost

7.4: DETERMINANTS OF COST

The following are the determinants of cost

1. Law of returns operating
2. Size of the plant
3. Period
4. Capacity utilization
5. Prices of factors of production
6. Technology
7. Efficiency in the use of inputs
8. Lot size of the product
9. Output is stable and constant.

7.5 COST FUNCTION

- The cost function is a mathematical relationship between cost of a product and the various determinants of costs where dependent variable is unit cost or total cost and the independent variable are the price of a factor the size of the output or any other relevant phenomenon which has a bearing on cost.

Symbolically we may state the function as,

$$C = f(O, S, T, P \dots\dots\dots)$$

Where,

C – Cost

O – Level of output

S – Size of plant

T – Time under consideration

P – Prices of factors of production

8. COST-OUTPUT RELATIONSHIP IN THE SHORT-RUN AND LONG RUN

8.1: COST-OUTPUT RELATIONSHIP IN THE SHORT-RUN

- In short-run the cost-output relationship is defined as a particular operation scale or a fixed plant. That means there is an indication towards cost variation over the plant output of a given capacity and, thus there is variation in their relationship based on the varying capacity of the plant.
- In order to make decision one needs to understand the total cost and output relationship along with knowledge of various costs and output types separately. Thus discussion of the short-term cost-output relationship can be carried out in terms of following,
 1. Marginal cost and output
 2. Average cost and output and
 3. Total cost and output.

A) SHORT-RUN TOTAL COST

Total cost in short-term can be divided into two parts which are total fixed costs and total variable costs keeping the organization scale fixed.

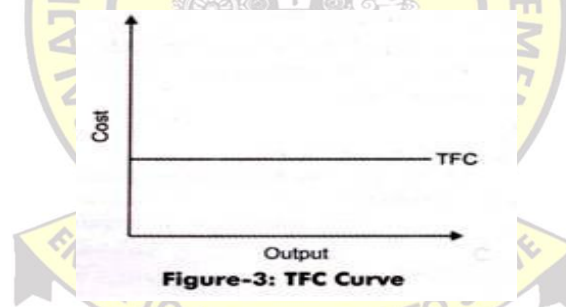
$$TC = TFC + TVC$$

1. **TOTAL FIXED COST OR TFC:** cost of production that does not change with respect to the output is termed as total fixed cost. These are the costs that are totally independent of the output level. These costs in fact are incurred even during temporary production stop by the firms. These costs are also known as the overhead cost.

total fixed cost	
Units of output	TFC
0	20
1	20
2	20
3	20
4	20
5	20

$TFC = \text{quantities of the fixed productive service} \times \text{factor price.}$

Illustration of a firm's TFC is given in the following diagram and table.



Total fixed cost curve is basically a horizontal curve which lies parallel to the X-axis representing that TFC at all output levels tends to remain same.

2. **TOTAL VARIABLE COST OR TVC:**

- The production cost that is in direct relationship with the output is termed as total variable cost.
- These are rise in TVC with increase in the output and falls with decrease in the output. Costs included in this type are expenses on water raw materials taxes advertising power labor hiring etc. such costs are also termed as direct costs.
- The cost incurred on using the production variable factors is termed as the variable costs.

According to FERGUSON, total variable cost is the sum of amount spent for each of the variable inputs used.

Total variable cost	
Units of output	TVC
0	0
1	18
2	30
3	40
4	52
5	65
6	82
7	106
8	140

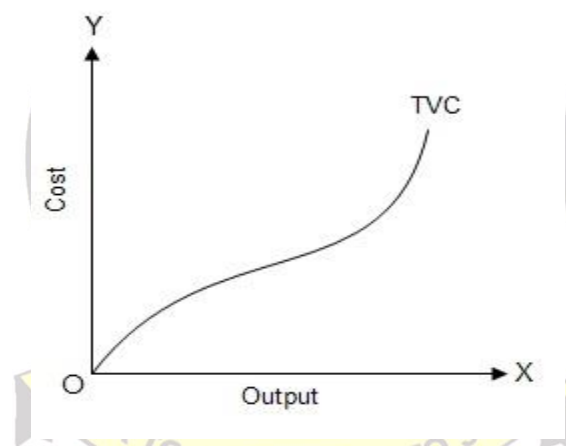


Figure: total variable cost

$TVC = \text{Quantities of the variable productive service} \times \text{factor price}$

Direct relationship of the change in TVC along with output volume is shown in the above table and diagram. Starting of the TVC curve if from the origin which moves in concave way from below up to a certain range and later it becomes convex in shape.

3. TOTAL COST OR TC:

- Total cost means the firm total expenses that are made in order to product a commodity given quantity.
- The expenses are included are payment for wages taxes interest and expenses on water, electricity raw materials and advertisements etc.

The TFC, TVC and TC relationship can be easily illustrated by the following diagram and table.

EXAMPLE,

TOTAL COSTS			
UNITSS OF OUTPUT	TFC	TVC	TC
0	20	0	20
1	20	18	38
2	20	30	50
3	20	40	60
4	20	52	72
5	20	65	85
6	20	82	102
7	20	106	126
8	20	140	160

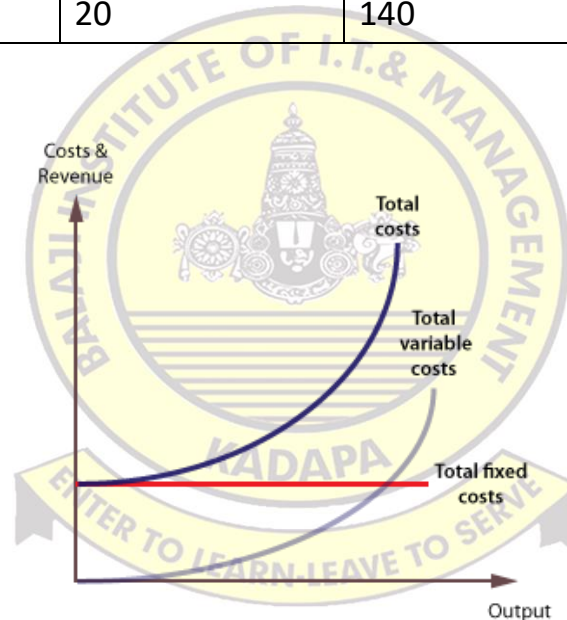


FIGURE: TOTAL COST

TFC curve in the lies parallel to X-axis. The origin of this curve is from a point on Y-axis which clearly indicates that fixed will be incurred even in case when there is no output. On the other hand there is an n increase is an increase in the total variable cost with an increase in the output as shown by the rise in TVC curve. TC curve is obtained by simply vertical addition of TFC curve and TVC curve.

B) SHORT-RUN AVERAGE COST

- Average costs are generally more important as compared to total costs in case of short-run analysis.
- The output units which are produced by a firm do not cost the same amount to the producing firm but the selling price must be same. Therefore the average cost or per unit cost must known by the firm.

1. **AVERAGE FIXED COST OR AFC:** AFC can be calculated as Total fixed cost at each level divided by Q i.e., the units produced.

This is given as,

$$AFC = \frac{TFC}{Q}$$

2. **SHORT-RUN AVERAGE VARIABLE COST:** AVC at short run can be calculated by simply dividing the total variable cost by the units produced.

$$SAVC = \frac{TVC}{Q}$$

3. **SHORT-RUN AVERAGE TOTAL COST:** short-run average total cost of any output that is produced by the firm. Calculation of SATC is done by simple dividing the total cost at each output level divided by the produced units which is given as,

$$SAC \text{ or } SATC = \frac{TC}{Q} = \frac{TFC}{Q} + \frac{TVC}{Q} = AFC + AVC$$

C) SHORT-RUN MARGINAL COST

The marginal cost is the fundamental concept that is used for exact output level determination of a firm. Marginal cost is basically variation in the total cost that is caused because of production of the additional output unit. This is given as,

$$SMC = \frac{\Delta TC}{\Delta Q}$$

8.2: COST-OUTPUT RELATIONSHIP IN THE LONG-RUN

- Long-run stands for the time period in which the entire productive factors of a firm's production become variable.
- Combination of many short-run may be described as long-run. These are no fixed production factors in the long-run. Due to this all costs are variable and there is no fixed cost at all.
- A short-run may be characterized by a particular plant size. There is a short-run cost curve that exists for every plant size for the producer.
- In the short-run producer has to operate on the short run cost curve chosen by him; instead of the output level. For each output level he finds that short-run cost curve which will result in the lowest production cost for that output level.

A) LONG-RUN TOTAL COST

- There are two components in a short-run total cost i.e., variable and fixed cost.
- As we know that fixed cost does not change with the output level and it depends on the firm structure. Variable cost follows the law of variable proportions in short-run and thus becomes an inverted S shaped curve.

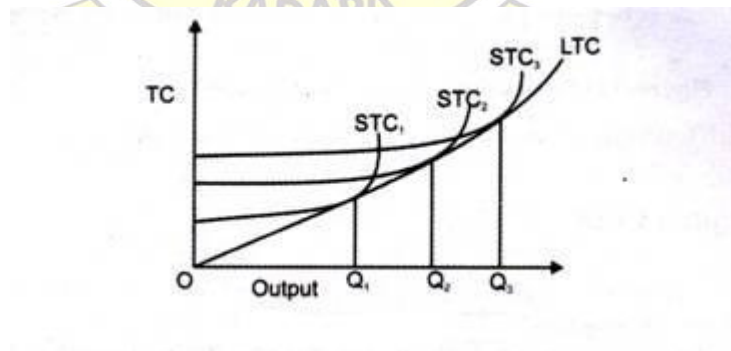


Figure: long-run total cost curve

There are three short-run total cost curves in the figure 3.23 that are $SRTC_1$, $SRTC_2$ and $SRTC_3$. A smaller size is represented by the $SRTC_1$ that is basically a small structure. Similarly a relatively larger plant size is represented by the $SRTC_2$ which is comparatively smaller as smaller to $SRTC_3$.

B) LONG-RUN AVERAGE COST

Long run average cost curves are also known by the following,

1. **ENVELOPE CURVE:** this curve encloses all short-run average cost curves and hence it is termed as envelope curve. Main implication of this envelope curve is that long run average cost cannot exceed short-run average cost. Since in the long run indivisible factors are fully utilized and thus the long run average cost curve will surround the short run average cost. This will not intersect the SAC curves while rising in upward direction.
2. **PLANNING CURVE:** another name of the long run average cost curve is planning curve. With the use of this curve a firm can plan that which plant should be used to produce different output quantities. This helps in minimization of the production cost.

C) LONG-RUN MARGINAL COST

Derivation of the long run marginal cost is done through the short-run marginal cost curves which are shown in the following figure 3.26.

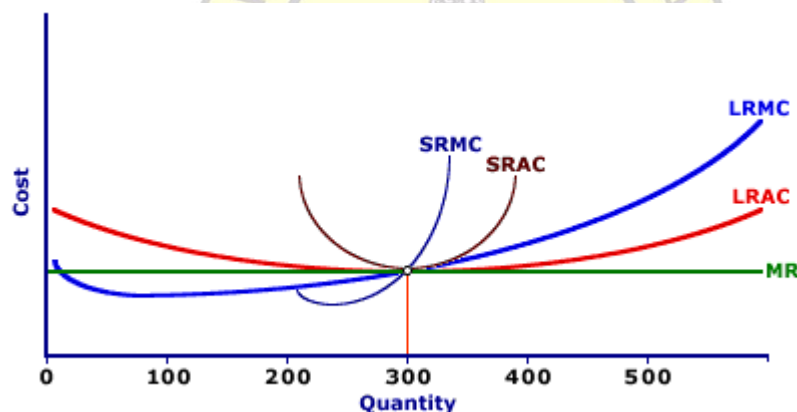


Figure: LRMC curve

9: BREAK-EVEN ANALYSIS

9.1: MEANING AND DEFINITION OF BREAK-EVEN ANALYSIS

- Break even analysis refers to the study of relationship between costs, volume and profit at different levels of sales or profit, no loss.
- In its narrow sense it refers to a technique of determining that level of operations where total revenues equal total expenses i.e., the point of no profit no loss.

DEFINITION:

According to **MATZ, CURRY AND FRANK**, a break-even analysis indicates at what level of costs and revenue are in equilibrium.

9.2: ASSUMPTIONS OF BREAK-EVEN ANALYSIS

The break-even analysis is based upon the following assumptions

1. All elements of cost i.e., production administration and selling distribution can be segregated into fixed and variable components
2. Variable cost remains constant per unit of output irrespective of the level of output and thus fluctuates directly in proportion to changes in the volume of output.
3. Fixed cost remains constant at all volumes of output.
4. Selling price per unit remains unchanged or constant at all levels of output.
5. Volume of production is the only factor that influences cost.
6. There will be no change in the general price level
7. There is only one product or in case of multi products the sales mix remains unchanged.
8. There is synchronization between production and sales.

9.3: BREAK-EVEN POINT

- It is a point where sales revenue equals the costs to make and sell the product and no product or loss is reported.
- Break-even point is the level of sales of which profit is zero. At break even point sales are equal to fixed cost plus variable. This concept is further explained by the following equation.

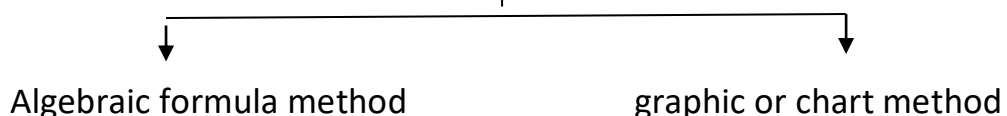
Break-even sales = fixed cost + variable cost.

- Break-even point is also called CRITICAL POINT, EQUILIBRIUM POINT, NO-PROFIT NO-LOSS POINT, or BALANCING POINT.
- According to KELLER and FERRARA, the break-even point of a company or a unit of a company is the level of sales income which will equal to the sum of its fixed costs and variable costs.

9.4: COMPUTATION OF THE BREAK-EVEN POINT

The break-even point can be computed by the following methods

Computation of the break-even point



A) ALGEBRAIC FORMULA METHOD FOR COMPUTING THE BREAK-EVEN POINT

The break-even point can be computed in terms of,

1. **BREAK-EVEN POINT IN UNITS:** as the break-even point is the point of no profits no loss, it is that level of output at which the total contribution equal the total fixed costs. It can be calculated with the help of following formula

$$\text{Break even point} = \frac{\text{Fixed cost}}{\text{Selling price per unit}}$$

$$= \frac{\text{Fixed cost}}{\text{Contribution per unit}}$$

2. **BREAK-EVEN POINT IN TERMS OF BUDGET TOTAL OR MONEY VALUE AT BREAK-EVEN POINT**

Total sales = total fixed cost + total variable cost.

$$\text{Or } S = F + V$$

(Where S = sales, F = fixed costs and V = variable cost)

$$\text{Or } S - V = F$$

$$\text{Or } \frac{S - V}{S - V} = \frac{F}{S - V} \quad (\text{Dividing both sides by } S - V)$$

$$\text{Or } 1 = \frac{F}{S - V}$$

$$\text{Or } S = \frac{F \times S}{S - V} \quad (\text{Multiplying both sides by } S)$$

Hence, break-even sales

$$= \frac{\text{Fixed costs}}{\text{Selling cost} - \text{variable cost}} \times \text{sales} = \frac{\text{fixed costs}}{\text{contribution}} \times \text{sales}$$

With the use of P/V ratio,

$$\text{B.E.P.} = \frac{\text{Fixed cost}}{\text{P/V ratio}}$$

$$\left[\text{As, } \frac{\text{Contribution}}{\text{Sales}} = \text{P/V ratio} \right]$$

3. BREAK-EVEN AS A PERCENTAGE OF ESTIMATED CAPACITY

- Break-even point can also be computed as percentage of the estimated sales or capacity by dividing the break-even sales by the capacity sales.
- For example, if a firm has an estimated capacity of 1,00,000 units then the break-even point is at 50% of capacity (1,00,000/5,00,000). if information as to total contribution at full capacity is available the break-even point as a percentage of estimated capacity can be found as under.

$$\text{B.E.P. (as \% age of capacity)} = \frac{\text{Fixed cost}}{\text{Total contribution}}$$

B) GRAPHICAL METHOD OF BREAK-EVEN ANALYSIS OR BREAK-EVEN

CHART/GRAPH

- The break-even point can also be computed graphically. A break-even chart is a graphical representation of marginal costing.
- The break-even charts portray a pictorial view of the relationships between costs volume and profits. It shows the break-even point and also indicates the estimated profit or loss at various levels of output.
- The break-even point as indicated in the chart is the point at which the total cost line and the total sales line intersect.

9.5: CONSTRUCTION OF BREAK-EVEN CHARTS

Constructions of break-even chart involves the drawing of fixed cost line total cost line, and sales line as follows,

1. Costs a scale for production on the horizontal axis and a scale for costs and sales on the vertical axis.
2. Plot the fixed cost on the vertical axis and draw fixed cost line passing through this point parallel to horizontal axis.
3. Plot the variable cost for some activity levels starting from the fixed cost line and join these points.
4. Plot the maximum or any other sales volume and draw the sales line by joining zero and the point so obtained.

There are three methods of drawing a break-even chart/graph. These methods of drawing break-even chart have been explained with the help of the example 4.

SECOND METHOD

The break-even chart can also be drawn by another method which is a variation of the first method. Under this method the variable cost line is drawn first and then total cost line is drawn. The fixed cost line so drawn represents the total cost (variable + fixed) at various levels of output.

THIRD METHOD – CONTRIBUTION BREAK-EVEN CHART

This is a modified form of a simple break-even chart as shown in the first-two methods above. Under this method total cost line is not drawn rather another line called contribution line is drawn from the origin and this line goes up with the increase in the level of output. The fixed cost line is drawn parallel to the X-axis as in the first method.

9.6: SIGNIFICANCE OF BREAK-EVEN ANALYSIS

The significance of break-even analysis is as follows

1. To forecast profit accurately it is absolutely essential to determine the relationship between costs and profits on one hand and on volume and product on the other hand. It aims at measuring variations in cost with volume. Profit planning considers the projected level of output optimum product combination estimated revenue total cost of production and is thus based on break-even analysis.
2. Break-even analysis is used in setting up flexible budgets which show costs at various levels of activities.
3. Break-even analysis helps management in the evaluation of performance for control purposes.
4. It helps in making short-run tactical decisions e.g., shift working acceptance of special order choice of sales – mix etc.

9.7: LIMITATIONS OF BREAK-EVEN ANALYSIS

1. Break-even analysis can sometimes gives misleading results of production capacity changes.
2. All costs cannot be easily and accurately segregated into fixed and variable components
3. Total fixed costs do not remain fixed beyond certain ranges of activity levels.
4. Sometimes changes in opening and closing stocks may be significant.
5. If selling prices and factor prices (e.g., material prices, wage rates) changes, then break-even relationship is affected.

Prepared By

V.SREERAM YASHASVEE L.L.B., M.B.A., (C.A)

ASSISTANT PROFESSOR

BALAJI INSTITUTE OF IT AND MANAGEMENT, KADAPA.

(17E00103) MANAGERIAL ECONOMICS

Objective of this course is to understand the relevance of economics in business management. This will enable the students to study functional areas of management such as Marketing, Production and Costing from a broader perspective.

1. **Introduction to Managerial Economics:** Definition, Nature and Scope, Relationship with other areas in Economics, Production Management, Marketing, Finance and Personnel, Operations research - The role of managerial economist. Objectives of the firm: Managerial theories of firm, Behavioural theories of firm, optimization techniques, New management tools of optimization.
2. **Theory of Demand:** Demand Analysis – Law of Demand - Elasticity of demand, types and significance of Elasticity of Demand. Demand estimation – Marketing research approaches to demand estimation. Need for forecasting, forecasting techniques.
3. **Production Analysis:** Production function, Isoquants and Isocosts, Production function with one/two variables, Cobb-Douglas Production Function, Returns to Scale and Returns to Factors, Economies of scale- Cost concepts - cost-output relationship in the short run and long run, Average cost curves - Break Even Analysis.
4. **Market Structure and Pricing practices:** Features and Types of different competitive situations - Price-Output determination in Perfect competition, Monopoly, Monopolistic competition and Oligopoly. Pricing philosophy – Pricing methods in practice: Price discrimination, product line pricing. Pricing strategies: skimming pricing, penetration pricing, Loss Leader pricing. Pricing of multiple products.
5. **Inflation and Business Cycles:-**Definition and meaning-characteristics of Inflation- types of inflation - effects of inflation - Anti-Inflationary methods - Definition and characteristics of business cycles-phases of business cycle - steps to avoid business cycle

Textbooks:

- Managerial Economics -Analysis, Problems ,Cases ,Mehta,P.L., Sultan Chand & Sons.
- Managerial Economics, Gupta, TMH

References

- Managerial Economics, D.N.Dwivedi,Eighth Edition,Vikas Publications
- Managerial Economics, Pearson Education, James L.Pappas and Engene F.Brigham
- Managerial Economics, Suma Damodaran, Oxford.
- Macro Economics by MN Jhingan-Oxford
- Managerial Economics- Dr.DM.Mithani-Himalaya Publishers
- Managerial Economics-Dr.H.L Ahuja-S.Chand and Com pvt ltd, NewDelhi
- Managerial Economics by Dominick Salvatore, Ravikesh Srivastava- Oxford University press.
- Managerial Economics by Hirschey- Cengage Learning

UNIT-4

MARKET STRUCTURE AND PRICING

1. FEATURES AND TYPES OF DIFFERENT MARKETING CONDITIONS:

1.1: MARKET STRUCTURE:

MEANING AND DEFINITION OF MARKET

A specific place for purchasing and selling of goods is termed as market. This term has broader outlook in economics where market refers to whole area where the buyers and sellers of the product are spread and not limited to a specific place.

According to **PROF. R. CHAPMAN** the term market refers to not necessarily to a place but always to a commodity and the buyers and sellers who are in direct competition with one another.

For goods and services the nature and degree of competition in the market is referred by market structure.

1.2: FEATURES OF MARKET

The essential features of a market are as follows,

1. AREA:

- In economics a market does not mean a particular place but the whole region where sellers and buyers of a product are spread.
- Modern modes of communication and transport have made the market area for a product very wide.

2. ONE COMMODITY:

- In economics a market is not related to a place but to a particular product. Hence there are separate markets for various commodities.
- For example there are separate markets to clothes grains jeweler etc.

3. BUYERS AND SELLERS:

- The presence of buyers and sellers are necessary for the sale and purchase of a product in the market.
- In the modern age the presence of buyers and sellers is not necessary in the market because they can do transactions of goods through letters telephones business representative internet etc.

4. FREE COMPETITION:

- There should be free competition among buyers and sellers in the market.

- This competition is in relation to the price determination of a product among buyers and sellers.

5. **ONE PRICE:**

- The price of a product is the same in the market because of free competition among buyers and sellers.

1.3: **MARKET STRUCTURES**

In economics markets are classified according to the structure of the industry serving the market. Those variables which have received the most attention are number of buyers and sellers extent of product substitutability costs ease of entry and exit and the extent mutual interdependence.

MARKET STRUCTURE: refers to the nature and degree of competition in the market for goods and services. The structures of market both for goods market and service market are determined by the nature of competition prevailing in a particular market.

1.4: **DETERMINANTS OF MARKET STRUCTURE**

For a particular product the number so determinants of market structure are,

1. Number and nature of sellers
2. Number and nature of buyers
3. Nature of product
4. Entry and exit conditions
5. Economies of scale

1.5: **TYPES OF DIFFERENT COMPETITIVE SITUATIONS/MARKET STRUCTURE**

The types of market depend on the degree of competition prevailing in the market. Broadly speaking there are four types of competition prevailing in the markets. These are,

1. **PERFECT MARKET:** many sellers selling same type of products to many buyers is the characteristics of perfectly competitive market. These types of market are considered to be unrealistic but it is of special importance for hypothetical and theoretical reasons.
2. **IMPERFECT MARKET:** the situation pertaining to perfect market is different form imperfect market. The market having large number of producers offering closed substitute goods which are not identical as regards to perfect competition. Various forms of imperfect competition are,

- (i) **MONOPOLY:** the origin of the word monopoly is from the Greek word '*monos*', single and '*polein*' to sell. The product is greatly discriminated due to the absence of competitive seller producing closed substitute products.
- (ii) **MONOPOLISTIC COMPETITION:** with respect to large number sellers contributing discriminated product to large number buyers makes this competition different.
- (iii) **OLIGOPOLY:** selling of competing products by some sellers to many buyers is called oligopoly which is originated from the Greek word *oligos* few and plain to sell. The interdependent strategy between the firms as they are fewer in number in the market clearly states that oligopolistic firms profit totally depends on the actions of their competitors.
- (iv) **DUOPOLY:** Duopoly type of oligopoly originates from the Greek word duo two and *polein* to sell. There are only two firms in the market producing a homogeneous goods characteristics imperfect competition. Such that in a market A, there are only two dominant suppliers which means market where prices are being jointly controlled by them.

2. PRICE-OUTPUT DETERMINATION IN PERFECT COMPETITION:

2.1: PERFECT COMPETITION

MEANING AND DEFINITION OF PERFECT COMPETITION

- A market which consists of a large number of buyers and sellers who are involved in buying and selling homogeneous products with perfect knowledge of the market is called perfect competitive market.
- Fruit and vegetable market is an example of perfect competitive market.

DEFINITION:

According to **A. KOUTSOYIANNIS**, perfect competition is a market structure characterized by a complete absence of rivalry among the individual firms.

2.2: FEATURES OF PERFECT COMPETITION

Following are the features of perfect competition

1. LARGE NUMBER OF BUYERS AND SELLERS:

- The first condition of the perfect competition is the existence of large number of buyers and sellers or otherwise the market price cannot be affected by a single producer or purchaser who varies his supply of demand.
- Any single firm contributes only a small portion of its output with respect to total output whereas out of the total demand a single purchaser's demand is only a small portion of it.

2. HOMOGENEOUS PRODUCT:

- The items produced by the firms satisfying the second condition of perfect competition that it must be uniform and alike so that none of the buyers may have any choice for the product such as salt, wheat, cotton, coal etc., are the examples of homogeneous products.

3. FREE ENTRY AND EXIT:

- Under perfect competition the firms in the industry earn common profit which can happen only if there is no restriction on the firms regarding its exit from the industry or entry into the industry.

4. PERFECT KNOWLEDGE:

- There should be perfect knowledge of the market to the buyers and sellers and they must have complete awareness of the prices that are being offered and accepted.
- On the basis of this knowledge there will be an assurance of uniform prices all over the market.

5. ABSENCE OF TRANSPORT COSTS:

- It is assumed that there are free transport facilities.
- If the prices are the same then it is necessary that no cost of transportation has to be incurred.

6. PERFECT MOBILITY OF THE FACTORS OF PRODUCTION:

- For the firms mobility of the factors of production is important to adjust their supply to demand.
- The movement of factors of production is very important for the firms and the industry in achieving equilibrium position.

7. ABSENCE OF ARTIFICIAL RESTRICTIONS:

- There is freedom to the sellers to sell their goods to any buyer and buyer and buyers are free to purchase from any seller.
- The buyers and sellers must be free from any discrimination.

8. ABSENCE OF SELLING COSTS:

- Due to the production of homogeneous product by the firms the cost of advertising sales promotion etc, negligible under perfect competition

2.3: ADVANTAGES OF PERFECT COMPETITION

Following are the advantages of the perfect competition.

1. Consumer sovereignty
2. Beneficial to consumer
3. Cost-saving
4. Economic efficiency

2.4: DISADVANTAGES OF PERFECT COMPETITION

Following are the disadvantages of the perfect competition.

1. No scope for economies of scale
2. Homogenous products
3. Insufficient profits
4. Free flow of technology
5. Externalities.

2.5: PRICE-OUTPUT DETERMINATION IN PERFECT COMPETITION

1. The marginal revenue should be equal to the marginal cost i.e. $MR = MC$. If MR is greater than MC there is always an incentive for the firm to expand its production further and gain by sale of an additional unit adds more to cost than to revenue. Profits are maximum only at the point where $MR = MC$.

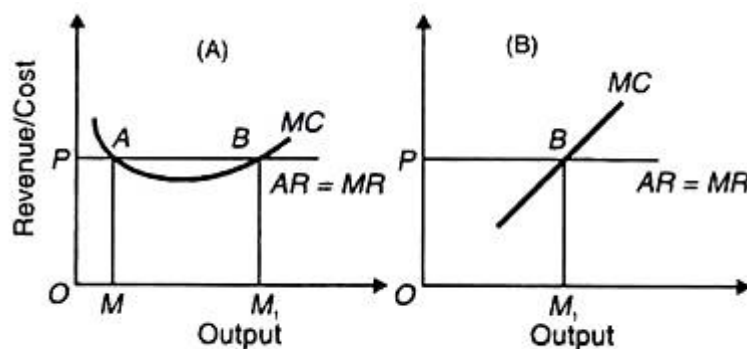


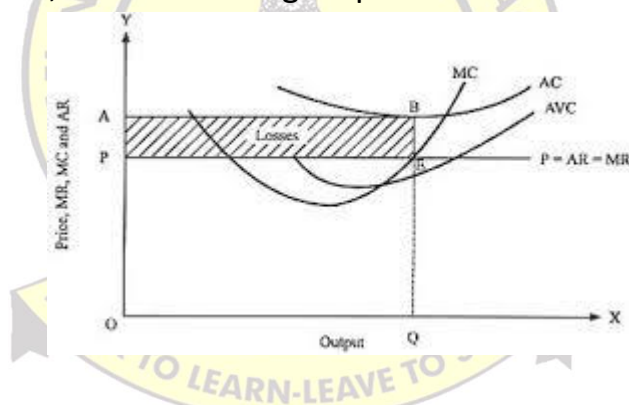
Fig. 1

2. The MC curve should cut MR curve from below. In other words MC should have positive slope.

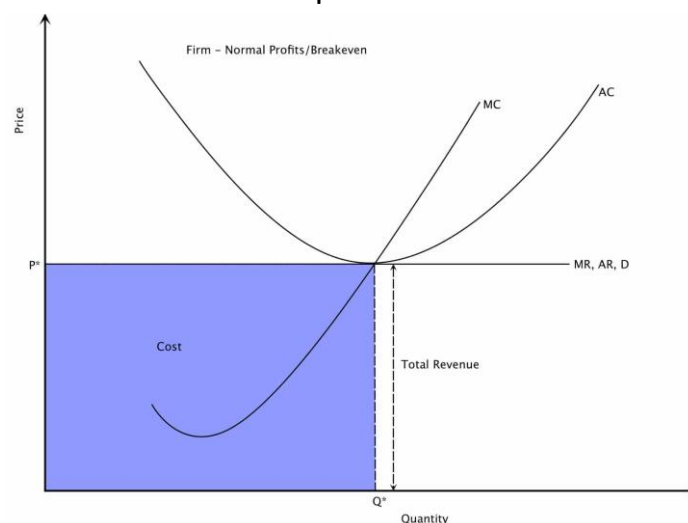
2.6: PRICE DETERMINATION AND EQUILIBRIUM OF THE FIRM IN SHORT RUN

A firm is price taker rather than a price maker in the market. The difference between the role of a competitive industry and a firm in determining the price and output level can be seen through the diagram given below.

1. **ABNORMAL PROFIT/SUPERNORMAL PROFIT:** a firm may get abnormal profit at the equilibrium level of output if its average revenue exceeds the average cost of production. At OP price firm produces OQ output firm's average revenue (AR) is EQ while its average cost (AC) is BQ.
2. **LOSSES:** at equilibrium output a firm may suffer loss. It is because of the fact that a part of the fixed cost may not be recovered in short run. In the figure 4.3 E is the equilibrium point $AR = EQ$ and $AC = BQ$ since $BQ > EQ$, firm is earning BE per unit loss and total loss is ABEP.



3. **NORMAL PROFITS OR BREAK EVEN:** when the firm just meets its average total cost it earns normal profits. Here $AR = ATC$



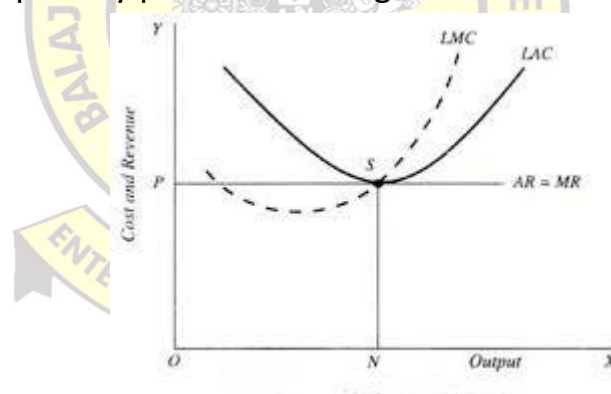
The figure 4.4 shows that $MR = MC$ at E. the equilibrium output is OQ. Since here $AR = ATC$ or $OP = EQ$ the firm is just earning normal profits.

CONCLUSIONS

- A. If $AR = AC$ the firm will get normal profit
- B. If $AR > AC$, the firm will get normal profit
- C. If $AR < AC$, the firm will suffer loss.
- D. If $AR < AVC$ the firm will stop production.

2.7: PRICE DETERMINATION AND EQUILIBRIUM OF THE FIRM IN LONG RUN

- The entry or exit of the firms is not restricted in a perfectly competitive market
- Those firms which are inefficient then they incur losses and then either close down the firms or enhance their efficiency.
- Profit earning firms attract new firms for establishment.
- The firms work on no loss no profit situating where firms $AR = AC$ which is graphically plotted in the figure 4.5



In figure 4.5 OQ is equilibrium quantity and at this level of output average revenue and average cost both equal to QS. Due to this reason firm is making only normal profits. The average cost and marginal cost will be identical and hence the long run equilibrium conditions for a firm will be $MR = LMC = LAC = AR = \text{price}$

2.8: PRICE DETERMINATION AND EQUILIBRIUM OF THE INDUSTRY IN LONG RUN

The following are the conditions which establish equilibrium in a perfectly competitive industry

1. For long run equilibrium of an industry it is required that all the firms in the industry are producing an equilibrium level of output where long-run marginal cost equal to the long run marginal revenue ($LMC = LMR$).
2. The long equilibrium price is derived to attain equality between total quantitative demanded and supplied in the long run in liquidating the market. The long run equilibrium of the industry is depicted by the figure 4.7

There is full equilibrium position price = $LAR = LMR = LAC = LMC$ as such the firm enjoys normal profits.

Long run equilibrium price = $LAR = LAC = LMR = LMC$

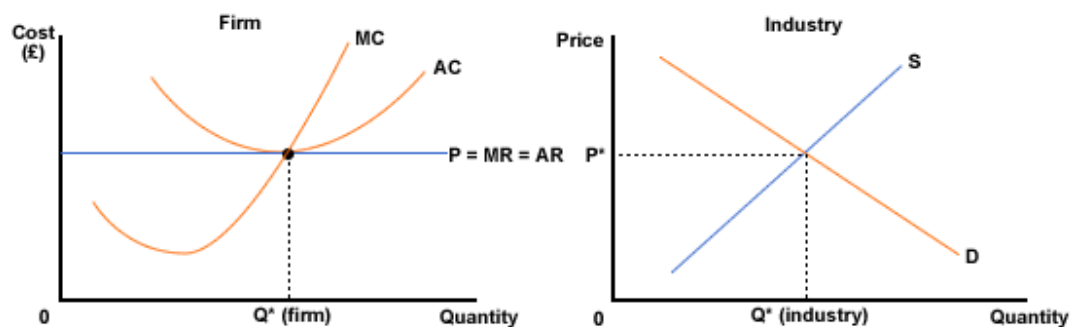


Figure: industry and firms equilibrium in the long run

The firms under homogeneity conditions are identical having identical cost functions so they must be operations at the minimum point of LAC.

LAC price fail to earn normal profits and unable to sustain losses. To sum up industry and firms equilibrium conditions in the long run are long run equilibrium price = $LAR = LAC = LMR = LMC$.

3. MONOPOLY

3.1: MEANING AND DEFINITION OF MONOPOLY

- A market situation where there is only one seller and barriers for others to entry product having no close substitute cross elasticity of demand being low with every other product and no other firm produces an identical product is called monopoly.
- Hence the price is fully under control of the monopolist but no control over the demand that is determined by the purchased.

DEFINITION:

According to **FERGUSON AND KREPS**," a pure monopoly exists when one and only one firm produces or sells the commodity in questions. In other words a monopoly is a one firm industry".

3.2: FEATURES OF MONOPOLY

The features of monopoly market are as follows,

1. SINGLE SELLER:

- A single producer of a particular commodity or service in a monopoly market gathering large number of buyers ,who can be an individual, a group of partners a joint stock company or a state ,it is the alone source of supply for goods and services having no close substitute. The market is referred is the industry.

2. RESTRICTED ENTRY:

- There is a restriction on the free entry of new organization as new sellers are prohibited to enter the monopoly market.
- Following are the primary barriers restricting the entry of new sellers.
 - a. Government license or franchise
 - b. Resource ownership
 - c. Patents and copyrights
 - d. High start up cost and
 - e. Decreasing average total cost.

3. HOMOGENEOUS PRODUCT:

- The product which is produced by the monopoly firm has no close substitute and is a homogeneous product.
- The buyer is forced to purchase the product which is available at the labeled price.

4. FULL CONTROL OVER PRICE:

- The features of a monopoly market where entry is restricted of the new sellers or buyers making the competition restricted ,market conditions are fully influenced by the monopolist thus a company under monopoly is free from price pressure and is independent to charge according to his advantages and with the intention of maximizing of profit via predetermined choice of quantity.

5. PRICE DISCRIMINATION:

- The practices of charging different prices from different buyers for the same goods or service are price discriminating.
- The monopolist has advantages of being in the market by discriminating the prices as per his convenience.

3.3: ADVANTAGES OF MONOPOLY

Following are the explanation of the advantages of monopoly

1. Research and development
2. Economies of scale
3. Competition for corporate control
4. Stability of prices
5. Source of revenue for the government
6. Massive profits

3.4: DISADVANTAGES OF MONOPOLY

Following are the disadvantages of monopoly

1. Exploitation of consumers
2. Dissatisfied consumers
3. Higher prices
4. Price discrimination
5. Inferior goods and services

3.5: PRICE-OUTPUT DETERMINATION IN MONOPOLY

The demand curve of the firm is same as of market demand curve under monopoly the slope of the market demand curve is downward sloping demand curves are faced by the monopolist.

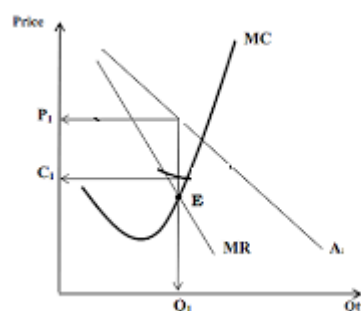


Figure: equilibrium position

Here the price is average revenue because and a downward sloping demand curve requirement is that MR is less than AR.

CONDITIONS FOR EQUILIBRIUM

Following are the two conditions for equilibrium in a monopoly market which are the basis of price output determination

1. $MR=MC$
2. MC curve must cut MR curve from below

ASSUMPTIONS OF MONOPOLY

The following assumptions are the basis of the analysis for determination the price output and profit under monopoly.

- a. For a homogeneous product there is one seller or producer
- b. There are no close substitutes for the product
- c. The power of monopolist is unrestricted and the price under monopoly is uncontrolled.
- d. There is no threat of entry of other firms.

3.6: MONOPOLY PRICE DURING SHORT-RUN

The monopoly firm attains equilibrium in the short run at the point where profit is maximum and losses are minimum.

1. **SUPER NORMAL PROFIT:**

- In the short run SAC and SMC are the short run average and marginal revenue curves and AVC is the average variable cost curve of the firm.
- The monopolist sells OM output at MP Price. The price MP being above the short run average cost MA the monopolist earns AP profit per unit of output.

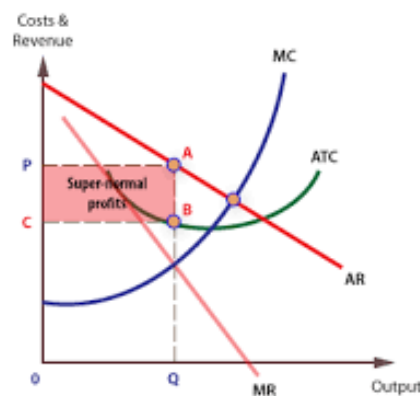


Figure: supernormal profit

2. **NORMAL PROFIT:**

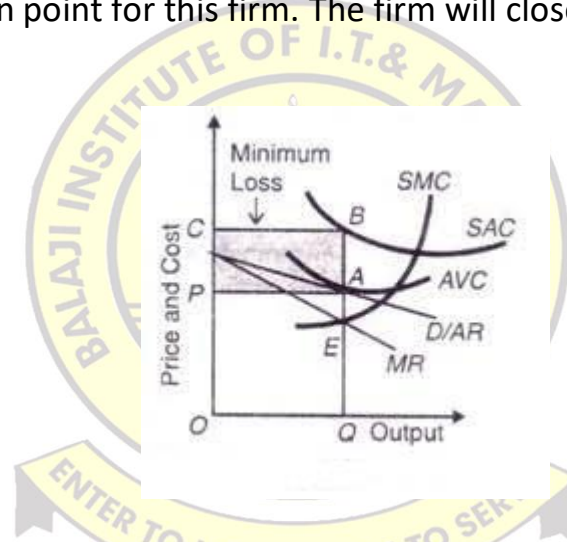
- When a monopolist earns only normal profit then it is shown by the short run equilibrium of the monopolist in figure 4.10. OM output is

determined by the equality of SMC curve and MR curve at point E which is sold at MP Price.

- The monopolist has the knowledge that any level of output other than OM would carry losses because the SAC curve will be higher than the AR curve.

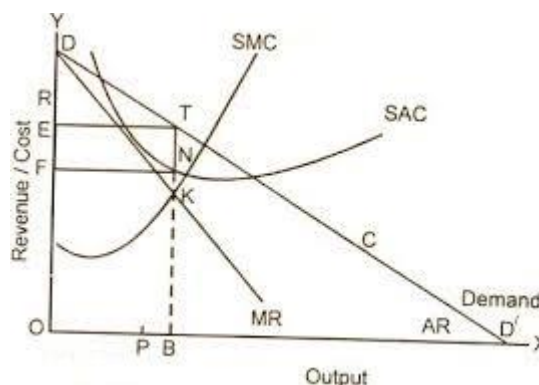
3. MINIMUM LOSS:

- The monopolist incurs losses in a short run situation as shown in figure 4.11. The equilibrium point E which is determination by the equation $SMC = MR$.
- But the monopoly price MP established by demand conditions does not cover the short run average costs of production PA.
- Total losses are equal to $BP - PA = BRPAC$. In this figure 4.11 is the close down point for this firm. The firm will close down.



3.7: MONOPOLY PRICE DURING LONG-RUN

When at that level of output marginal cost equals marginal's revenue the long run equilibrium of the firm under monopoly is achieved. Due to non entry of the new firms in the market the profit of the monopoly firm is abnormal in the long run.



The profit PR per unit is achieved because at the output level OQ average revenue of the firm exceeds its average cost the shaded area KLRP is equal to the total profit.

4. MONOPOLISTIC COMPETITION:

4.1: MEANING AND DEFINITION OF MONOPOLISTIC COMPETITION

- Monopolistic competition means a situation in market where differentiated products are sold in market by many firms.
- There is a keen competition which is not perfect though among many firms producing very alike products.
- Thus monopolistic competition means the competition among huge number of sellers that produce close substitutes for each other which are not perfect substitutes.

DEFINITION:

According to **BAUMOUL**, the term monopolistic competition refers to the market structure in which the sellers do have a monopoly (they are the only sellers) of their own product but they are also subject to substantial competition pressures from sellers of substitute product.

4.2: FEATURES OF MONOPOLISTIC COMPETITION

Some of the features of monopolistic competition are as follows,\

1. LARGE NUMBER OF SELLERS:

- There are huge sellers in a monopolistically competitive market who have a small market share individually.
- These firms produce and sell close substitute products. This makes the touch and real competition among firms.

2. PRODUCT DIFFERENTIATION:

- The different seller's products are differentiated in a monopolistic competitive market on the basis of brands.
- A monopoly element is aroused because of product differentiating to the product over the product that is its competition.

3. FREEDOM OF ENTRY OR EXIT:

- Market allows free entry of new firms and also exits of existing firms.

4. INDEPENDENT BEHAVIOR:

- Every firm possesses an independent policy in monopolistic competition.

- Since there are large number of seller's major portion of total output is not controlled by anyone.

5. **PRODUCT GROUPS:**

- Under monopolistic competition there is not any industry but groups of firms that exist which produce the similar product.
- Each firm is an industry in itself and produces a different product.
- For example, cigarettes, cars, etc.

6. **SELLING COSTS:**

- Sales area essentially pushed up by the selling costs because product differentiation exists in monopolistic competition.
- It includes salesman expenses advertisement costs sellers allowances for displaying windows free sampling premium gifts and coupons free service etc.

7. **NON-PRICE COMPETITION:**

- A firm increase profits and sales of its product in monopolistic competition without any price cut.
- Products can be changed by a monopolistic competitor either by quality etc.

8. **CONTROL OVER PRICE:**

- Prices are controlled by the firms to some extent. For example professionals such as solicitors restaurants etc., are price maker.
- A price which is set by the firm's conscious decision is termed as administered price. Also firms must decide the price changing frequency.

4.3: **ADVANTAGES**

Following are some advantages of monopolistic competition

1. Promotion of competition (link of barriers to entry)
2. Differentiation brings greater consumer choice and variety
3. Product and service quality development
4. Consumers become more knowledgeable of products

4.4: **DISADVANTAGES**

Following are the disadvantages of monopolistic competition

1. Liable of excess capacity
2. Allocatively inefficient

3. Higher prices
4. Advertising

4.5: **PRICE OUTPUT DETERMINATION IN MONOPOLISTIC COMPETITION**

As there is product differentiation between firms in a monopolistic competitive market a perfect elastic demand is not faced by the firm for its products.

CONDITIONS FOR THE EQUILIBRIUM OF AN INDIVIDUAL FIRM

The price-output equilibrium and determination conditions of an individual firm may be described as follows,

1. Marginal cost = marginal revenue and
2. There must be intersection of MR curve by MC curve from below.

A) SHORT RUN EQUILIBRIUM OF THE INDUSTRY

The analysis in short runoff the firm under monopolistic competition is based on some assumptions. These assumptions are as follows,

1. There are larger numbers of sellers who act independently of each other.
2. Each seller products shows differentiation from other product
3. A determination elastic demand curve is attained by firms
4. Each firms short run cost curves differed from each other and
5. There is a restriction to entre new firms in the industry.

EXPLANATION

Under these assumptions a price and output is fixed by each firm so as to maximize the profits. There will be loss in case while it is able to cover up the average variable cost.

1. **SUPER NORMAL PROFIT:** in figure 4.13 at point E, the SMC Curve cuts the MR curve. This point E shows the output OQ and price QA (= OP). Resulting from this the firm Earns supernormal profit which is represented by the area PABC.
2. **NORMAL PROFIT:** Figure 4.14 shows the same equilibrium of output and price. But the firm only covers the short run average unit cost in this case as shown by the demand curve Ds tangency and the short run average unit cost cure that is SAC located at A. it earns normal profit.
3. **MINIMUM LOSS:** figure 4.15 representation a condition where the firm is incapable of covering its short run average unit cost and thus incurs losses. When the price is lowered below QA by the firm then firm will stop further production. However there will be a loss to firm at this price

which is equal to area CBAP during the short run in the hope of cost lowering in the long run.

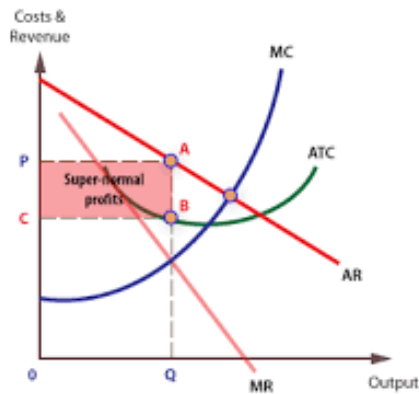


Figure: supernormal profit

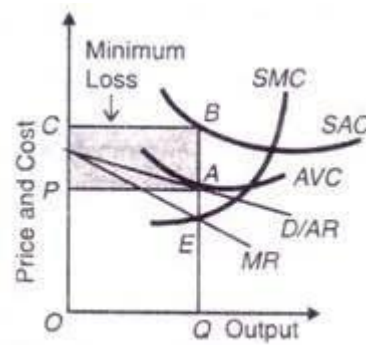


figure: minimum profit

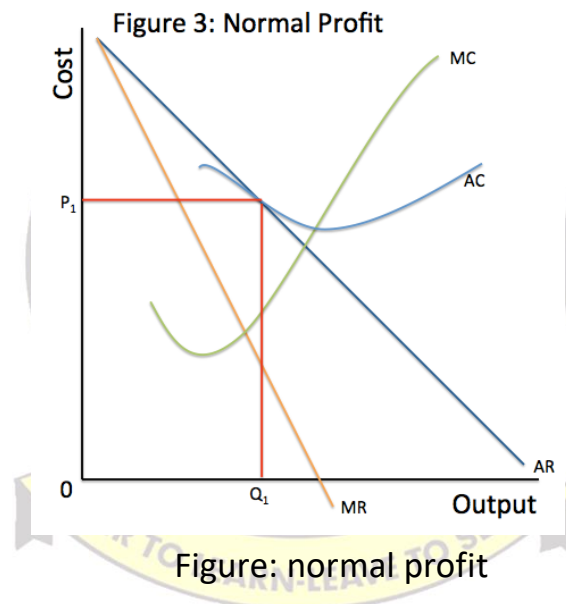


Figure: normal profit

B) LONG RUN EQUILIBRIUM OF THE INDUSTRY

There is exist and entry of the firms in long run in a competitive industry that is monopolistic. The process of adjustment will lead to existence of normal profits only. This is because of similar products in the market.

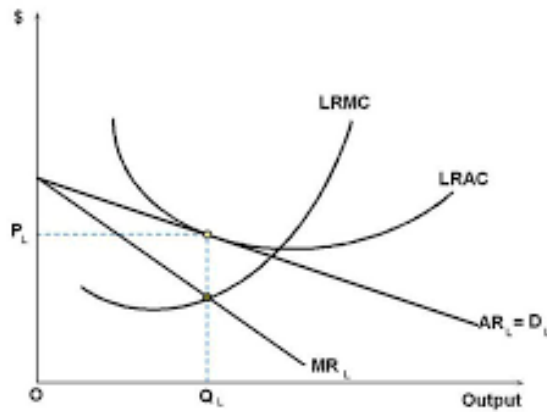


Figure: long run equilibrium in industry

In a monopolistic competitive industry if the firms in short run earn super normal profits there will be an incentive to enter for new firms in the industry. In the figure 4.16 in long run all firms are at equilibrium at point E where $LMC = MR$ and MR is cut by LMC from below and the curve LAC is tangent at point A to the D/AR curve.

5. OLIGOPOLY

5.1. MEANING AND DEFINITION OF OLIGOPOLY

- Oligopoly is defined as a condition where there is huge competition among a few large firms and there is an element of interdependence in firm's decision making.
- A major change in policy by one firm will show immediate and obvious impacts on its competitors.

DEFINITION:

According to **MANSFIELD** oligopoly is a market structure characterized by a small number of firms and a great deal of interdependence.

For example, automobile industry or cold drinks industry. There is limited number of manufacturers for automobile and cold drink manufacturing industry in India.

5.2: **FEATURES OF OLIGOPOLY**

Features of oligopoly market are as follows,

1. **INTERDEPENDENCE:**

- Decision making inter dependence among few firms of oligopoly market is an important feature of oligopoly.
- The reason behind this is that when the competitors are few then any change in output price product by one firms shows immediate

effect on rivals fortune that will be retaliate to change their own output price or advertising technique according to the situation.

2. IMPORTANCE OF ADVERTISING AND SELLING COSTS:

- Oligopolist's interdependence shows direct impact on the various firms to employ marketing weapons that are of north natures aggressive and defensive so as to gain greater market share or to maintain their existing share.

3. GROUP BEHAVIOUR:

- The oligopoly theory is a group behavior theory and it is not a theory of individual or mass behavior.
- On oligopoly part profit maximizing behavior may not be very much valid.

4. INDETERMINATE DEMAND CURVE:

- Due to firms interdependence is oligopoly and also because of a particular firm's inability to predict other firms' behavior determinateness and definiteness is lot by the demand curve facing an oligopolistic firm.

5. FEW SELLERS:

- There are a small number of sellers in the oligopoly market.
- Here small number of sellers represents that a significant fraction of total industry output is produced by every firm and these can have a noticeable impact on the market conditions.

5.3: ADVANTAGES

1. Huge profits are made by the large firms that have strong hold over the market because there are few market players.
2. Mostly products of two varying competitive companies are derived out of one main large firm in oligopoly.
3. The companies generate high profits and this profit can be used for development and innovation of new process and products.
4. Customers can stabilize and plan their expenditure efficiently due to stable market prices that leads to trade cycle stabilization.

5.4: DISADVANTAGES

1. Though price setting can prove to be advantages for the firms' but if it's not done in realistic manner it may tend to be disadvantages to customers.

2. Dominant companies do not think to improvise their products because of little competition.
3. Due to presence of various entry barriers new firms cannot easily enter the market.

5.5: **PRICE OUTPUT DETERMINATION IN OLIGOPOLY**

Under oligopoly there is no definite price output determination theory. This is because of interdependence of oligopolistic firms' to make decisions and uncertainty reaction patterns of rival firms.

The different models are includes,

1. Non-collective oligopoly model of SWEEZY (kinked demand curve) and
2. Collusive oligopoly model

KINKED DEMAND CURVE:

This model which is termed as kinked demand curve is a model of oligopoly that was developed by **PAUL M. SWEEZY and HALL and HITCH**. With the help of kinked demand curve analysis he tried to show that output and price once determined tend to stabilize and not fluctuate under oligopolistic trend and conditions.

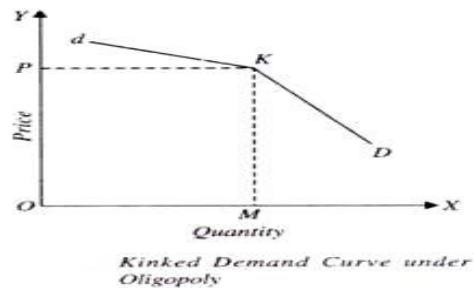
ASSUMPTIONS OF KINKED DEMAND CURVE:

The kinked demand curve hypothesis of price rigidity is based on the following assumptions.

1. There are few firms in the oligopolistic industry
2. There are no advertising expenditure
3. Each seller's attitude depends on the attitude of his rivals
4. The marginal cost curve passes through the dotted portion of the marginal revenue curve so that changes in marginal cost do not affect output or price.

EXPLANATION OF KINKED DEMAND CURVE:

- As per observations prices remain much inflexible for longer time in many oligopolistic industries.
- For this rigidity in price many explanations have been given under oligopoly and out of these explanations most popular is kinked demand curve hypothesis which was given by American economist SWEEZY.



According to the kinked demand curve hypothesis the demand curve that faces an oligopolistic has a kink at prevailing price level. The kink is observed at the existing level of price because the demand curve segment above this level tends to be highly elastic and below this level segment tends to be inelastic. dD a kinked demand curve with P a kink point is shown in the figure 4.17.

CRITICISMS OF KINKED DEMAND CURVE:

Criticism of kinked demand curve is explained on the following grounds

1. DOES NOT EXPLAIN HOW PREVAILING PRICE IS DETERMINED:

- Kinked demand curve explains simply why and how a price once set remains stable in the market.
- Kinked demand curve given by HALL AND HITCH attempts to explain how determination of prevailing prices is done. But again that is not a valid explanation too.

2. DOES NOT EXPLAIN PRICE OUTPUT DETERMINATION:

- Firms behave in a concerted manner under oligopoly that is collusive.
- Under this oligopoly there is no kink on the firms' demand curve.

3. EXPLAINS PRICE RIGIDITY IN DIFFERENTIATED OLIGOPOLY ONLY:

- Price rigidity is explained by this theory in only differentiated oligopoly.
- It is possible that the marginal curves vertical position of a kinked demand curve may be not much wide for marginal cost curve to pass through it.

6. PRICING PHILOSOPHY:

6.1: MEANING AND DEFINITION OF PRICING:

According to **PROF. K.C. KITE**, pricing is a managerial task that involves establishing pricing objective identifying the factors governing the price ascertaining their relevance as significance determining the product value in

monetary terms and formulation of price policies and the strategies implementing them and controlling them for the best results.

6.2: **IMPORTANCE OF PRICING**

Generally buyers and sellers try to reach an agreement for the price which is paid for product or service. The pricing is very important to customers industries and for promotion of business activity s described below.

1. **IMPORTANCE OF PRICING TO THE CONSUMERS**: The importance for the consumers is an follows,

(i) **AFFECT PURCHASING POWER:**

- (ii) If the price of the product is high then the consumers are forced to reduce the purchase quantity because consumers have limited money to make purchases and if the product is not essential then they may even avoid purchasing it.

(iii) **PRICE INDIVATES PRODUCT QUALITY:**

- It is a common perception in the minds of consumers that producers carrying higher price also have higher quality.
- In absence of other inputs about the product the higher price is the only convincing factor.

(iv) **CUSTOMERS VALUE PERCEPTION:**

- Many times the price of the product does not match the expected value by the customers and sometimes it is even lower than their expectations.
- This it depends upon the right decision of the marketer to take a right decision for pricing level.

2. **IMPORTANCE OF PRICING TO THE FIRMS**: The importance of pricing for the firms is discussed below,

1. **DETERMINES PROFITABILITY:**

- The price of the product is directly related to the profit to the company which is set to receive.
- The firms receive returns in terms of money which is based on the price of product. Hence any increase or decrease in price level of the product affects the profitability.

2. **DETERMINES MARKET SHARE:**

- The price of a commodity is a major factor that determines the demand.

- Price affects the competitiveness of the firms products and its market share.
3. **DETERMINES SUCCESS:**
- The pricing policy of a company acts as double edge sword for the company
 - In the case when the price is set too high the product sale will be minimum and generated revenue fails to cover up the production costs.
4. **INTER FIRM RIVALRY:**
- The pricing policy also generates tough competition between the rivals.
 - The money spent on advertisements middlemen and profitable schemes increases the operation costs of the company.
3. **IMPORTANCE OF PRICING TO THE ECONOMY:** The importance of pricing for economy is described below
1. **INFLUENCES FACTORS OF PRODUCTION:**
- The factors responsible for production are capital land machines and labor. For each factor money is spent by the producer.
 - With increase or decrease in price of the product the profit in terms of money also increases or decreases.
2. **DETERMINES DEMAND AND SUPPLY:**
- The higher price leads to increase in supply but fall in the demand because of low capacity of payment of common customer.
 - The lower price results in increase in demand and reduction in supply due to increase in number of customers and limitation of the company to match the demand.
3. **AFFECTS SAVINGS AND INVESTMENTS:**
- The paying capacity of the consumers remains limited and due to this reason increase in the price of product leads to reduction in their savings and investments.
 - In alarming of price rise or fall, the investments of the government sometime become necessary.
4. **BETTER UTILIZATION OF RESOURCES:**
- The prices control the demand of the products.

- The companies get the returns based upon the prices allocated to products.
- The public sector organizations run only by the budget generated from the revenues which is earned by the government.

5. INFLATION IN THE ECONOMY:

During inflation the pricing policy is very crucial because of the following facts,

- a. During inflation the purchasing power of consumer declines and to sustain the business it is essential for the entrepreneurs to find alternate substitutes or methods to reduce the price of the products.

6.3: DETERMINANTS OF PRICING POLICY:

The factors which influence the price can be divided into two factors.

1. INTERNAL FACTORS: These factors are disclosed below,

(i) **ORGANIZATIONAL FACTORS:**

- There are two levels in an organization who decide the price level of the product.
- The top level limits itself up to planning of price range and the market segment which is related to that product.

(ii) **MARKETING MIX:**

- The price of the product is considered as only one factor out of many other related factors by the marketers.
- The increase in product cost results in increase in product advertisements and distribution costs.

(iii) **PRODUCT DIFFERENTIATION:**

- The price of the product also depends upon the attractive characteristics of the product such as looks color packaging, after

sale service matching with contemporary fashion style trend and the alternative usage of the product etc.

(iv) **COST OF PRODUCT:**

- For determining the price of a product the cost or cost of production cannot be ignored by any company.
- Further a fine tuning is required to be made for finalizing the price which depends upon the market demand and price being offered by the rivals.

(v) **OBJECTIVES OF THE FIRMS:**

- The objective of a company can be changed with time and situation according to the financial status of a company which affect the pricing decisions.

2. **EXTERNAL FACTORS:**

These factors are as follows

(i) **DEMAND:**

- It is a common phenomenon in the marketing that scarce commodities have increasing price which is the indication of its high demand.
- The demand of any product depends upon is utility number of customers availability of similar products in the market and their price the paying capacity of the customers as well as their greeter liking of the product due to extra features such as looks offering schemes etc.

(ii) **COMPETITION:**

- The prices of the rival products in the market make crucial impact on decision making of pricing. To remain in competition the companies are made to make the price of the product equal to rivals or slightly lower. The higher prices can be offered only if the company brand is popular.

(iii) **SUPPLIERS:**

- When the price of raw material which are used for production of product increases then the suppliers charge more money for the

same quantity supplied. The producer is forced to transfer this increase to customers by increase in the price.

(iv) **ECONOMIC CONDITIONS:**

- The prices are directly related to inflation or deflation conditions prevailing in the country.
- In inflationary situations the prices of the input factors increase and the prices of the products also increase.

(v) **BUYERS:**

- The pricing decision of the company on the product does affect the consumers.
- The price increase reduces the paying capacity of consumers and it develops constraints on customers.
- Consumers may change their plan for purchase of product.
- This makes a great impact on company turn over in the case when the product is being used by large number of consumers.

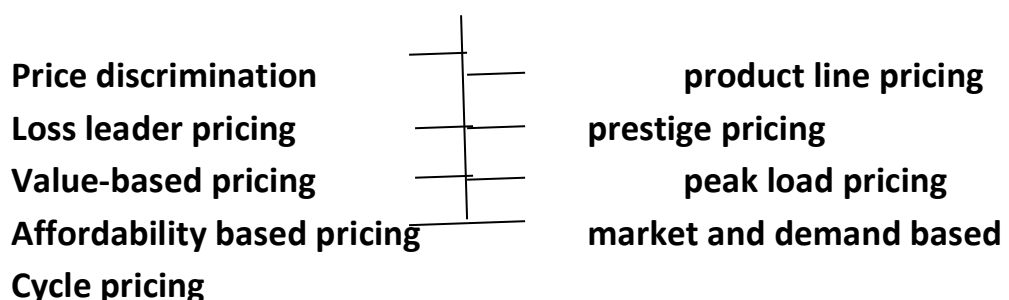
(vi) **GOVERNMENT:**

- There is a control of government on the prices of the commodities and the producers cannot charge for the product on their own.
- The government legislations limit the prices of the commodities to certain limits and a close watch is maintained by market surveyors on the products sold by the private entrepreneurs.

7: PRICING METHODS IN PRACTICE: price discrimination, product line pricing

The various methods of pricing are as follows,

Pricing methods in practice



1) PRICE DISCRIMINATION

- In this pricing system company establishes different price points for different customers on the basis of different variables such as volume of purchase payment conditions like cash down or installments loyalty

factor customers etc. the market consists of variety of customers and this discriminatory pricing act as a motivator for the company.

OBJECTIVES OF PRICE DISCRIMINATION

There are following objectiveness of price discriminations

1. MAXIMISATION OF REVENUE:

- The basic objective of price discriminations is that by setting different prices for the same product in different markets / segments a business can increase its total sales revenues.
- Price discrimination is clearly in the interests of businesses who achieve higher profits.

2. PREVENT CONSUMER SWITCHING:

- A dominant firm may exploit final consumer by means of price discrimination with the result in the reduction of consumer welfare.
- It is a barrier to prevent consumers switching from one supplier to another.

3. ATTAIN A SIGNAL MARKET:

- It is sometimes a policy objective to attain a signal market across the region.
- There being one seller of the product under monopoly the monopoly firms is the industry itself.
- Therefore the demand curve for its product is downward sloping to the right given the tastes and incomes of its customers.
- It is a price maker which can set the price to its maximum advantages.

4. REDUCTION IN RIVALS:

- Price discrimination can be used by a dominant firm to weaken actual or potential rivals.
- Price discrimination also might be used as a predatory pricing tactic – i.e., setting prices below cost to certain customers in order to harm competition at the supplier's level and thereby increase a firm's market power.

II) PRODUCT LINE PRICING:

- This process is suitable for the companies which produce multiple products of same family. Different products belonging to same product

family which complement each other are grouped together and prices in a group.

- This pricing strategies aim to maximized the sale of different product by creating more complimentary rather than competitive products.

TYPES OF PRODUCT LINE PRICING

The types of product line pricing are as follows,

1. PRICE BUNDLING:

- This method of pricing is adopted to maintain a continuous sale of product.
- It is useful for perishable products or consumer facilities like hotel rooms or seat in flight which have no substitutes.
- FOR EXAMPLE, offering off season discounts to customers for hotel rooms flight tickets or buffet lunch in hotels at reduced prices etc.

2. PREMIUM PRICING:

- This type of pricing is adopted by companies which manufacture different models of same products suiting to different strata of society.
- FOR EXAMPLE, a company is producing variety of television sets like normal flat screen 3D effects with speakers giving theatre sound effects and screen size 48” or 60.

3. IMAGE PRICING:

- This type of pricing is applicable for similar products from different companies or the same company.
- FOR EXAMPLE, such pricing can be found in cosmetics clothes soaps cars etc.

4. COMPLEMENTARY PRICING:

- Complementary pricing is additional price to be paid by the customers for taking possession or enjoying the product.
- FOR EXAMPLE, purchases of flat or car is always accompanied by registration charges for legally owning it or in hotels the customers pays for sales tax and VAT in addition to original price of food.

5. CAPTIVE PRICING STRATEGY:

- To captivate the customers and to promote is product the company the company offers it as a compliment with its regular product.

- FOR EXAMPLE, toothpaste tube with a brush or shaving get with a twin blade.

6. TWO PART PRICING:

- Many products carry two part pricing.
- FOR EXAMPLE, multi story apartment flats have purchasing cost and monthly subscription to society running it to pay for clean less, round the clock power supply and security of the residents.

lii) LOSS LEADER PRICING:

- The meaning appears from this title is that it is for incurring losses but in fact it is for increasing profits.
- In fact the loss leader traps the customers due to its low price who buy some other products of the company.
- In companies of this pricing policy sometimes the company makes it mandatory for the customers to purchase certain items along with the popularized products.
- FOR EXAMPLE, companies like Gillette essentially give their razor units away for free knowing that customers have to buy their replacement blades which are where the company makes its profit.
- According to HAYNES AND HENRY a loss leader is an item which produces a less than customary contribution or a negative contribution to overhead but which is expected to create profits on increased future sales or sales of other items.

CHARACTERISTICS OF LOSS LEADER

BOB R. HOLDREN has given certain characteristics for the loss leader as given below,

1. The buyers must have knowledge of price of similar products at others places.
2. It should encourage the customers to make a bulk purchases to get the benefits of profit due to low price.
3. Demand of the product should not fluctuate.
4. The price reduction should be able to make the public conscious.

iv) PRESTIGE PRICING:

The prestige pricing realizes the psychology of the customer who needs to possess sometimes very exclusive. Customer feels pride of owning a product which is rare.

FOR EXAMPLE, flats constructed in a city at a location where only elite of the town reside. It is having terrace garden with fountains and separate lift attached to it along with private car parking. Certainly such products are meant for persons who are above the class and ready to pay any amount for it as prestige. The demand curve for prestige pricing is indicated in figure 4.22

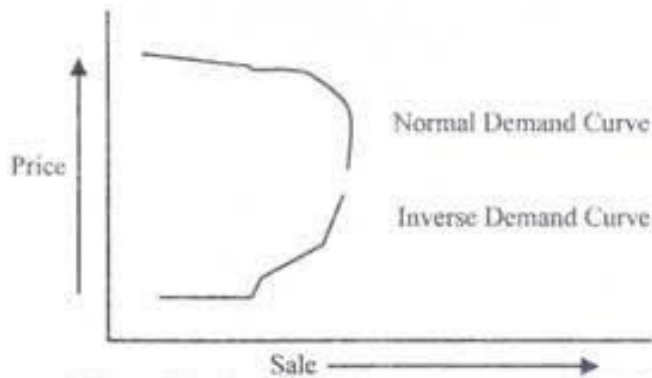


Figure: prestige pricing

v) **VALUE – BASED PRICING:**

- This is a pricing which is done after consideration of the benefit the product or service will provide to the customer and its utility for them.
- The product designed marketed and priced by the marketer for acceptance of customers is against the norms of this pricing.
- FOR EXAMPLE, fashion industry is an example of a sector where value based pricing is common. This same principle can apply to other markets where the idea of the consumer's outward image may be affected by possessing the item in question.

Following four situations in cost value price are described below

1. **VALUE > PRICE > COSTS:** in this situation the company is able to recover the costs but fail to recover the value which results in loss in due course.
2. **PRICE > VALUE > COSTS:** In this case the value and costs are recovered. This situation will make the customers to find other similar product which leads to decline in sale and lowering the share value of the company.
3. **PRICE > COSTS > VALUE:** this is till grimmer situation for the customers. It appears that company is not much worried for customers. This makes the customers more negative for the product.
4. **PRICE = VALUE > costs:** this situation can be termed as the optimum situation where customer feels comfortable which will ensure

continuous sale and profit to the company. After examination of above four situations it may be noted that in all cases the price is always more than the costs and this ensures a margin of profit. However situation four is suitable for sustained profits and therefore most suitable.

vi) **PEAK LOAD PRICING**

- The companies mark the timings seasons or places which suit the customers the most and then accordingly design the price in order to gain maximum profit from their product or facilities.
- FOR EXAMPLE, maximum people would like to use telephones or airlines before noon to utilize the information or reach the destination comfortably to attend meeting so this become the peak period and company takes advantage to charge at higher rates for the facilities to accommodate who need it the most and able to pay for it.

The peak load pricing can be fruitfully applied if,

1. The installed capacity of service to be used for peak period as well as non peak periods.
2. It is not possible to store and use to at appropriate time but it is to be used at specified time.
3. The demands vary with time.

vii) **AFFORDABILITY BASED PRICING**

- This is applicable for essential commodities which are needed by all section of society and prices are set in such a way that all sections of society are able to consume it to the required extent.
- This makes the price independent of production costs. Government public distribution system is also used for the distribution of various goods.
- FOR EXAMPLE, the government controls it by way of providing subsidy like in case of cooking gas.

viii) **MARKET AND DEMAND BASED PRICING**

- It is a practical way of pricing the product.
- Before finalizing the price an analysis is made on demand of the product and purchase capacity of customers.
- If the analysis results justify the price only then they will go for it.

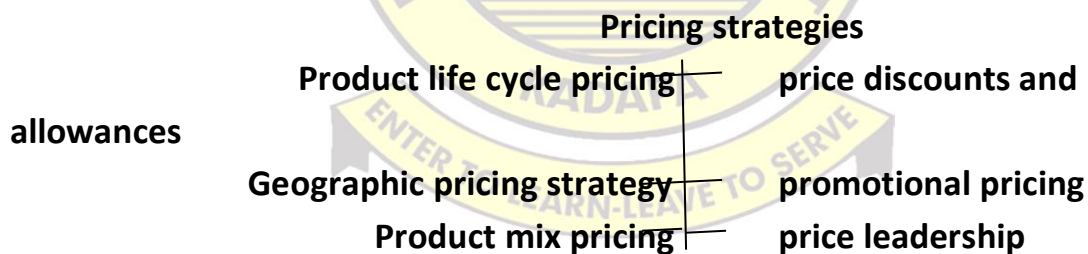
- Price demand relationship is based on the parameters in different markets.

ix) CYCLE PRICING

- The cycle pricing is related to periodic rise and fall of economic activities in the country.
- The study of past certain years reveals that there is a cycle variation of economic activities. This has got following four phases as indicated in figure 4.23.
 1. Trough
 2. Expansion
 3. Boom and
 4. Recession

8) PRICING STRATEGIES

- A single price is not usually set by the companies but price structure reflecting several variables.
- When an appropriate pricing method is selected then the desired price for the particular product or service is adopted by following pricing strategies or techniques that are price adaptive.



I) PRODUCT LIFE CYCLE PRICING

According to PHILIP KOTLER the product life-cycle is an attempt to recognize distinct stage in the sales history of the product.

STAGES OF PRODUCT LIFE CYCLE

The depiction of most of the product life cycle curves is bell shaped. This curve is typically divided into four stages.

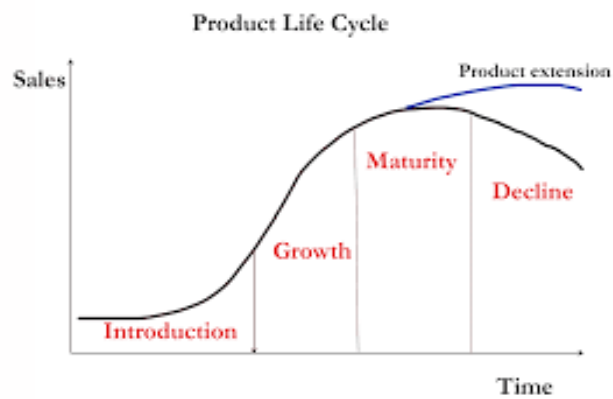


Figure: product life cycle

1. **INTRODUCTION:** due to heavy burden of expenses for introducing the product profits don't exist at this stage and it is a period of slow sales growth.
2. **GROWTH:** due to considerable profit improvement this is a period of rapid market acceptance.
3. **MATURITY:** due to increase in competition there may be a decline or stability in profit. It is a period marked by slow sales growth as it has achieved acceptance by most of the potential buyers.
4. **DECLINE:** due to downward drifting of the sales this period shows the erosion of the profits.

PRICING OVER PRODUCT LIFE CYCLE

A product passes through comparatively expected lifecycles such as introduction growth maturity and decline. The resultant effect on the manufacture costs that starts high then decrease and finally remains stable.

1. **INTRODUCTION STAGE:** in this phase the profits are negative because huge amount of expenses in promotion and distribution is incurred by the company. Two strategic pricing techniques like skimmed pricing and penetration pricing for a new product is done.
2. **GROWTH STAGE:** After the introduction stage the product enters into the growth phase with the expansion of the customer's base of the market of new product. The pricing strategy used here is price leadership.
3. **MATURITY STAGE:** in this stage customer growth has essentially stopped. The only new competitors are ones that want to compete on costs and price. Prices are relatively stable at this stage. A firm should be using a neutral pricing strategy.

4. **DECLINE STAGE:** the last and the concluding stage are very crucial for the marketers as they have to determine the elimination of the product or to reposition it again for the extension of its product line. Here the product line pricing strategy is applicable.

9: **SKIMMING PRICING:**

- Utilizing the opportunities in the market for reaping the benefits of high volume sales increases profits and low unit costs refers to skimming of the prices.
- This objective will be feasible in the market where there is a feeling in the mind of the consumer that costly goods are of superior quality.
- The following results are delivered by these pricing strategies in the following situations.
 1. When the target market associates quality of the product with its price and high price is perceived to mean high quality of the product.
 2. When the customer is aware and is willing to buy the product at a higher price just to be an opinion leader.
 3. When the product is perceived as enhancing the customers status in society.
 4. When the product represents significant technological breakthrough and is perceived as a high technology product.

ADVANTAGES OF SKIMMING PRICING

Following are the advantages of skimming prices.

1. Demand with respect to price is more inelastic in the initial stages in comparison to the condition when the price is grown fully. This is true about the consumer goods.
2. The market can be broken into segments by launching a new product with high price that differ in price elasticity of demand.
3. This policy appears to be safe as when unknown elasticity of demand is being faced then the initial high price is depicted as rejection of the price during the stage of exploration.
4. Many companies are not in a position to finance the product floatation out of distant future revenue. High prices are a reasonable financing technique for shouldering this burden in the light of many uncertainties about the future.

DISADVANTAGES OF SKIMMING PRICING

Following are the disadvantages of skimming pricing

1. The strategy of skimming of the prices can be disastrous as due to the presence of close competitors who can introduce similar products at lower prices than the consumer will infer that the company is all the time selling the products at higher price will force them to abandon the company and its product.
2. Due to availability of strict legal and government regulations regarding the rights of the consumers the price skimming option are not viable.
3. Due to the available history of the company of price skimming the consumers will be reluctant to buy a new product rather they would wait for some months to buy it at a lower price.

10. PENETRATION PRICING:

- Low price of the product is being set by the entrepreneurship to enter into the market in the initial stages with the objective of securing a large market share.
 - Hence this objective of market penetration is to obtain maximum share of the market by setting low prices deliberately.
 - The following conditions generalize and indicate the desirability of an early low price policy.
1. A high price elasticity of demand in the short run i.e., a high degree of responsiveness of sales to reductions in price.
 2. Substantial savings in production costs as the result of greater volume not a necessary condition however since elasticity of demand is high enough pricing for market expansion may be profitable without realizing production economies.
 3. Product characteristics are such that it will not seem bizarre when it is first fitted into the customer expenditure pattern.
 4. A strong threat of potential competition.

A highly effective reason for penetration pricing is the threat of potential competition. Most of the low pricing policies main objectives are to raise entry barriers to prospective competitors in the exploring stages of market development.

ADVANTAGES OF PENETRATION PRICING

1. It can result in fast diffusion and adoption. This can achieve high market penetration rates quickly. This can take the competition by surprise not giving them time to react.
2. It can create goodwill among the all important early adopter segment. This can create valuable word of mouth publicity.
3. It creates cost control and cost reduction pressures from the start leading to greater efficiency.
4. It discourages the entry of competitors. Low prices act as a barrier to entry and
5. It can create high stock turnover.

DISADVANTAGES OF PENETRATION PRICING

1. The customer expects the prices to remain low for a long term. They are not ready for the subsequent rise in the price and when it happens they might switch to a competitor's product. Thus subsequent price hike leads to loss of market share gained.
2. It is believed that penetration pricing cannot create strong customer relationship and only attracts customers on the lookout for a profitable deal.

11. PRICING OF MULTIPLE PRODUCTS:

- Most modern firms produce a variety of products rather than a single product.
- This requires that one expands our simple pricing rule and considers demand and product interdependencies.
- Normally in the case of a firm which is producing multiple commodities the demands for its various products are separable but the costs is not quite divisible product wise.
- Thus while there are separate demand functions for all products of a multiple product firms there is only one cost function for all products.
- In the livestock industry meat and wool are produced together where sheep are reared. Crude oil and natural gas may be found together in oil exploration. In these joint products costs are also join. In most cases joint products come in fixed proportions.

- In joint products the profit maximizing prices will be given by the point at which the combined marginal revenue of the products equals the marginal's costs as shown in figure 4.25.

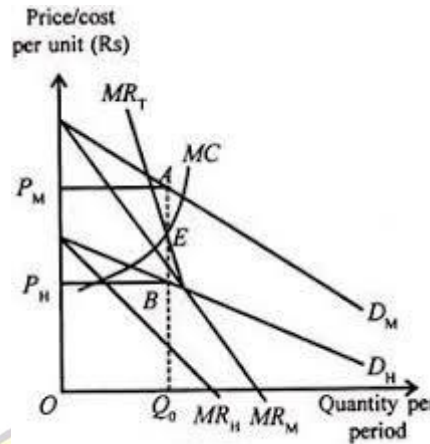


Figure: pricing of joint products

The line CRM denotes the combined marginal revenue. It is obtained by summing MR1 and MR2 vertically. The CMR equals MC at point E. A horizontal line passing through point E determines the prices and quantities of the two commodities. It is assumed that the demand functions of different commodities are independent of one another. The profit maximizing prices are OP1 and OP2 and the quantities are OQ1 and OQ2 of commodities 1 and 2 respectively. The prices in the case of more than two joint producers can also be determined in the same manner.

Prepared By

V.SREERAM YASHASVEE L.L.B., M.B.A., (C.A)

ASSISTANT PROFESSOR

BALAJI INSTITUTE OF IT AND MANAGEMENT,KADAPA.

(17E00103) MANAGERIAL ECONOMICS

Objective of this course is to understand the relevance of economics in business management. This will enable the students to study functional areas of management such as Marketing, Production and Costing from a broader perspective.

1. **Introduction to Managerial Economics:** Definition, Nature and Scope, Relationship with other areas in Economics, Production Management, Marketing, Finance and Personnel, Operations research - The role of managerial economist. Objectives of the firm: Managerial theories of firm, Behavioural theories of firm, optimization techniques, New management tools of optimization.
2. **Theory of Demand:** Demand Analysis – Law of Demand - Elasticity of demand, types and significance of Elasticity of Demand. Demand estimation – Marketing research approaches to demand estimation. Need for forecasting, forecasting techniques.
3. **Production Analysis:** Production function, Isoquants and Isocosts, Production function with one/two variables, Cobb-Douglas Production Function, Returns to Scale and Returns to Factors, Economies of scale- Cost concepts - cost-output relationship in the short run and long run, Average cost curves - Break Even Analysis.
4. **Market Structure and Pricing practices:** Features and Types of different competitive situations - Price-Output determination in Perfect competition, Monopoly, Monopolistic competition and Oligopoly. Pricing philosophy – Pricing methods in practice: Price discrimination, product line pricing. Pricing strategies: skimming pricing, penetration pricing, Loss Leader pricing. Pricing of multiple products.
5. **Inflation and Business Cycles:-**Definition and meaning-characteristics of Inflation-types of inflation - effects of inflation - Anti-Inflationary methods - Definition and characteristics of business cycles-phases of business cycle - steps to avoid business cycle

Textbooks:

- Managerial Economics -Analysis, Problems ,Cases ,Mehta,P.L., Sultan Chand & Sons.
- Managerial Economics, Gupta, TMH

References

- Managerial Economics, D.N.Dwivedi,Eighth Edition,Vikas Publications
- Managerial Economics, Pearson Education, James L.Pappas and Engene F.Brigham
- Managerial Economics, Suma Damodaran, Oxford.
- Macro Economics by MN Jhingan-Oxford
- Managerial Economics- Dr.DM.Mithani-Himalaya Publishers
- Managerial Economics-Dr.H.L Ahuja-S.Chand and Com pvt ltd, NewDelhi
- Managerial Economics by Dominick Salvatore, Ravikesh Srivastava- Oxford University press.
- Managerial Economics by Hirschey- Cengage Learning

UNIT-5

INFLATION AND BUSINESS CYCLES

1. DEFINITION AND MEANING OF INFLATION

- Inflation is normally associated with high prices which causes decline in the purchasing power or value of money.
- Inflation refers to the substantial and rapid increases in the general price – level. Inflation is primarily a monetary phenomenon.
- In the Keen sense true inflation begins when the elasticity of supply of output in response to increase in money supply has fallen to zero or when output is unresponsive to changes in money supply.

DEFINITION:

According to **CROWTHER**, inflation is a state in which the value of money is falling i.e., prices are rising.

2. CHARACTERISTICS OF INFLATION:

Its various characteristics which are as follows,

1. PERSISTENT RISE IN PRICES:

- The first characteristics of inflation are the persistent rise in prices.
- This conclusion is based on observation of facts and it is by a large correct.
- Though there may be recovery of prices here and there due to monetary and fiscal measures undertaken by the government it is an agreed and fiscal measures undertaken by the government it is an agreed fact that excessive rise in prices is the hallmark of inflation.

2. EXCESSIVE SUPPLY OF MONEY IN ECONOMY:

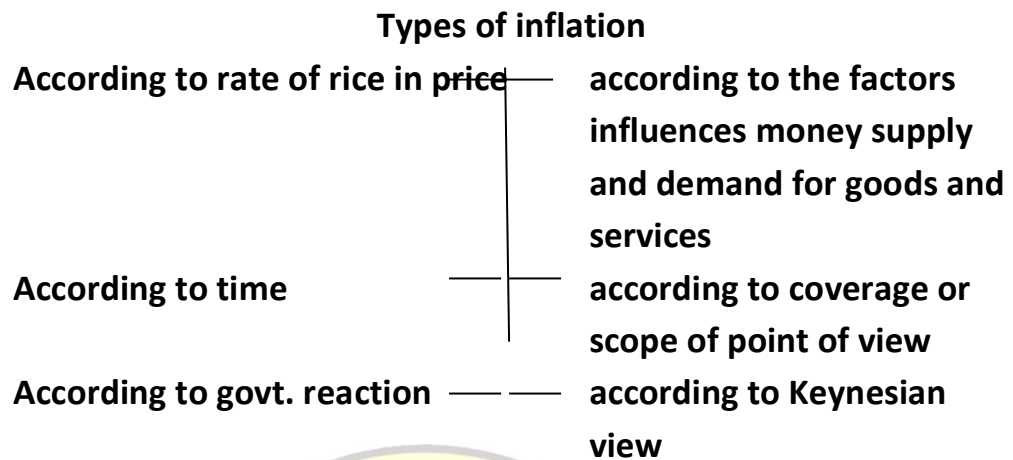
- The second feature of inflation is an excessive supply of money in the economy.
- In times of war or sudden preparations for war the resources at the disposal of the government may not be sufficient and the government may adopt war time measures to augment the resources to need the emergent situation.

3. VICIOUS CIRCLE OF INFLATIONARY SPIRAL

- Characteristic of inflation is the vicious circle of inflationary spiral created by the velocity of circulation of money. Inflation will feed on itself to grow an inflationary spiral.

3. TYPES OF INFLATION

There are various types of inflation which can be categorized under different heads as follows,



1. ACCORDING TO RATE OF RISE IN PRICE

(i) CREEPING INFLATION:

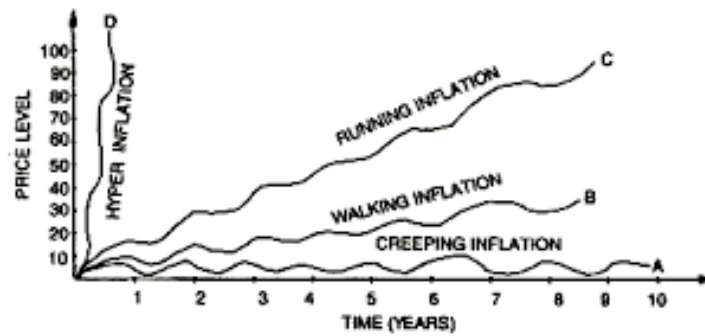
- When the rise in prices is very slow like that of a snail or creeper, it is called creeping inflation.
- In terms of speed a sustained rise in prices of annual increases of less than 3 per cent per annum is characterized as creeping inflation.
- Such an increase in prices is regarded safe, and essential for economic growth.

(ii) WALKING INFLATION:

- When the rise in price becomes more pronounced as compared to a creeping inflation there exists walking inflation in the economy.
- Roughly when prices rise by more than ten percent and within a range of 30% to 40% over a decade or 3 or 4% a year walking inflation is the outcome.

(iii) RUNNING INFLATION:

- When the movement of price accelerates rapidly running more than 100 per cent rise in prices over a decade.
- Thus when prices rise by more than 10% a year running inflation occurs.



(iv) **GALLOPING INFLATION/HYPERINFLATION:**

- In case of hyperinflation prices rise every moment and there is no limit to the height to which prices might rise therefore it is difficult to measure its magnitude as prices rise by fits and starts.
- If within a year the prices rise by 100 per cent, it is a case of hyperinflation or galloping inflation.

2. ACCORDING TO THE FACTORS INFLUENCES MONEY SUPPLY AND DEMAND FOR GOODS AND SERVICES

(i) **EXCESSIVE MONEY SUPPLY INFLATION:**

- This is a classical type of inflation where there is an excess of money supply in relation to the availability of real goods and services.
- This type of inflation is usually conceived with reference to the cyclical fluctuations in the economy and measures of monetary controls to check inflationary or deflationary trends.

(ii) **COST INFLATION:**

- When inflation emerges on account of a rise in factor cost it is called cost inflation.
- Due to a rising cost of living index workers demand higher wages and higher wages in their turn increase the cost of production which a producer generally meets by raising prices.

(iii) **DEFICIT INFLATION:**

- When the government budgets contain heavy deficit financing through creating new money the purchasing power in the community increases and prices rise.
- This may be referred to as deficit induced inflation.

3. ACCORDING TO TIME

(i) **WAR-TIME INFLATION:**

- It is the outcome of certain exigencies of war on account of increased government expenditure which is of unproductive nature.

- By such public expenditure and government apportionings a substantial production of goods and services out of total availability for war which causes a downward shift in the supply as a result an inflationary gap may develop.

(ii) **POST-WAR INFLATION:**

- It is a legacy of war. In the immediate post-war period it is usually experienced.
- This may happen when the disposable income of the community increases when war-time taxation is withdrawn or public debt is repaid in the post-war period.

(iii) **PEACE-TIME INFLATION:**

- By this is meant the rise in prices during the normal period of peace.
- Peace-time inflation is often a result of increased government outlays on capital projects having a long gestation period so a gap between money income and real wage goods develops.

4. ACCORDING TO COVERAGE OR SCOPE POINT OF VIEW

(i) **COMPREHENSIVE INFLATION:**

- When prices of every commodity throughout the economy rise it is called economy-wide or comprehensive inflation.
- It is a normal inflationary phenomenon and refers to the rising prices of the general price level.

(ii) **SPORADIC INFLATION:**

- This is a kind of sectional inflation.
- It consists of cases in which the averages of a group of prices rise because of increases in individual prices due to abnormal shortage of specific goods.

5. ACCORDING TO GOVERNMENT'S REACTION

Inflation is open or repressed according to government's reaction to the prevalence of inflationary forces in the economy.

(i) **OPEN INFLATION:**

- When the government does not attempt to prevent price rise inflation is said to be open.
- Thus inflation is open when prices rise without any interruption of government.

- In open inflation free market mechanism is permitted to fulfill its historic function of rationing the short supply of goods and distribute them according to consumer's ability to pay.

(ii) **REPRESSED INFLATION:**

- When the government interrupts a price rise there is repressed or suppressed inflation.
- Thus suppressed inflation refers to those conditions in which price increases are prevented at the present time through adoption of certain measures like price controls and rationing by the government.

6. **ACCORDING TO KEYNESIAN VIEW:**

Keynesian economic theory proposes that changes in money supply do not directly affect prices and that visible inflation is the result of pressures in the economy expressing themselves in prices. There are three major types of inflation as part of what ROBERT J. GORDON calls the triangle model.

(i) **BUILT-IN INFLATION:**

- This is induced by adaptive expectations and is often linked to the price-wage spiral.
- It involves workers trying to keep their wages up with prices and firms passing these higher labor costs on to their customers as higher prices leading to a vicious circle.

(ii) **PROFIT INFLATION:**

- This was originated by KEYNES in his book treatise on money.
- According to KEYNES the price level of consumption goods is a function of the investment exceeding savings.
- It redistributes income in favor of profiteers and against the waging class.

(iii) **SEMI-INFLATION:**

- It was originated by KEYNES.
- According to KEYNES so long as there are unemployed resources the general price level will not rise as output increases.
- This is known as semi inflation or bottleneck inflation because of the bottleneck in supplies of some factors.

(iv) **TRUE INFLATION ACCORDING TO KEYNES:**

- When the economy reaches the level of full employment any increase in aggregate expenditure will raise the price level in the same proportion.
- This is because it is not possible to increase the supply of factors of production and hence output after the level of full employment.
- This is called as true inflation.

(v) **MARK-UP INFLATION:**

- Is closely related to the price push problem.
- Modern labor organizations possess substantial monopoly power. They therefore set prices and wages on the basis of mark-up over costs and relative incomes.
- This sets-off an inflationary rise in prices. Similarly when strong trade union is successful in raising the wages of workers this contributes to inflation.

3.1. CAUSES OF INFLATION

The root cause of inflation is the imbalance between the total demand and total supply of goods and services in the economy which causes excessive demand. These are following causes of inflation.

1. **INCREASE IN DEMAND FOR GOODS AND SERVICES:** There are a number of factors that cause increase in demand for goods and services in the country. Some of the factors can be summed up as under.

(i) **INCREASE IN PUBLIC EXPENDITURE:**

- An increase in public expenditure during the time of war or for development planning causes increase in the demand for goods and services in the economy and finally result in increase in prices of goods and services causing inflation.

(ii) INCREASE IN PRIVATE EXPENDITURE:

- An increase in private expenditure consumption expenditure as well as investment expenditure is an important cause of the emergence of excess demand in the economy.
- When business conditions are good private entrepreneurs start investing more and more funds in new business giving rise to increase in the demand of the service of factor of production.

(iii) INCREASE IN EXPORTS:

- An increase in the foreign demand for the country products reduces the stock of commodities available for home consumption.
- It is evident that when more and more of commodities are exported to other countries less and less are available for domestic consumption.

(iv) REDUCTION IN TAXATION:

- Reduction in taxation is also an important cause of the emergence of increase in demand. When government reduces tax it results to an increase in purchasing power of the public and then it is in the position to demand more goods and services for private consumption and results to an increase in prices causing inflation.

(v) REPAYMENT OF PAST INTERNAL DEBTS:

- When the government repays its past debts to the public it results in an increase of purchasing power of the public which is used by it for buying more goods and services for consumption purposes.
- This ultimately leads to an increase in demand in the economy and cause inflation finally as with increases in demand the prices tend to go up.

(vi) RAPID GROWTH OF POPULATION:

- A rapid growth in population results in pushing up the level of aggregate effective demand for goods and services in a country.
- This acts as an inflationary force and tends to raise the prices to higher levels.

2. **DECREASE IN SUPPLY FOR GOODS AND SERVICES:** the factors that result in reduction in the supply of goods and services may be termed as under.

(i) **SHORTAGE OF SUPPLIES OF FACTORS OF PRODUCTION:**

- Occasionally the economy of a country faces or is met with shortage of such factors as labour capital equipment raw material etc. this results to an increase in prices and inflation as the demand is high and supply is less.

(ii) **HOARDING BY THE TRADERS:**

- At the time of shortages and rising prices there is a tendency on the part of traders and merchants to hoard essential commodities for profit purposes.
- The stocks of essential goods often go underground during the period of inflation and rising prices causing further scarcity of goods in the market.

(iii) **HOARDING BY CONSUMERS:**

- It is not only the traders and the merchants who resort to hoarding at a time of inflation the individual consumer also holds essential commodities to avoid payments of higher prices in future.
- They also hoard essential commodities to ensure uninterrupted availability for private consumption.

(iv) **NATURAL CALAMITIES:**

- It also creates inflationary conditions by reducing the production in the economy.
- Floods and draughts adversely affect the supply of products and in turn raise their prices.

(v) **LAW OF DIMINISHING RETURNS:**

- The law of diminishing returns operates when production is increased by employing more and more variable factors with fixed factors and given technology.
- As a result of this law the cost per unit of production increases thus leading to a rise in the prices of production.

(vi) **WAR:**

- During the war period economic resources are diverted to the production of war materials.

- This reduces the normal supply of goods and services for civilian consumption and this leads to the rise in the price level.

(vii) **INTERNAL CAUSES:**

- In modern times a major cause of inflationary rise in prices in most of the countries is the international rise in the prices of basic materials used in almost all the industrial materials.
- Thus all the above factors cause inflation in the economy as when the demand increases the prices also increase and so also when the supply is less than the demand the prices are tend to go up causing inflation.

4. EFFECTS OF INFLATION:

The effects of inflation are given below,

1. EFFECTS ON PRODUCTION

- When prices start rising production is encouraged. Producers earn windfall profits in the future.
- They invest more in anticipation of higher profits in the future. This tends to increase employment production and income.
- But this is only possible up to the full employment level

(i) **MISALLOCATION OF RESOURCES:**

- Inflation causes misallocation of resources when producers divert resources from the production of essential to non-essential goods from which they expect higher profits

(ii) **CHANGES IN THE SYSTEM OF TRANSACTIONS:**

- Inflation leads to changes in transactions pattern of producers.
- They hold smaller stock of real money holdings against unexpected contingencies than before.
- They devote more time and attention to converting money into inventories or other financial or real assets.

(iii) **REDUCTION IN PRODUCTION:**

- Inflation adversely affects the volume of production because the expectations of rising prices along with rising costs of inputs bring uncertainty.
- This reduces production.

(iv) FALL IN QUALITY:

- Continuous rise in prices creates a seller's market.
- In such a situation producers produce and sell sub-standing commodities in order to earn higher profits.
- They also indulge in adulteration of commodities.

(v) HOARDING AND BLACK-MARKETING:

- To earn more profit from rising prices producers hoard stocks of their commodities.
- Consequently an artificial scarcity of commodities is created in the market.
- Then the producers sell their products in the black market which can increase inflationary pressures.

(vi) REDUCTION IN SAVING:

- When prices rise rapidly the propensity to save declines because of more money is needed to buy goods and services than before.
- Reduced saving adversely affects investment and capital formation. As a result production is hindered.

(vii) HINDERS FOREIGN CAPITAL:

- Inflation hinders the inflow of foreign capital because the rising costs of materials and other inputs make foreign investment less profitable.

(viii) ENCOURAGES SPECULATION:

- Rapidly rising prices create uncertainty among producers who indulge in speculative activities in order to make quick profits.
- Instead of engaging themselves in productive activities they speculate in various types of raw materials required in production.

2. DISTRIBUTIONAL EFFECTS

- Inflation redistributes income because prices of all factors do not rise in the same proportion.
- Since the effect of inflation on the incomes of different classes of earners varies there are serious social consequences.
- During inflation the distributive share accruing to the profiteers increases more than that of wage earners or fixed income earner.

(i) Debtors and creditors

(ii) Business community

(iii) Fixed income groups

- (iv) Investors
- (v) Farmers
- 3. **OTHER EFFECTS:** Inflation leads to a number of other effects which are discussed as under,
 - (i) Government
 - (ii) Balance of payments
 - (iii) Exchange rate
 - (iv) Collapse of the monetary system
 - (v) Social
 - (vi) Political

5. ANTI-INFLATIONARY METHODS:

- Since inflation is a phenomenon where money income or purchasing power is rising faster than the real goods and services the measures to check inflation should either be of a check on the increase in money incomes or making available more of real goods and services.
- The various anti-inflationary methods which can be taken to establish a better balance between aggregate supply and demand for money can be studied under the following three main heads.
- 1. **MONETARY MEASURES:** monetary measures aim at reducing money incomes. It includes,
 - (i) **CREDIT CONTROL:**
 - One of the important monetary measures is monetary policy.
 - The central bank of the country adopts a number of methods to control the quantity and quality of credit.
 - Monetary policy may not be effective in controlling inflation, if inflation is due to cost-push factors.
 - Monetary policy can only be helpful in controlling inflation created due to demand pull factors.
 - (ii) **DEMONETISATION OF CURRENCY:**
 - However one of the monetary measures is to demonetize currency of higher denominations.
 - Such a measure is usually adopted when there is abundance of black money in the country.

(iii) **ISSUE OF NEW CURRENCY:**

- The most extreme monetary measure is the issue of new currency in place of the old currency in place of the old currency.
- Under this system one new note is exchanged for a number of notes of the old currency.
- It is a very effective measure. But is inequitable for it hurts the small depositors the most.

2. **FISCAL MEASURES:** Monetary policy alone is incapable of controlling inflation. It should therefore be supplemented by fiscal measures. The principal fiscal measures are the following,

(i) **REDUCTION IN UNNECESSARY EXPENDITURE:**

- The government should reduce unnecessary expenditure on non-development activities in order to curb inflation.
- This will also put a check on private expenditure which is dependent upon government demand for goods and services.

(ii) **INCREASE IN TAXATION:**

- To cut personal consumption expenditure the rates of personal corporate and commodity taxes should be raised and even new taxes should be levied but the rates of taxes should not be as high as to discourage saving investment and production.

(iii) **INCREASE IN SAVINGS:**

- Another measure is to increase savings on the part of the people.
- This will tend to reduce disposable income with the people and hence personal consumption expenditure.

(iv) **SURPLUS BUDGETS:**

- An important measure is to adopt anti-inflationary budgetary policy.
- For this purpose the government should give up deficit financing and instead have surplus budgets.
- It means collecting more in revenue and spending less.

(v) **PUBLIC DEBT:**

- At the same time it should repayment of public debt and postpone it to some future date till inflationary pressures are controlled within the economy.

- Instead the government should borrow more to reduce money supply with the public.

(vi) **CONTROL OVER INVESTMENT:**

- Controlling investments is also considered necessary because due to the multiplier effect the initial investment leads to large increase in income and expenditure and the demand for both the consumer and capital goods goes up speedily.
 - a. The projects selected should be such as result in utilization of ideal capacity or in making provision for procurement of scarce raw materials spares etc.
 - b. These should have a short gestation period so that production of goods and services starts within the shortest possible time of those being undertaken.
 - c. Speculation in goods should be restrained as it aggravates the inflationary tendencies.

3. **OTHER MEASURES:** The other types of measures are those which aim at increasing aggregate supply and reducing aggregate demand directly.

(i) **INCREASING PRODUCTION:** The following measures should be adopted to increase production.

- a. One of the foremost measures to control inflation is to increase the production of essential consumer goods like food clothing kerosene oil, sugar vegetable oils etc.
- b. If there is need raw materials for such products may be imported on preferential basis to increases the production of essential commodities.
- c. All possible help in the form of latest technology raw materials financial help subsidies etc. should be provided to different consumer good sectors to increase production.

(ii) **RATIONAL WAGE POLICY:**

- Another important measure is to adopt a rational wage and income policy.
- Under hyper-inflation there is a wage price spiral.
- Therefore the best course is to link increase in wages to increase in productivity.

(iii) **PRICE CONTROL:**

- Price control and rational is another measure of direct control to check inflation.
- Price control means fixing an upper limit for the prices of essential consumer goods.

(iv) **RATIONING:**

- Rationing aims at distributing consumption of scarce goods so as to make them available to a large number of consumers.
- It is applied to essential consumer goods such as wheat rice sugar kerosene oil etc.

6. DEFINITION AND CHARACTERISTICS OF BUSINESS CYCLE:

6.1. MEANING AND DEFINITION OF BUSINESS CYCLE:

- Business cycle or trade cycle is a term that describes economic activity variations occurring in an almost regular time series in all the capitalist societies.
- The graph portrays like a wave when these indicators are plotted on it.
- Thus it is a regular phenomenon of rising and falling of the economic activity where each and every movement of rise and fall taken collectivity describes a trade cycle or a business cycle.

DEFINITION:

According to **KEYNES,** "a trade cycle is composed of periods of good trade characterize by rising prices and low unemployment percentages altering with periods of bad trait characterized by falling prices and high unemployment percentages".

6.2. CHARACTERISTICS OF BUSINESS CYCLE:

The essence and characteristics of business cycle is as follow,

(i) **RECURRING FLUCTUATION:**

- Business cycles are represented by variations which occur regularly in an unhindered pattern.
- This states that the repetition of expansion and contraction does not have a uniform or regular period.

(ii) **PERIOD OF BUSINESS CYCLE IS NO LONGER A YEAR:**

- The period of completion of a particular business cycle is around 3 to 4 days.
- But in the some cases the duration of the business cycle is either shorter or longer than that of the duration of a normal business cycle.
- Usually the period of business cycle is not less than one year.

(iii) **PRESENCE OF THE ALTERING FORCES OF EXPLATION AND CONTRACTION:**

- The interchangeable force of prosperity and depression in an economy that are in built in the system represent a business cycle.
- Initially the force is of low intensity but finally regained by a counter force which results in contraction ending up the process with depression.

(iv) **PHENOMENON OF THE CRISIS:**

- According to KEYNES business cycle is characterized by the event of crisis.
- It means that the peak and trough are uneven as the expansion phase of the business cycle ends up suddenly and depression slows down gradually.

(v) **SYNCHONYM:**

- Existing of business cycle is contemporary.
- They have an enfolding attribute of causing any changes in an individual industry or sector.
- For example there is a parallel occurrence of depression or contraction in all the industries or sectors of the economy.

(vi) **CONSUMPTION OF NON-DURABLE GOODS AND SERVICES:**

- A significant feature of business cycle is the consumption of non durable goods and services which are least affected by alternate phase of business cycle.
- Past data of business cycle clearly states that there is a great balance in the consumption of non durable goods.

(vii) **INVESTORIES OF GOODS:**

- Inventories of goods and services are largely affected by successive expansion and contraction.
- As depression sets in inventories boom ahead the required level resulting in the decrease of production of goods.

(viii) **PROFIT FLUCTUATES MORE THAN ANY OTHER TYPE OF INCOME:**

- Income from profit varies more in terms of income accruing from other sources.
- Uncertain situation that prevail during the occurrence of business cycle making it difficult for businessmen to predict the future economic conditions.

(ix) **INTERNATIONAL IN CHARACTER:**

- The important aspect of business cycle is that they are international in nature. As one country experiences the onset of business cycle it extends to other countries too due to business relations between them.
- USA being the large importer of goods from other countries if undergoes recession resulting into the decrees in the demand for imports from other countries negatively affecting the exports of other countries altogether.
- The recession of 1930's in USA and Great Britain has absorbed the entire capitalistic economics of the world.

7. PHASES OF BUSINESS CYCLE:

The distinct and closely related phases of business cycle are follows,

(i) **PROSPERITY OR EXPANSION:**

- In this phase there exist an optimistic feeling between businessman and industrialists that is represented by enhanced production high capital investment in fundamental industries.
- The level of economic activity rises which is not being the nature of X increased at cost of Y the whole system escalates.
- The whole process being initiated by these stimulants is named as starters or originating forces.

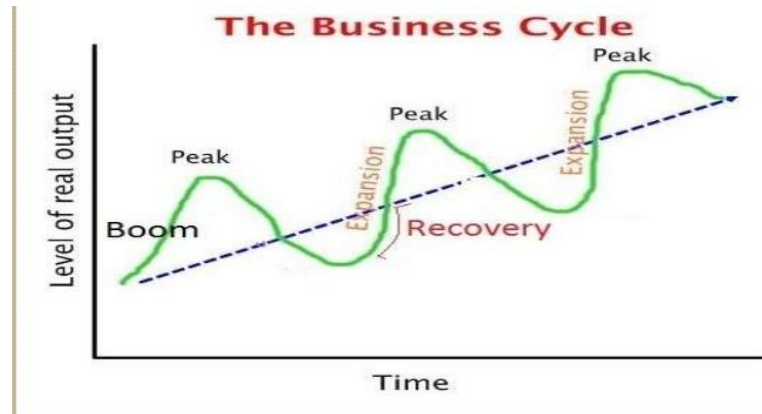


Figure: phases of business cycle.

(ii) **BOOM OR PEAK:**

- Prosperity attains the highest level and then the recession of the economic activity from the peak phase that is generally represented by retardation in the rate of expansion resulting in slowing of the growth and then reaching the peak.

(iii) **RECESSION:**

- The beginning of recession means that boom is over signifying liquidation in stock markets burden in the banking system clearance of some bank loans fall in prices acute decline in the demand for capital equipment and abandonment of new projects by the norms characterized by recession.
- The after effects of this phase are the prevalence of negative sentiments reduction in fresh investments debt recovery by banks, stocks liquidation and fall in prices.

8. STEPS TO AVOID BUSINESS CYCLES:

- Economic development of an economic is negatively affected by periodic fluctuation in business and economic activities.
- Therefore the government should take protective and corrective measures to maintain balance in economic system.
- Following are the steps/measures to avoid/control business cycle.

1. **PREVENTIVE MEASURES:**

- The aim of preventive measures is to avoid the happening of business cycles which include all measures that are chosen during the period of expansion to regulate purchases protection of assets and avoiding irresponsible credit expansion.

- (i) The existence of accurate connection between cyclical changes in common business activity and changes in the business of the given firm.
 - (ii) The quality of the cyclical price movements during the purchases and sales of the distinct business in respect to the general business cycle which has been secured by a business manager who has initiated the foremost crucial step in chalking out creative programs that is adaptable to the business cycle.
- The various protective measures against the effects of business cycles are as follow,
 - (i) Preservation of assets and avoidance of unnecessary increase in plant and equipment and in dividends during the expansion phase.
 - (ii) Curtailing the dependence of agricultural on nature
 - (iii) Equilibrium between demand and supply
 - (iv) Control on experimental activities and
 - (v) Nationalization of basic industries.

2. **CORRECTIVE MEASURES**: The main corrective measures are,

(i) **MONETARY POLICY**:

- The control over the supply of money and the cost of credit in the economy refers to monetary policy.
- Monetary policy is the utilization of various method of credit in the economy and various method of credit control by the central bank.
- The main method of quantitative measures is bank rate, open market operations changes in cash reserve ratio (CRR) and statutory liquidity ratio (SLR).
- The main measures of selective credit control are rationing direct action and normal persuasion.

(ii) **FISCAL POLICY**:

- Fiscal policy caters to the achievement of certain objectives by managing public revenue expenditure and public debt.

- Therefore fiscal policy of the government is cable to control cyclical fluctuations by inducing suitable changes in taxation public expenditure and public debt policies.

(iii) **DIRECT CONTROLS:**

- For fast and effective control of business cycle government applies direct physical controls that includes licensing, rationing of scarce and essential commodities control of prices and wages export import control over exchange hoardings and black marketing and control of monopolistic and restrictive trade practices (MRTP) etc.

(iv) **AUTOMATIC STABILISERS:**

- To deal with the business cycles economists have suggested introducing several automatic stabilizers or build in stabilizer.
- These are the economic shock absorbers which facilitates in the smooth flow of the mutual cyclical business fluctuations.
- The application of this tax on the people in higher income group is comparatively higher than those who are in the lower income group.

(v) **FIXED INVESTMENTS POLICY:**

- To control the cyclical movement of business is the other aspect of the fixed investment policy.
- It helps in planning a building programme.
- On the basis of these past records it empowers the normal growth rate to be determined accurately to plan in advance for future development.

(vi) **AD SPEND POLICY:**

- Deceleration in economy slows down the firms curtailing their advertisement budgets to augment their own profitability.
- Some major business corporate and FMCG companies do believe but strive to enhance their advertisement budgets considerably.
- Other companies like Coca-Cola, Pepsi, Godrej soaps, Dabur India, Pharma Major, Smith line Beecham are the examples of raising their ad spend in 2001 in comparison to 2000.

Prepared By

V.SREERAM YASHASVEE L.L.B., M.B.A., (C.A)

ASSISTANT PROFESSOR

BALAJI INSTITUTE OF IT AND MANAGEMENT, KADAPA