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BUSINESS ECONOMICS

B.COM [H] II SEM

- 400+ MCQs
- Brief and Intensive Notes

MR. RAHUL AGARWAL

Syllabus

Unit I	Nature and scope of Business Economics; Relationship between Economic theories and Business Economics, Law of demand. Elasticity of demand: Concept, types and methods of measurement; Significant of elasticity of demand in business decisions, Demand Estimation and Demand Forecasting. Indifference Curve Technique: Some applications of indifference curves.
Unit II	Production Function; Cobb Douglas Production Function, Law of Returns; Returns to scale and scope; Economies and diseconomies of scale, Costs in the Short Run; Long- Run Cost Curves; L' shaped cost curves, Cost functions; Derivation of AC and MC functions-simple calculations. Break Even Analysis. Concept and measurements
Unit III	Price and Output Decisions under Perfect Competition, Monopoly and Monopolistic Competition through diagrams and numerical measurements. Oligopoly Features, price leadership, Kinked Demand under oligopoly. Pricing policies
Unit IV	National Income Analysis-Concepts and measurements. Consumption function and investment function, Business Cycles-Various phases and theories. Inflation-meaning, causes and effects.

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UNIT-1

Business Economics- Meaning, Nature, Scope and significance

Introduction and meaning:

Business Economics, also called Managerial Economics, is the application of economic theory and methodology to business. Business involves decision making. Decision making means the process of selecting one out of two or more alternative courses of action. The question of choice arises because the basic resources such as capital, land, labour and management are limited and can be employed in alternative uses. The decision-making function thus becomes one of making choice and taking decisions that will provide the most.

NATURE OF BUSINESS ECONOMICS:

The following points will describe the nature of Business Economics:

- **Business Economics is a Science** - Science is a systematized body of knowledge which establishes cause and effect relationships. Business Economics integrates the tool of decision sciences such as Mathematics, Statistics and Econometrics with Economic Theory to arrive at strategies to achieve business goals.

- **Based on Micro Economics** – Business Manager is concerned about achievement of the predetermined objectives of his organization so as to ensure the long-term survival and profitable functioning of organization. Since Business Economics is concerned more with the decision-making problems it takes help of micro economics tools.

- **Incorporates elements of Macro Analysis** – Macro Economics elements like general price level, income and employment level in the economy and government policies related to taxation, Interest rates, exchange rates, industries, prices, distribution, wages etc. affects the business. Business Manager must be acquainted with these elements as they influence business environment.

- **Business Economics is an Art** – It involves practical application of rules and principles for attainment of set objectives.

- **Use of Theory of Markets and Private Enterprises** – Business Economics uses theory of firm and resource allocation in backdrop of private enterprise economy.

- **Pragmatic in Approach** – Business Economics is practical in approach as it tackles practical problems which the firms face in real world.

• **Interdisciplinary in Nature** – Business Economics uses tools from other subjects like Mathematics, Operation Research, Management Theory, Accounting, Marketing, Finance, Statistics and econometrics.

• **Normative in Nature** – Economic Theory has developed along two lines – positive and normative.

POSITIVE:

- Positive and Pure Science analyses cause and effect relationship but does not involve any judgement.
- It states 'what is the state of affairs.
- It is descriptive in nature and describes the economic behaviour of individuals or society without prescriptions about the desirability of such behaviour.

NORMATIVE:

- It involves value judgments.
- It states 'what should be' a particular course of action under given circumstances.
- It is prescriptive in nature and in it welfare considerations are embedded.

Business Economics requires both the concepts positive and Normative in nature. It is normative as it suggest the application of economic principles for policy formulation and decision making .However it also need to understand the environment thus involves study of positive theory .efficient means of attaining a desired end, say, profit maximization.

Scope of Business Economics:

As regards the scope of business economics, no uniformity of views exists among various authors. However, the following aspects are said to generally fall under business economics.

1. Demand Analysis and Forecasting: A major part of business decision making depends on accurate estimates of demand. A demand forecast can serve as a guide to management for maintaining and strengthening market position and enlarging

profits. Demands analysis helps identify the various factors influencing the product demand and thus provides guidelines for manipulating demand.

Demand analysis and forecasting provided the essential basis for business planning and occupies a strategic place in managerial economics.

2. Cost and Production Analysis: Production and cost analysis are crucial for businesses to make informed decisions about pricing, production, and resource allocation. By understanding how changes in inputs affect outputs and the costs associated with producing those outputs, businesses can make adjustments to their strategies to maximize revenue.

3. Pricing Decisions, Policies and Practices: Pricing is an important area of business economic. In fact, price is the genesis of a firm's revenue and as such its success largely depends on how correctly the pricing decisions are taken.

4. Profit Management: Profit management means the manipulation of financial statement items within the framework of accounting standards that may be for the benefit of the company or for the benefit of the opportunity. There are many incentives for profit management, for example managers use profit managers to pay less tax. This may be through accruals, or for managers to increase their rewards to manage profits and show more profits. Other incentives for earnings management include attracting investors, reducing earnings fluctuations and keeping track of the business and reputation of managers, etc.

5. Capital Management: Among the various types business problems, the most complex and troublesome for the business manager are those relating to a firm's capital investments. Relatively large sums are involved and the problems are so complex that their solution requires considerable time and labour. Often the decision involving capital management are taken by the top management. Briefly Capital management implies planning and control of capital expenditure.

RELATION BETWEEN ECONOMIC THEORIES AND BUSINESS

- Economics focuses primarily with the theoretical aspect whereas Business Economics devotes with the practical aspect. The former is associated with concepts, theories, models and building theoretical framework. The latter is associated with the applications of the selected theories and concepts to solve business problems and help the business decision making process.

- Business Economics is fundamentally micro-economic in nature. It studies the activities of an individual firm or unit. There is an extensive application of the concepts and theories of microeconomics in it. The Economics has both micro and macro aspects within its purview.

- Business Economics is essentially normative in nature. But, the Economics is concerned with both positive and normative economics. Positive Economics explains the economic phenomena as they are, while normative economics discusses as to what they ought to be. Business Economics explains what objectives and avenues a business should pursue and how they are to be. Therefore, it is normative in nature.

- Economics studies the complex economic phenomena and rational human behaviour by developing certain meaningful and consistent assumptions, hypothesis and developing models. Business Economics endeavours to solve real life complex business problems. It selectively applies economic models with required modifications to solve the business problems.

- Economics concentrates only the economic aspect of the problems but Business Economics deals with some non-economic aspects of the problems along with the economic aspects.

- Business Economics focuses on the theory of profit only. Whereas, the Economics has within its ambit not only profit maximization but also other aspects like Utility maximization, distribution theories of wage, rent interest and welfare economics as well.

- The scope of Business Economics is restricted as compared to the scope of the economics.

LAW OF DEMAND AND ELASTICITY OF DEMAND

THE LAW OF DEMAND

The law of demand states that **the demand for a commodity increases when its price decreases and it falls when its price rises, other things remaining constant**. This is an empirical law, i.e., this law is based on observed facts and can be verified with new empirical data. As the law reveals, there is an *inverse relationship* between the price and quantity demanded. The law holds under the condition that "other things remain constant". "Other things" include other determinants of demand, viz., consumers' income, price of the substitutes and complements, taste and preferences of the consumer, etc.

These factors remain constant only in the short run. In the long run they tend to change. The law of demand, therefore, hold only in the short run.

ASSUMPTIONS OF LAW OF DEMAND

- There is no change in the tastes, habits and preferences of the consumer.
- 2. The income of the consumer remains constant.
- 3. Prices of the related goods do not change.
- 4. Consumers do not expect any change in the price and quality of the commodity in the near future.
- 5. There should not be any substitutes of the commodity.

EXCEPTIONS OF THE LAW OF DEMAND.

- **Inferior Goods**: Cheap necessary goods are good examples of exceptional demand.
  Inferior goods are often low-cost replacement goods that are seen as poorer quality. Consumers with lower incomes often purchase inferior goods to stretch their money. Examples of inferior goods are low-quality clothing, boxed and canned food and no-name brands of staple products.

- **Articles of Ostentation**: There are some commodities which appear desirable only if they are expensive. Some articles of jewellery, expensive motor-cars,

fur coats, etc. fall within this category. Higher the prices of these articles, the greater the quantity of them the rich wish to own. It is so because the higher prices give the articles greater exclusiveness in the eyes of purchasers. Sometimes economist, Veblen effect after the name of the American economist, Thorstein Veblen who wrote in 1899 his famous book 'Theory of the Leisure Class Veblen effect is that phenomenon whereby as the price of a good falls some consumers consider this as a reduction in the quality of the good and stop buying it. Consequently, the market demand curve will become steeper than would otherwise be predicted. It could even slope upwards in contradiction to the law of demand.

- **Price as Indicator of Quality:** Where the price of the product is taken as an indicator of its quality, e.g., wine, more will be purchased at higher prices.
-
- **Speculation**: Where there is a speculative element in the purchase of an article, e.g., stocks and shares, the law of demand will not hold. So if it is believed that the price of a commodity is likely to be higher in the future than at present, then, even though the price has already risen, more of the commodity may be bought at the higher price This may happen on the outbreak of a war or during an emergency

ELASTICITIES OF DEMAND

A "measure of the degree to which the quantity purchased will respond to a change in any single variable is called its elasticity with respect to that variable." And the measure of the responsiveness of the quantity demanded of a good relative to a change in its price is called price elasticity of demand for the good.

Since demand changes due to changes in income as well, the response of demand to price changes is called the price elasticity of demand and response of demand to income changes as income elasticity of demand.

The proportional change in the quantity purchase divided by the proportional change in price. [Hirshleifer and Glazer]

TYPES OF ELASTICITY OF DEMAND

- **PRICE ELASTICITY OF DEMAND**
- **INCOME ELASTICITY OF DEMAND**
- **CROSS-ELASTICITY OF DEMAND**

PRICE ELASTICITY OF DEMAND

The price elasticity of demand is defined as the value of the relative (percentage) change in the quantity of a commodity demand to the relative (or percentage) change in its price.

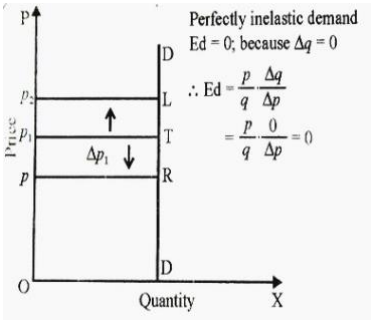
Precisely, if we suppose that the demand changes from (q) to (q+Δq) when the price changes from (p) to (p + Δp), then the elasticity of demand as per definition is given by:

$$\textbf{ED} = \frac{\text{Proportionate (percentage) change in quantity demand}}{\text{Proportionate (percentage) change in price}}$$

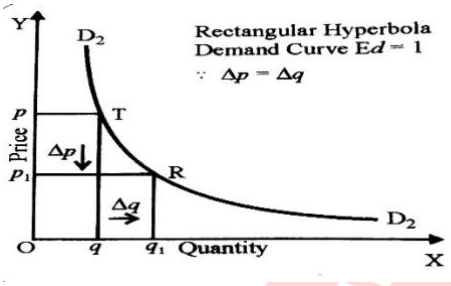
$$Ed = \frac{\Delta q/q}{\Delta p/p} = \frac{p}{q} \cdot \frac{\Delta q}{\Delta p}$$

- Where **q** refers to quantity demanded
- **P** refers to price.
- Δ refers to change.

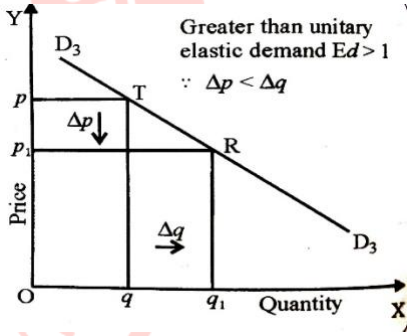
TYPES OR DEGREES OF PRICE ELASTICITY OF DEMAND



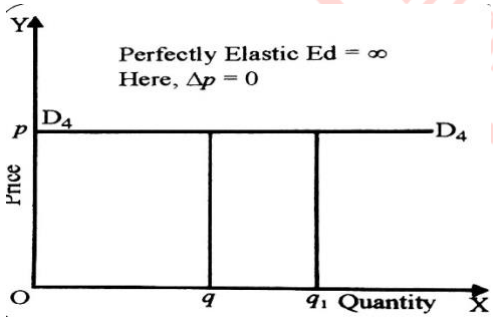
(i) **Perfectly Inelastic Demand:** Ed is zero if there is no change in quantity demanded when price changes. Here the quantity demanded does not respond to a price change. Zero elasticity is said to be perfectly, completely or absolutely inelastic demand.



(ii)Inelastic Demand: The numerical value of elasticity exceeds zero when the response of the quantity demanded to a change in price is positive. Larger the response the greater is the elasti*ci*ty. Suppose the elasticity of demand is greater than zero but less than one. And the percentage change in quantity demanded is less than the percentage change in price. Demand is said to be inelastic.

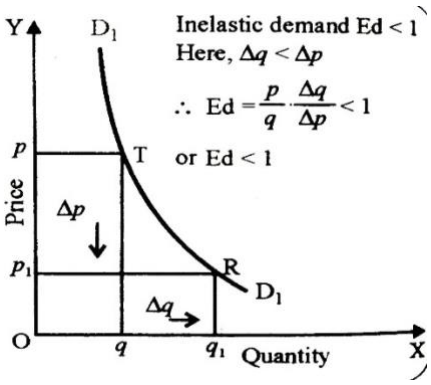


(iii)**Unitary Elastic Demand**: Suppose that the numerical value of elasticity is one (Ed = 1). It is the case of unit elasticity or elasticity is said to be unity. Unit elasticity means that the percentage change in quantity demanded is equal to the percentage change in price.



(iv)Highly Elastic Demand: Let us take the case of the numerical value of elasticity greater than one (Ed>1). Such a demand is said to be an elastic demand. An elastic demand curve is a flatter. In this case, the percentage change in quantity demanded is greater than the percentage change in price.

(v) **Perfectly Elastic Demand:** When the demand is infinitely elastic, there exists some small price reduction that will raise demand from zero to infinity. Above this critical price, nothing is purchased. At this critical price, consumers purchase all that they can get. demand curve and is shown as a horizontal line parallel to the base. The numerical value of such elasticity is infinity, Ed = ∞.



INCOME ELASTICITY OF DEMAND

The relation between changes in income and changes in consumption of a good can be expressed through the concept of income elasticity of demand. It is the ratio of the percentage change in the quantity demanded to the percentage change in income. Thus,

$$E\gamma = \frac{\Delta Q/Q}{\Delta Y/Y}$$

Ey = income elasticity of demand

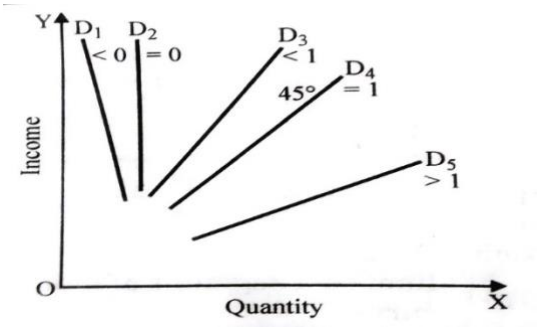
Where, Q = quantity demanded

Y = income of the consumer

"Income elasticity of demand is the proportional change in the quantity purchased divided by the proportional change in income."

[-Hirshleifer and Glazer]

TYPES OF INCOME ELASTICITY OF DEMAND



(i)Zero Income Elasticity of Demand: Income changes causing no change in the quantity demanded result in zero elasticity (ηγ = 0) as shown by the demand curve D2 drawn at a right angle on X-axis.

(ii)Unitary Income Elasticity: Equal percentage change in income and quantity demanded results in the income elasticity of 1 ($\eta\gamma = 1$). It is shown by the demand curve D4 drawn at an angle of 45°.Income elasticity of 1, i.e., unity is again as important here as in the case of price elasticity of demand. It is the dividing line between elastic and inelastic demand.

(iii) Income Elasticity of Demand less than one: When one per cent increase in income leads to less than one per cent increase in the quantity demanded, income elasticity is less than one as shown by the demand curve D3. Numerical value of income elasticity between 0 and 1 stands for inelastic demand.

(iv) Income Elasticity of Demand greater than one: If one percent increase in the income of the consumer causes more than one per cent increase in the quantity demanded, elasticity is said to be higher than one ($\eta\gamma > 1$) as shown by demand curve D5. Demand in, this case, is elastic.

(v) Negative Income Elasticity of Demand: Finally, there is the demand curve D1 standing for negative elasticity ($\eta\gamma < 0$, i.e. negative) the income elasticity of demand (YED) is the responsiveness of the quantity demanded for a good to a change in consumer income. It is measured as the ratio of the percentage change in quantity demanded to the percentage change in income.

CROSS-ELASTICITY OF DEMAND

The concept of cross-elasticity of demand is useful in handling inter-commodity relations. It measures the responsiveness of quantity demanded of one product (say, X) to changes in the price of the other product (say, Y). This measure is expressed as

$$\mathbf{EXY} = \frac{\text{Percentage change in the quantity demanded of one good (X)}}{\text{Percentage change in the price of another good (PY)}}$$

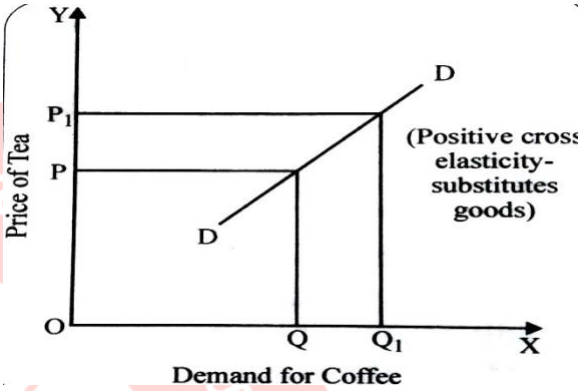
$$= \frac{\Delta Q\chi/Q\chi}{\Delta P\gamma/P\gamma}$$

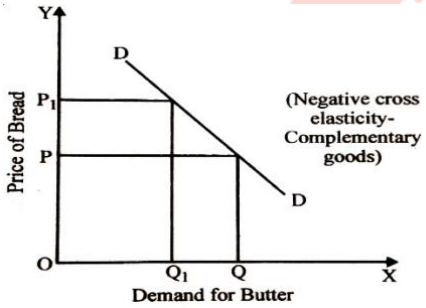
Cross-elasticity (EXY) can vary from minus infinity to plus infinity. It is positive in the case of substitute goods because the quantity change and the price change

are in the same direction. But for complementary goods, cross-elasticity is negative because changes in the price of one good cause changes in the quantity demanded of another good in the opposite direction.

TYPES OF CROSS-ELASTICITY OF DEMAND

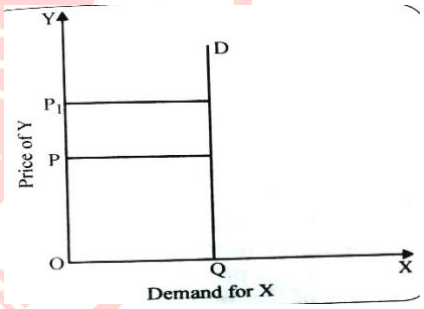
1. **Positive Cross Elasticity:** A positive cross elasticity of demand means that the demand for good A will increase as the price of good B goes up. This means that goods A and B are good substitutes. so that if B gets more expensive, people are happy to switch to A.





2. **Negative Cross Elasticity**: When the demand for a commodity change in opposite direction with the change in the price of its related commodity the demand is called negative cross elasticity.

3. Zero Cross Elasticity: Cross elasticity of demand of goods can be zero when the goods are independent of each other. Unrelated goods do not influence the change in demand of another product, unless other factors than price are playing a role



SIGNIFICANCE OF ELASTICITY DEMAND IN BUSINESS DECISION MAKING.

1. **Pricing Strategy**: Understanding the elasticity of demand helps businesses determine the optimal price for their products or services. If demand is elastic, a decrease in price can lead to a significant increase in demand, while an increase in price may result in a decrease in demand. On the other hand, if demand is inelastic, price changes may have a smaller impact on demand.

2. **Revenue Management**: By analysing the elasticity of demand, businesses can identify price points that maximize their revenue. For example, if demand is elastic, a slight decrease in price might attract more customers, resulting in higher overall revenue.

3. **Product Development**: Elasticity of demand also plays a role in product development decisions. If demand for a particular product is elastic, businesses may consider introducing variations or complementary products to cater to different customer segments and increase overall demand.

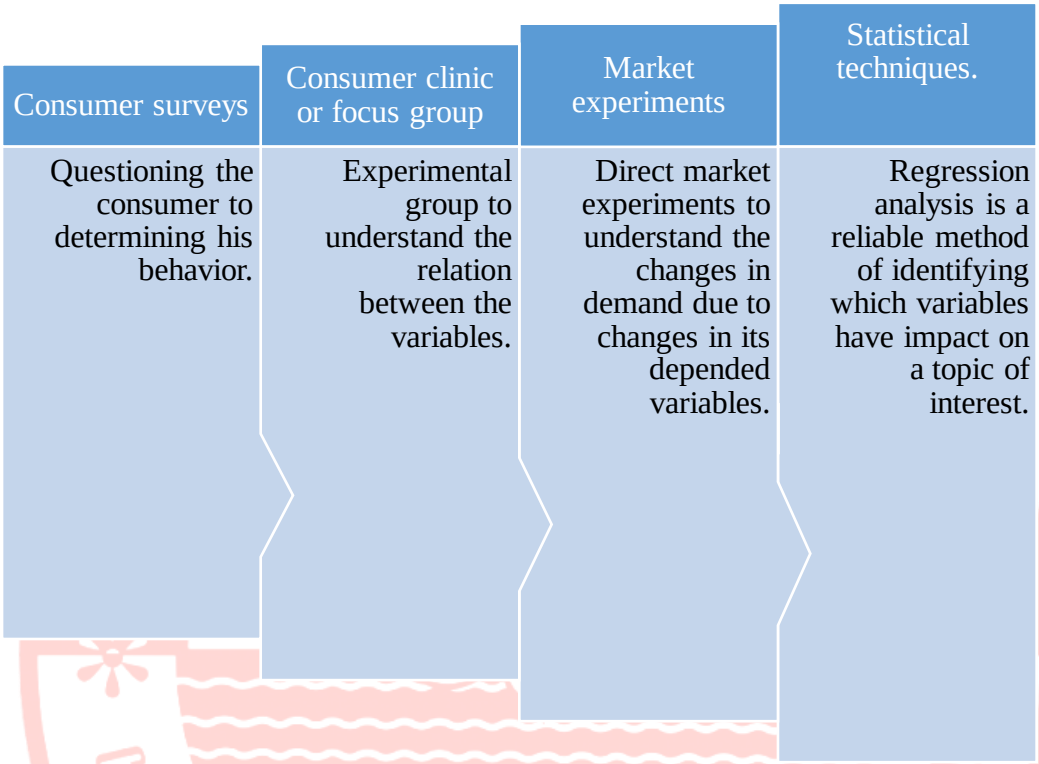
4. **Marketing and Promotion:** Elasticity of demand helps businesses understand how responsive consumers are to marketing efforts. If demand is elastic, businesses may invest more in advertising and promotions to attract price-sensitive customers and stimulate demand.

5. **Forecasting and Planning:** By considering the elasticity of demand, businesses can make more accurate sales forecasts and plan their production and inventory levels accordingly. This helps prevent overproduction or underproduction, optimizing resource allocation and reducing costs.

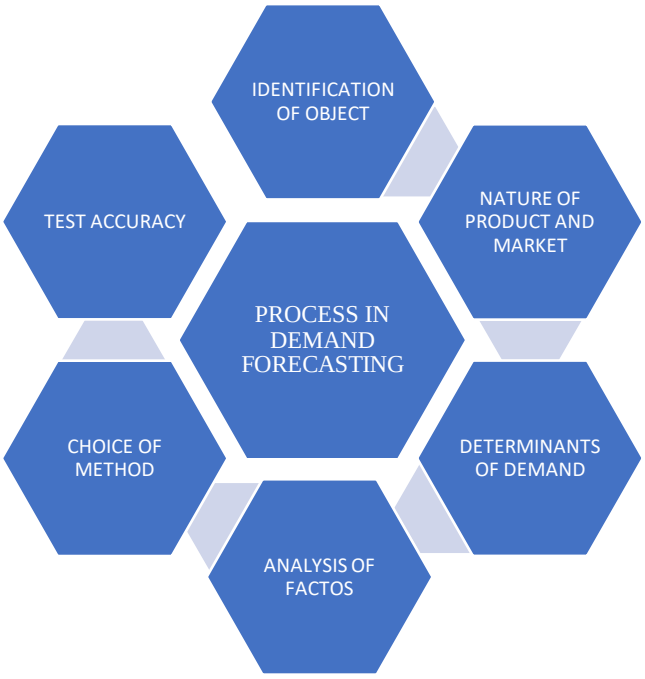
DEMAND ESTIMATION AND DEMAND FORECASTING.

Demand estimation: It refers to the process of estimating or predicting the demand for a product or service in the market. It involves analysing various factors such as consumer behaviour, market trends, pricing, and competition to determine the potential demand for a particular offering. Businesses use demand estimation to make informed decisions about production levels, pricing strategies, and resource allocation. It helps them understand the market demand and plan their operations accordingly.

TOOLS OR TECHNIQUES OF DEMAND ESTIMATION.



Demand forecasting is the process of predicting future sales by using historical data to make informed business decisions about everything from inventory planning, and warehousing needs to running promotions and meeting customer expectations. **Demand forecasting** helps the business estimate the total sales and revenue for a future period of time. The predictions depend upon the past sales pattern and the continuing trend and user behaviour in the present. Subsequently, it is not just simply estimating the future demands but combining several techniques for estimating the demand scientifically and objectively.



METHOD FOR DEMAND FORECASTING

Delphi Method	Market Research	Expert Opinion	Consumer Panels	Salesforce Opinion
A panel of experts provides their opinions and forecasts about future demand.	Surveying customers, suppliers, or industry experts to gather their opinions and expectations about future demand.	Experts in a particular field or industry to gather their opinions and expectations about future demand.	A group of representative consumers and asking them about their future purchasing intentions.	Consulting with salespeople to gather their opinions and expectations about future demand.

INDIFFERENCE CURVE.

The indifference curve is generally held to have been invented in 1881 by the English economist, F. Y. Edge worth (1845-1926). It was carried to the continent of Europe where the Italian economist, Vilfredo Pareto (1848-1923), made extensive use of indifference curves in 1906. Eugen Slutsky, the Russian economist and econometrician, argued that demand theory could be based on the concept of ordinal utility in an article published in 1915. In 1934 the two English economists, R. G. D. Allen (1906-1983) and J. R. Hicks (1904-1989) developed a full-fledged theory of consumer demand based on indifference curves.

The indifference curve is a geometrical device that has been used to replace the neo-classical cardinal utility concept. The indifference curve analysis measures, utility ordinally. It explains consumer behaviour in terms of his preferences or rankings for different combinations of two goods, say X and Y. An indifference curve is drawn from the indifference schedule of the consumer.

An indifference curve is a curve, which represents different combination of two commodities yielding equal satisfaction to the consumer. Since all the combinations on an indifference curve give equal satisfaction to the consumer, the consumer is indifferent among them. In other words, since all the combinations provide the same level of satisfaction the consumer prefers them equally and does not mind, which combination he gets.

TECHNIQUES RELATED TO INDIFFRENCE CURVE

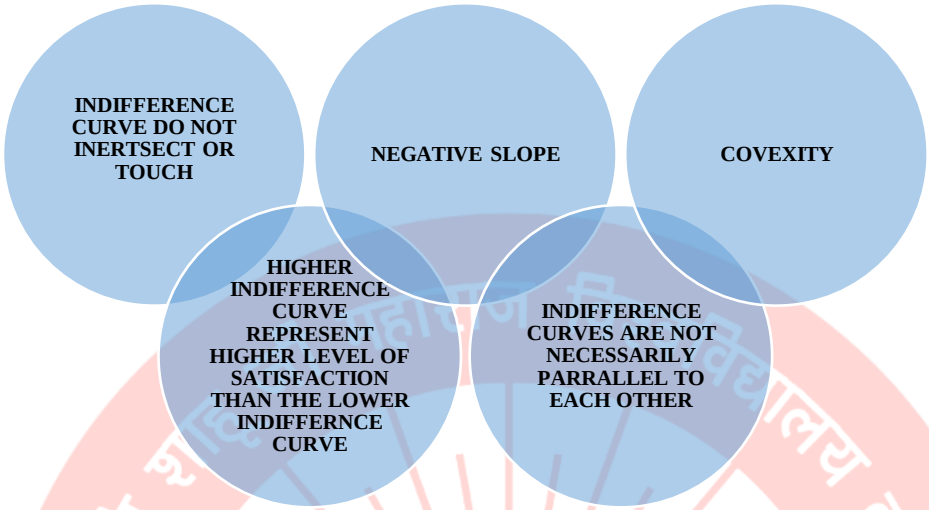
1. Marginal Rate of Substitution (MRS): This technique measures the rate at which a consumer is willing to exchange one good for another while maintaining the same level of satisfaction. It shows the trade-off between goods and helps us understand consumer preferences.

2. Indifference Map: This technique involves plotting multiple indifference curves on a graph to represent different levels of satisfaction. By comparing these curves, we can see how consumer preferences change and make choices accordingly.

3. Budget Constraint: This technique combines the consumer's preferences with their budget limitations. It shows the different combinations of goods that a consumer can afford, considering their income and the prices of goods.

4. Consumer Equilibrium: This technique determines the optimal combination of goods that maximizes a consumer's satisfaction, given their budget constraint. It occurs at the point where the indifference curve is tangent to the budget constraint.

CHARACTERISTICS OR PROPERTIES OF INDIFFERENCE CURVES.



APPLICATION OF INDIFFERENCE CURVE.

1.**Consumer Choice:** Indifference curves help us understand how consumers make choices between different goods and services based on their preferences and budget constraints.

2. **Welfare Economics**: Indifference curves can be used to analyse the welfare implications of different policy changes, such as taxation or price controls.

3. **Production Possibilities**: By combining indifference curves with production possibilities curves, we can analyse trade-offs and optimal production choices for firms.

4. **International Trade:** Indifference curves can be used to analyse patterns of trade between countries and understand the gains from trade.

Multiple choice questions

1. The term 'Economics' owes its origin to the Greek word

- Aikonomia
- Wikonornia
- Oikonomia
- None of these

2.Business Economic is___

- Abstract and applies the tools of Microeconomics.
- Involves practical application of economic theory in business decision making.
- Incorporates tools from multiple disciplines.
- (b) and (c) above.

3.Business Economics is also known as?

- Applied Economics
- Managerial Economics
- Micro Economics
- All of the above

4. The management of a business unit generally needs to make

- Strategic Decision
- Tactical Decision
- Operational Decision
- All of the above

5.Concept of Business Economics was given by:

- Joel Dean
- Alfred Marshall
- Adam Smith
- L. Robbins

6. Which one of the following is incorrect about Business Economics?

- It is applied economics that fills the gap between economic theory and business practice.
- Business Economics integrates economic theory with business practice.
- Business Economics is also referred to as Managerial Economics.
- Business Economics is more concerned with Macro Economics.

7.Business Economics is essentially a component of as it includes application of selected quantitative techniques.

- Pure Economics
- Applies Economics
- Statistical Economics
- None of the above

8. Which of the following is not included in Economics?

- Family Structure
- Managerial Economics
- Micro Economics
- Macro Economics

9.Which of the following is not the subject matter of Business Economics?

- Should our firm be in this business?
- How much should be produced and at price should be kept?
- How will the product be placed in the market?
- How should we decrease unemployment in the economy?

10.Business Economics enables application of economic logic and analytical tools to__

- Bridge the gap between theory and practice.
- Increase the implementation science.
- Increase the effectiveness.
- Apply tools of macro-economics.

11.Which of the following is a normative statement?

- Planned economies allocate re-sources via government departments.
- Most transitional economies have experienced problems of falling output and rising prices over the past decade.
- Reducing inequality should be a major priority for mixed economies.
- There is a greater degree of consumer sovereignty in market economies than planned economies.

12.Business Economics relies heavily on the technique of ___

- Marco Economics.
- Micro Economics.
- Normative science only.
- Economics discipline only.

13.An example of 'positive' economic analysis would be:

- Determining how much income each person should be guaranteed.
- Determining the 'fair' price for food.
- An analysis of the relationship between the price of food and the quantity purchased.
- Deciding how to distribute the output of the economy.

15.Business Economics is ___in its approach as it tackles practical problems which the firm faces in the real world.

- Scientific.
- Programmatic.
- Theoretical.
- Mathematical.

16.The difference between positive and normative Economics is:

- Positive Economics explains the performance of the economy while normative Economics finds out the reasons for poor performance.
- Positive Economics describes the facts of the economy while normative Economics involves evaluating whether some of these are good or bad for the welfare of the people.

- Normative Economics describes the facts ofthe economy while positive Economics involves evaluating whether some of these are good or bad for the welfare of the people.
- Positive Economics prescribes while normative Economics de-scribes.

17.Business Economics is generally in nature.

- Normative
- Prescriptive
- Normative or Prescriptive.
- Theoretical

18. Which of the following statements is incorrect?

- Business economics is normative in nature.
- Business Economics has a close connection with statistics.
- Business Economics need not about macro variables.
- Business Economics is also called Managerial Economics.

19.Although business economics combines the essentials of normative and positive economic theory but the emphasis is on:

- Positive
- Normative.
- Both Positive and Normative
- Neither Positive nor Normative.

20. Business Economics is

- Normative in nature.
- Interdisciplinary in nature.
- Both.
- None.

21.Business Economics incorporates tools from other disciplines such as Mathematics, operations Research, Management theory, Accounting, etc. Therefore, Business Economics is

- Intra-disciplinary.
- Inter-disciplinary.
- Multi-disciplinary.
- Flexi-disciplinary.

22.Business Economics involves the elements of

- Micro Environment
- Macro Environment
- Both (a) and (b).
- None of the above.

23.Law of demand is violated when:

- Income effect is negative
- Substitution effect is negative
- Negative income effect is greater than substitution effect
- Negative income effect is less than substitution effect

24.In case of which of the following goods the demand curve moves from left to right

- Normal goods
- Articles of distinction
- Substitute goods
- Giffen goods

25.Increase in demand occurs due to:

- Decrease in price of the complementary good
- Increase in income of the consumer
- Increase in price of the substitutes
- All of these

26.In the case of an inferior good, the income elasticity of demand is:

- Positive
- Zero
- Negative
- Infinite

27.Methods used to measure Price Elasticity of Demand:

- Percentage Method
- Total Method
- None of these
- Both (a) and (b)

28.The formula of Cross-elasticity of Demand is:

- $E\chi\gamma = \frac{\Delta Q\chi/Q\chi}{\Delta P\gamma/P\gamma}$
- $E\chi\gamma = \frac{\Delta Q\chi/P\gamma}{\Delta P\gamma/Q\chi}$
- $E\chi\gamma = \frac{\Delta P\gamma/P\gamma}{\Delta Q\chi/QX}$
- $E\chi\gamma = \frac{\Delta P\gamma/Q\chi}{\Delta Q\chi/P\gamma}$

29.Factors influencing Price Elasticity of Demand are:

- The possibility of substitution
- Redistribution of income
- The type of goods
- All of these

30.Who propounded the concept of elasticity of demand?

- Marshall

- Hicks
- Smith
- Samuelson

32.The elasticity of demand explains the relationship between:

- Income and demand
- Price and demand
- Price of substitute and demand
- Utility and demand

33. Price elasticity of demand is best defined as:

- The change in the tastes of consumers at different prices.
- The rate of response of demand to a change in supply.
- The rate of response of demand to a change in price.
- Being dependent on whether the goods are a luxury or not.

34. Demand for a commodity is elastic when:

- Change in price causes a greater change in its demand.
- Change in price does not change its demand.
- Changes in national income causes change in demand.
- Change in price does not change the consumer income.

36. Demand is elastic when:

- Change in price does not change in demand.
- Change in fashion causes a great change in demand.
- Change in income causes a change in demand.
- Small change in price causes big changes in demand.

37.Demand for electricity is elastic because:

- It is very expensive.
- It has a number of close substitutes
- It has alternative uses

- None of these

38.Cross elasticity of demand between petrol and automobiles is:

- Negative.
- Zero.
- High.
- Infinite.

38.Cross elasticity of demand between two perfect substitutes will be:

- Very high.
- Very low.
- Infinity.
- Zero.

39.Income elasticity of demand will be zero when a given change in income brings about:

- A less than proportionate change in quantity demanded
- A more than proportionate change.
- The same proportionate change in demand.
- No change in demand.

40.If the income elasticity of demand is greater than 1, the commodity is:

- A necessity.
- A luxury.
- An inferior good.
- A non-related good.

41.When there is no change in quantity demanded in response to any change in it is a situation of:

- Zero price elasticity.
- Infinite price elasticity.
- Unitary price elasticity.

- None of these.

42.What will be elasticity of demand when demand curve is parallel to Y-axis?

- Unity.
- Zero.
- Less than unity.
- More than unity.

43.Identify the coefficient of price-elasticity of demand, when the percentage increase in the quantity of a good demanded is smaller than the percentage fall in the price:

- Equal to one.
- Greater than one.
- Smaller than one.
- Zero

44.If the demand for a good is inelastic, an increase in its price will cause the total expenditure of the consumers of the good to:

- Remain the same.
- Increase.
- Decrease.
- Any of these.

45.In case of an inferior good, the income elasticity of demand is:

- Positive.
- Zero.
- Negative.
- Infinite.

46.If a good is a luxury, its income elasticity of demand is:

- Positive and less than one
- Negative, but greater than (-) one

- Positive and greater than one.
- Zero

47.When the numerical value of cross elasticity between two goods is very high, it means:

- The goods are perfect complements and therefore have to be used together.
- The goods are perfect substitutes and can be used with ease in place of one another.
- There is a high degree of substitutability between the two goods.
- The goods are neutral and therefore cannot be considered as substitutes.

48.As the flatness of the demand curve increases, the elasticity of demand becomes:

- Higher.
- Lower.
- Equal to infinity.
- Perfect inelastic.

49.Elasticity is greater than unity for:

- Necessaries
- Complementary goods
- Luxuries
- Comforts

50. When the slope of demand curve = 0, the elasticity of demand is:

- 0
- 1
- ∞
- None of these

51. When demand curve is parallel to X-axis, elasticity of demand is :

- Unity
- Zero
- Greater than unity
- Infinity

52.Which of the following best describes the significance of elasticity of demand in business decision-making?

- It helps businesses determine the optimal pricing strategy.
- It assists businesses in forecasting and planning production.
- It aids businesses in understanding consumer responsiveness to marketing efforts.
- All of the above.

53.How can businesses use the concept of elasticity of demand to make informed decisions about their product offerings?

- By introducing variations or complementary products to cater to different customer segments.
- By setting prices based solely on their production costs.
- By relying on advertising and promotions to increase demand.
- None of the above.

54.How does the elasticity of demand help businesses in setting their pricing strategy?

- It helps businesses determine the optimal price that maximizes revenue.
- It assists businesses in understanding consumer preferences.
- It allows businesses to set prices based ontheir production costs.
- None of the above.

55.Why is understanding the elasticity of demand important for businesses when it comes to pricing their products or services?

- It helps businesses determine the optimal price that maximizes revenue.
- It allows businesses to set prices based solely on their production costs.
- It helps businesses understand consumer preferences.

- None of the above.

56.How does the concept of elasticity of demand apply to different types of products or services?

- It can vary depending on the nature of the product or service.
- It remains constant regardless of the product or service.
- It only applies to luxury goods and not essential products.
- None of the above.

57. How does elasticity of demand impact pricing decisions?

- Inelastic demand allows for higher prices
- Elastic demand requires lower prices to attract customers
- Elasticity of demand has no influence on
- pricing decisions
- It depends on the industry and competition

58. What role does elasticity of demand play in product development?

- It helps determine the features and quality of a product
- It influences the marketing strategy for a product
- It affects the pricing strategy for a product
- None of the above

59. Which of the following factors can influence the elasticity of demand for a product?

- Availability of substitutes
- Brand loyalty
- Income level of consumers
- All of these

60.How can businesses use elasticity of demand data to make informed decisions?

- Adjusting pricing strategies to maximize revenue

- Determining the optimal quantity to produce
- Identifying potential market segments
- All of the above

61.Which stakeholders are involved in analysing the elasticity of demand for businesses?

- Business owners
- Marketing teams
- Economists
- All of the above

62. How can businesses use elasticity of demand to gain a competitive advantage?

- Identifying price points that maximize revenue
- Adjusting production levels to meet demand
- Developing effective marketing campaigns
- All of the above

63.Demand estimation is the process of:

- Determining the quantity of a product consumers are willing to buy at different prices.
- Predicting future demand based on historical data.
- Calculating the cost of producing a product.
- Analysing market trends and competition.

64. Demand forecasting is used to:

- Determine the optimal pricing strategy for a product.
- Predict future demand based on historical data and market trends.
- Estimate the cost of producing a product.
- Analyse the market share of a company.

65. Which of the following methods can be used for demand estimation?

- Surveys and questionnaires.

- Regression analysis.
- Time series analysis.
- All of the above.

66. Which of the following is NOT a component of demand forecasting?

- Historical data.
- Market trends.
- Consumer preferences.
- Production costs.

67.Which of the following is an example of qualitative forecasting?

- Time series analysis.
- Regression analysis.
- Delphi method.
- Moving the average method.

68. Which of the following is an example of quantitative forecasting?

- Expert opinion.
- Market research.
- Time series analysis.
- Scenario analysis.

69. Which of the following factors can affect demand?

- Price of the product.
- Income of consumers.
- Availability of substitutes.
- All of the above.

70. Which of the following is a limitation of demand forecasting?

- Uncertainty in future market conditions.

- Inaccurate historical data.
- Lack of consumer feedback.
- Limited availability of forecasting methods

71.Which of the following is NOT a common method of demand estimation?

- Surveys and questionnaires.
- Regression analysis.
- Delphi method.
- Market research.

72. Which of the following is a benefit of demand forecasting?

- Helps in inventory management.
- Reduces production costs.
- Improves customer satisfaction.
- All of the above.

73. Which of the following is a quantitative technique used for demand forecasting?

- Exponential smoothing.
- Expert opinion.
- Market research.
- Scenario analysis.

74. Which of the following is a qualitative technique used for demand forecasting?

- Time series analysis.
- Regression analysis.
- Delphi method.
- Scenario analysis.

75.Theory of consumer demand based on Indifference curves was developed by:

- R. G. D. Allen

- J.R. Hicks
- Both (A) and (B)
- None of these

76.The indifference curve technique is used to analyse:

- Supply and demand.
- Production costs.
- Consumer preferences.
- Market competition.

77. Indifference curves represent combinations of goods that provide the consumer with:

- Maximum utility.
- Minimum cost.
- Maximum profit.
- Minimum satisfaction.

78. The slope of an indifference curve represents the:

- Marginal utility of the goods.
- The price of the goods.
- Income of the consumer.
- Quantity demanded of the goods.

79. Indifference curves are typically:

- Upward-sloping.
- Downward-sloping.
- Horizontal.
- Vertical.

80.The shape of an indifference curve indicates the consumer's:

- Elasticity of demand.
- Budget constraints.
- Marginal rate of substitution.
- Price elasticity of supply.

81. The point where an indifference curve intersects a budget constraint represents:

- Consumer equilibrium.
- Producer surplus.
- Market equilibrium.
- Price elasticity of supply.

82.An indifference curve that is steeper indicates

- Higher level of satisfaction.
- Lower level of satisfaction.
- Higher income level.
- Lower income level.

83.Following are the properties of Indifference curves:

- Negative Slope
- Convexity
- Indifference curves intersects or touch
- Both (a) and (b)

84.An indifference curve slopes down towards the right since more of one commodity and less of another result in:

- Same level of satisfaction
- Greater satisfaction
- Maximum satisfaction
- None of the above

85. Which of the following statements is incorrect?

- An indifference curve must be downward sloping to the right
- Convexity of a curve implies that the slope of the curve diminishes as one moves from left to right
- The income elasticity for inferior goods to a consumer is positive.
- The total effect of a change in the price of a good quantity demanded is called the price effect.

86.The indifference curve is downward sloping from left to right since more X and less Y give:

- Less satisfaction.
- More satisfaction
- Maximum satisfaction
- Same level of satisfaction

87. A good is one which satisfies the law of demand but in which the income effect is negative called:

- Superior good
- Giffen good
- Inferior goods
- Complementary good

88. The slope of the indifference curve shows:

- The price ratio
- Diminishing marginal rate of substitution
- Factor substitution
- Levels of indifference

89.An indifference curve:

- Slopes downwards from left to right
- Slopes upwards from left to right
- Slopes upwards from right to left
- Is parallel to the Y-axis

90.Which of the following is a property of an indifference curve?

- It is convex to the origin
- The marginal rate of substitution is constant as you move along an indifference curve
- Marginal utility is constant as you move along the indifference curve
- Total utility is greatest where the 45-degree line cuts the indifference curve

91.The indifference curve is combination of:

- Various factors
- Two commodities
- Three commodities
- Four commodities

92.Indifference curves are used to represent:

- Consumer preferences
- Producer preferences
- Government regulations
- Market demand

93. Indifference curves are typically:

- Concave to the origin
- Convex to the origin
- Linear
- Vertical

94. The slope of an indifference curve represents:

- Marginal utility
- Marginal cost
- Price elasticity of demand
- Income elasticity of demand

95. Indifference curves help in determining:

- Consumer surplus
- Producer surplus
- Market equilibrium
- Tax revenue

96.Which of the following is a common technique used for demand estimation?

- Time series analysis.
- Regression analysis.
- Market research.
- Delphi method.

97. Which of the following factors can influence demand for a product?

- Advertising and promotion.
- Consumer tastes and preferences.
- Changes in income levels.
- All of the above.

98. Which of the following is a benefit of accurate demand forecasting?

- Minimizing stock outs and overstocking.
- Reducing production costs.
- Improving customer satisfaction.
- All of the above.

99.'Giffen' goods are those goods:

- For which demand increases as price increases
- Which are in very short supply
- Which have a high Income elasticity of demand
- Which have a low cross elasticity of demand

100.Which of the following statements is correct? Each point on the indifference curve shows:

- Different combinations of two commodities

- Utilities of different combinations of same commodity
- Utilities of combinations of different commodities
- Different combinations of the same commodity

Unit-2

PRODUCTION FUNCTION AND RETURNS TO A FACTOR

Production:

Production is the organised 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.

Factors of production:

1. **LAND -** It does not means soil or Earth's surface alone, but refers to all the free gifts of nature which would include besides land in common parlance, natural resources, fertility of soil , water , air , light , heat , natural Vegetation etc.
2. **LABOUR -** All human efforts our body or our mind undergo partly or wholly the view to secure an income apart from the pleasure derived directly from the work is termed as labour.
3. **CAPITAL –** We may define capital as the part of wealth of an individual or community which is used for further production of wealth.
4. **ENTREPRENEUR –** It is not enough to say that production is a function of land capital and labour there must be some factor which mobilizes these factors combines them in the right proportion initiates the process of production and bears the risks involved in it this factor is known as entrepreneur.

PRODUCTION FUNCTION:

The production function is a statement of the relationship between a firm's scare resources and the output that results from the use of these resources. More specifically, it states the logical relationship between input and output.

The production function can be algebraically expressed in the form of equation in which the output is the dependent variable and inputs are the independent variables

Q= f(a,b,c,d……n)

OR

Q= f(L,K)

Where Q stands for output, L stands for labour , K stands for capital.

FIXED AND VARIABLE FACTORS :

1. **Fixed factors** are those the application of which does not change with the change in volume of output.
2. **Variable factors** are those factors the application of which varies with the change in volume of output.

SHORT RUN PRODUCTION FUNCTION:

Short run is a period of time when production can be increased only by increasing the application of variable factors fixed factor by definition remains constant.

Qx=f(L,K`)

Where Qx is output of commodity x. L , labour is a variable factor. K`, capital is a fixed factor.

LONG RUN PRODUCTION FUNCTION:

Long run is a period of time when the distinction between fixed factor and variable factor vanishes all factors are variable factor long run is long enough to increase production capacity of a firm

Qx=f(K,L)

Where Qx is output of commodity x . L, labour is variable factor and K, capital of also variable factor.

COBB- DOUGLAS PRODUCTION FUNCTION:

H. Douglas and C.W. cobb of the USA studied the production function of the American manufacturing industries. In its original form, this production function applies not to an individual firm but to the whole of manufacturing in the United states. In this case output is manufacturing production and inputs used are labour and capital.

Cobb Douglas production function is stated as:

Q=KLa C (1-a)

Where Q is output , L is labour ,C is capital, K and a are positive constants.

TOTAL PRODUCT(TP) , MARGINAL PRODUCT(MP), AVERAGE PRODUCT(AP) OF THE VARIABLE FACTOR:

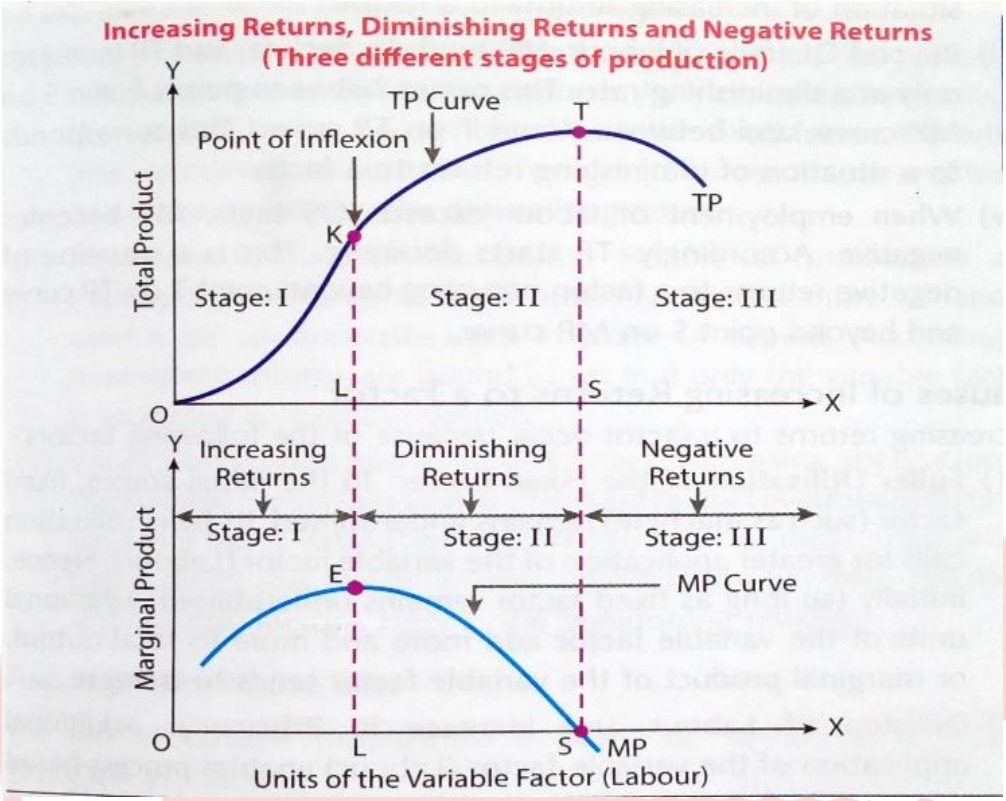
1. **Total product -** TP is the sum total of output produced all the units of variable factor along with the some constant amount of the fixed factors used in the process of production.
2. **Marginal product -** MP refers to the change in TP when one more unit of the variable factor is used fixed factor remaining constant.
   MPn= TPn- TPn-1
3. **Average product -** AP is output per unit of a variable factor.
   AP= TP/no. Of units of variable factor

LAW OF VARIABLE PROPORTIONS OR THE LAW OF DIMINISHING MARGINAL PRODUCT:

Units of Land	Units of Labour	Total Product	Marginal Product	
1	1	2	2	Increasing MP implying increasing returns to a factor
1	2	5	3	
1	3	9	4	
1	4	12	3	Diminishing MP implying diminishing returns to a factor
1	5	14	2	
1	6	15	1	
1	7	15	0	Negative MP implying negative returns to a factor
1	8	14	−1	

Law of variable proportion states that as more and more of the variable factor is combined with the fixed factor ,marginal product or the variable factor may initially rise. But, eventually a situation must come when marginal product of the

variable factor starts declining . In fact ,the stage may come when MP becomes 0 or even negative.



OBSERVATIONS;

1. So long as MP is increasing ,TP is increasing at an increasing rate.
2. When MP starts diminishing, TP increases only at a diminishing rate.
3. When MP is 0, there is no addition to TP.
4. When MP is nagative, TP starts declining.

THREE STAGES OF PRODUCTION;

1. **STAGE 1**, when MP is increasing, called the **stage of increasing returns.**
2. **STAGE 2**, when MP is diminishing, called the **stage of diminishing returns.**
3. **STAGE 3**, when MP is negative, called the **stage of negative returns .**

CONCEPT OF COST

Cost Refers to the expenditure incurred by a producer on the factors as well as nonfactor inputs of a given output of a commodity.

Explicit and implicit cost –

Expenditure incurred by a producer on the purchase of inputs from the market is called explicit cost expenditure on the use of self owned inputs is called implicit cost.

Opportunity cost –

It refers to the total sacrifice made in terms of (explicit or implicit) cost for producing a given level of output.

Selling and production cost – selling costs refers to the expenditure incurred by the producer to promote sale of the commodity. Production costs refers to the expenditure incurred by a producer on the inputs for producing a given level of output.

Sunk cost –

Sunk costs refers to those costs which are already incurred once and for all and cannot be recovered.

Private and social cost –

Private costs are the cost actually incurred or provided for by the firm and are either explicit or implicit. Social cost refers to the total cost borne by the society on account of a business activity and includes private cost and external cost.

Fixed and variable costs –

Fixed or constant costs are not a function of output they do not vary with output upon a certain level of activity. Variable costs are cost that are a function of output in the production and changes with the change in level of output.

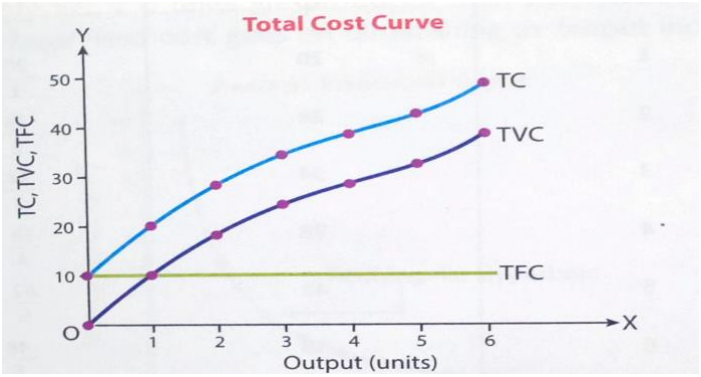
SHORT RUN COSTS:

Short run is a period of time during which some factors are fixed and some are variables.

TC= TFC+TVC

Where TC is total cost, TFC is total fixed cost , TVC is total variable cost

Output (Units)	Fixed Cost (₹)	Variable Cost (₹)	Total Cost (₹)
0	10	0	10
1	10	10	20
2	10	18	28
3	10	24	34
4	10	28	38
5	10	32	42
6	10	38	48



AVERAGE COST:

Cost of unit of output is called average cost

AC= TC/Q

Where AC is average cost, TC is total cost, Q is quantity of output.

Fixes and variable component of AC:

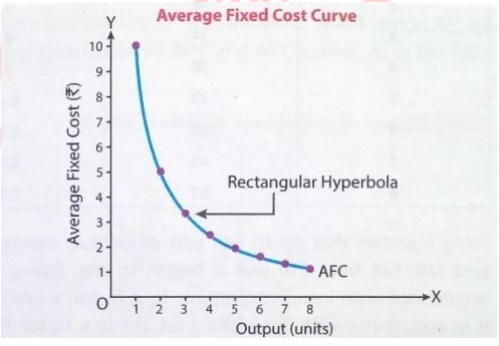
Average cost is the sum total of average fixed cost and average variable cost that is.

AC=AFC+AVC

Where AC is average cost, AFC is average fixed cost, AVC is average variable cost.

1. **Average fixed cost:** average fixed cost is the fixed cost per unit of output.
   AC = TFC/Q
   Where AC is average cost, TFC is total fixed cost , Q is quantity of output

Output (Units)	Total Fixed Cost (₹)	Average Fixed Cost (₹)
1	10	10
2	10	5
3	10	3.3
4	10	2.5
5	10	2
6	10	1.67
7	10	1.43
8	10	1.25

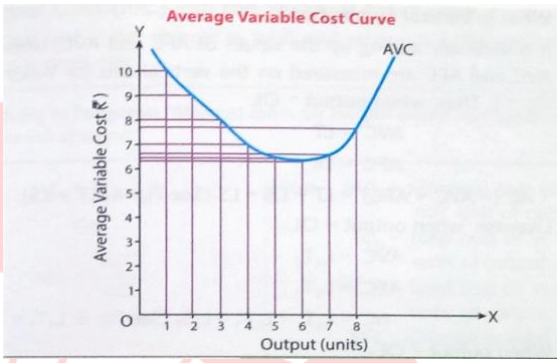


2. **Average variable cost:** average variable cost is the variable cost per unit Of output.

AVC=TVC/Q

Where AVC is average variable cost , TVC is total variable cost , Q is quantity of output.

Output (Units)	Total Variable Cost (₹)	Average Variable Cost (₹)
1	10	10
2	18	9
3	24	8
4	28	7
5	32	6.4
6	38	6.3
7	46	6.6
8	62	7.7

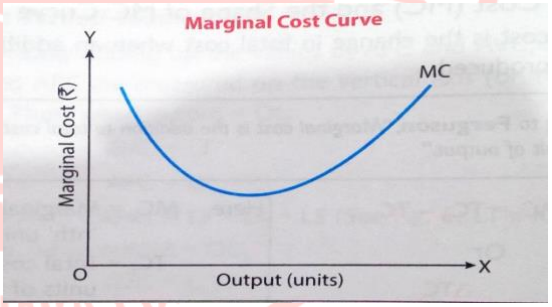


MARGINAL COST (MC):

Marginal cost is the change in total cost when an additional unit of output is produced.

MCn =TCn-TCn-1

Output (Units) (1)	Total Fixed Cost (₹) (2)	Total Variable Cost (₹) (3)	Total Cost (₹) (2 + 3) (4)	Marginal Cost (₹) (5)
0	10	0	10	—
1	10	10	20	10
2	10	18	28	8
3	10	24	34	6
4	10	28	38	4
5	10	32	42	4
6	10	38	48	6
7	10	46	56	8
8	10	62	72	16



ECONOMIES AND DISECONOMIES OF SCALE:

Production on a large scale is a very important feature of a modern industrial society as a consequence the size of business undertakings has greatly increased. Large scale production offers certain advantages which help in reducing the cost of production.

Economies arising out of large scale production can be grouped into two categories internal economies and external economies.

Internal economies and diseconomies;

1. ***Technical economies and diseconomies****:* Large scale production is associated with economies of superior techniques as a firm increases its scale of operations it becomes possible to use more specialized and efficient form of all factors especially capital equipment and machinery.
2. ***Managerial economies and diseconomies****:* Managerial economics refers to reduction in managerial cost when output increases specialization and division of Labour can be applied to management.
3. ***Commercial economies and diseconomies****:* Production of large volume of goods require large amount of materials and components a large firm is able to place bulk of orders for materials and components and enjoy lower prices for them.
4. ***Financial economies and diseconomies****:* A large firm has advantages over small firms and matters related to procurement of finances for its business activities.
5. ***Risk bearing economies and diseconomies****:* Large business with diverse and multi production capability is in a better position to withstand economic ups and downs. However, risk may be increase if diversification instead of giving a cover to economics disturbances increases these.

External economies and diseconomies;

1. Cheaper raw material and capital equipment
2. Technological external economies
3. Development of skilled labour
4. Growth of ancillary industries
5. Better transportation and Marketing facilities
6. Economies of information

BREAK EVEN ANALYSIS

A break even analysis is an economic tool that is used to determine the cost structure of a company or the number of units that need to be sold to cover the cost. Break- even is a circumstance where a company neither makes a profit nor loss but recovers all the money spent.

The break-even analysis is used to examine the relation between the fixed cost, variable cost, and revenue. Usually, an organisation with a low fixed cost will have a low break- even point of sale.

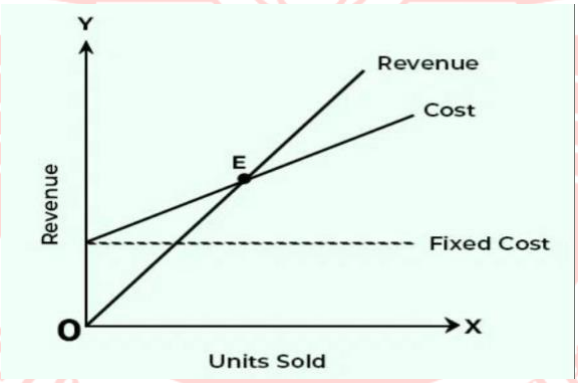
Break even analysis= Fixed cost / Selling price per unit – variable cost per unit

IMPORTANCE OF BREAK EVEN ANALYSIS:

1. Manages the size of units to be sold
2. Budgeting and setting targets
3. Manages the margin of safety
4. Monitors and controls cost

USES OF BREAK EVEN ANALYSIS:

1. New business: For a new venture, a break-even analysis is essential. It guides the management with pricing strategy and is practical about the cost.
2. Manufacture new products: If an existing company is going to launch a new product, then they still have to focus on a break-even analysis before starting and see if the product adds necessary expenditure to the company.
3. Change in business model: The break-even analysis works even if there is a change in any business model like shifting from retail business to wholesale business.



Multiple-choice questions (MCQs)

1. Which of the following is NOT considered a factor of production?

a) Land

b) Money

c) Labour

d) Entrepreneurship

2. What does the term "Labour" refer to in the context of production?

a) Physical materials used in production

b) Human effort expended in production

c) Financial resources invested in production

d) Natural resources utilized in production

3. Capital in the context of production refers to:

a) Money invested in a business

b) Physical infrastructure used in production

c) Land and buildings

d) Wealth used for further production of wealth

4. Which factor of production mobilizes and combines land, labour, and capital, and bears the risks involved in production?

a) Labour

b) Capital

c) Entrepreneurship

d) Land

5. The production function describes the relationship between:

a) Output and profits

b) Inputs and output

c) Labour and capital

d) Entrepreneurship and innovation

6. In the production function Q = f(L, K), what does 'L' represent?

a) Land

b) Labour

c) Capital

d) Output

7. Fixed factors of production:

a) Change with the change in volume of output

b) Are those factors whose application varies with the volume of output

c) Include land, labour, and capital

d) Do not change with the change in volume of output

8. Variable factors of production:

a) Change with the change in volume of output

b) Are those factors whose application remains constant?

c) Include only labour

d) Are not important in the production process

9. Which factor of production refers to natural resources and gifts of nature?

a) Labour

b) Capital

c) Entrepreneurship

d) Land

10. What is the objective of production?

a) To maximize profits

b) To create employment

c) To satisfy demand by transforming resources into goods and services

d) To minimize costs

11. Which factor of production includes physical and mental efforts aimed at securing income?

a) Labour

b) Capital

c) Entrepreneurship

d) Land

12. What is the role of an entrepreneur in the production process?

a) To provide capital

b) To oversee the production process

c) To mobilize and combine factors of production

d) To provide labour

13. Which factor of production is considered as the part of wealth used for further production?

a) Labour

b) Capital

c) Entrepreneurship

d) Land

14. The production function expresses the relationship between:

a) Demand and supply

b) Inputs and output

c) Costs and revenue

d) Labour and capital

15. In the production function, what does 'K' represent?

a) Land

b) Labour

c) Capital

d) Output

16. What is the distinguishing feature of fixed factors of production?

a) They change with the change in volume of output

b) They do not change with the change in volume of output

c) They include only labour

d) They are not important in the production process

17. Variable factors of production:

a) Remain constant with the change in volume of output

b) Do not change with the change in volume of output

c) Include only land and capital

d) Change with the change in volume of output

18. What do fixed factors of production include?

a) Land and capital

b) Labour and capital

c) Factors whose application varies with output

d) Factors whose application does not change with output

19. The objective of production is primarily to:

a) Maximize costs

b) Minimize demand

c) Satisfy demand by transforming resources into goods and services

d) Maximize profits

20. Which factor of production mobilizes and combines land, labour, and capital?

a) Labour

b) Capital

c) Entrepreneurship

d) Land

21. What is the distinguishing feature of the short run in production?

a) Fixed factors vary

b) Variable factors remain constant

c) All factors are variable

d) None of the above

22. In the short run production function, which factor remains constant?

a) Labour

b) Capital

c) Output

d) Both a and b

23. Which production function considers all factors as variable?

a) Cobb-Douglas

b) Short run

c) Long run

d) Both a and c

24. The Cobb-Douglas production function involves which factors?

a) Labour and capital

b) Labour, capital, and land

c) Labour, capital, and entrepreneurship

d) Labour, capital, and technology

25. What does 'a' represent in the Cobb-Douglas production function Q=KLaC(1-a)?

a) Output

b) Labour

c) Capital

d) Elasticity of output with respect to capital

26. Which of the following equations represents marginal product (MP)?

a) MP = TP

b) MP = TPn - TPn-1

c) MP = AP / L

d) MP = Q / K

27. What does marginal product (MP) indicate?

a) Total output

b) Change in total output with respect to a change in labour

c) Average output

d) Change in output with respect to a change in capital

28. Which factor remains constant when calculating marginal product (MP)?

a) Labour

b) Capital

c) Output

d) Both b and c

29. What is average product (AP) defined as?

a) Total output per unit of labour

b) Change in total output per unit of labour

c) Output per unit of a variable factor

d) Change in output per unit of capital

30. Which of the following represents the average product (AP) equation?

a) AP = TP

b) AP = MP / L

c) AP = TP / K

d) AP = TP / (no. of units of variable factor)

31. In the short run production function, what is fixed?

a) Labour

b) Capital

c) Output

d) Both b and c

32. In the long run production function, which factor is not fixed?

a) Labour

b) Capital

c) Output

d) Both a and b

33. The Cobb-Douglas production function involves what type of constants?

a) Negative

b) Positive

c) Fractional

d) Exponential

34. What does 'C' represent in the Cobb-Douglas production function?

a) Output

b) Labour

c) Capital

d) Elasticity of output with respect to labour

35. What is the characteristic of the long run in production?

a) Fixed factors vary

b) Variable factors remain constant

c) All factors are variable

d) None of the above

36. Which of the following equations represents total product (TP)?

a) TP = MP

b) TP = AP * L

c) TP = Q * K

d) TP = ∑(Output of each unit of variable factor)

37. What is the change in total product (TP) when one more unit of the variable factor is used called?

a) Average product (AP)

b) Marginal product (MP)

c) Total factor productivity (TFP)

d) Average total cost (ATC)

38. In the Cobb-Douglas production function, what does 'La' represent?

a) Labour

b) Capital

c) Output

d) Elasticity of output with respect to labour

39. What is the period of time when all factors are variable known as?

a) Short run

b) Long run

c) Medium run

d) Fixed run

40. Which of the following statements is true regarding the Cobb-Douglas production function?

a) It applies only to individual firms.

b) It involves only one variable factor.

c) It is primarily used in agriculture.

d) It represents the relationship between inputs and outputs.

41. What does the Law of Variable Proportions state?

a) As more of the variable factor is combined with the fixed factor, total product increases indefinitely

b) Marginal product of the variable factor always increases

c) Marginal product of the variable factor eventually diminishes

d) Fixed factors become variable over time

42. When does Stage 1 of production occur according to the Law of Variable Proportions?

a) When marginal product is increasing

b) When total product is at its peak

c) When marginal product is diminishing

d) When marginal product becomes negative

43. What is the stage called when marginal product starts diminishing?

a) Stage 1

b) Stage 2

c) Stage 3

d) None of the above

44. What is the primary characteristic of Stage 3 of production?

a) Increasing returns

b) Diminishing returns

c) Negative returns

d) Constant returns

45. What is the expenditure incurred by a producer on factors and non-factor inputs called?

a) Explicit cost

b) Implicit cost

c) Opportunity cost

d) Sunk cost

46. Which cost refers to the total sacrifice made in terms of cost for producing a given level of output?

a) Explicit cost

b) Implicit cost

c) Opportunity cost

d) Sunk cost

47. What is the sum of average fixed cost and average variable cost?

a) Average cost

b) Total cost

c) Marginal cost

d) Opportunity cost

48. In the short run, which factors are fixed?

a) All factors

b) None of the factors

c) Some factors

d) Variable factors only

49. What is the formula for calculating total cost in the short run?

a) TC = AFC + AVC

b) TC = TFC + TVC

c) TC = MC * Q

d) TC = AC * Q

50. What does AFC stand for?

a) Average Fixed Cost

b) Average Variable Cost

c) Average Total Cost

d) Average Marginal Cost

51. What is the formula for calculating average cost?

a) AC = TFC / Q

b) AC = TVC / Q

c) AC = TC / Q

d) AC = AFC + AVC

52. What is the change in total cost when an additional unit of output is produced?

a) Average cost

b) Marginal cost

c) Explicit cost

d) Implicit cost

53. Which cost does not vary with the level of output?

a) Variable cost

b) Fixed cost

c) Opportunity cost

d) Sunk cost

54. What does AVC stand for?

a) Average Fixed Cost

b) Average Variable Cost

c) Average Total Cost

d) Average Marginal Cost

55. What is the formula for calculating average fixed cost?

a) AFC = TFC / Q

b) AFC = TVC / Q

c) AFC = TC / Q

d) AFC = AC - AVC

56. What is the formula for calculating average variable cost?

a) AVC = TFC / Q

b) AVC = TVC / Q

c) AVC = TC / Q

d) AVC = AC - AFC

57. Which cost is already incurred once and for all and cannot be recovered?

a) Explicit cost

b) Implicit cost

c) Opportunity cost

d) Sunk cost

58. What does TC stand for in the formula for average cost?

a) Total Cost

b) Total Variable Cost

c) Total Fixed Cost

d) Total Marginal Cost

59. In which stage of production does total product increase at a diminishing rate?

a) Stage 1

b) Stage 2

c) Stage 3

d) Stage 4

60. When does average variable cost reach its minimum point?

a) Before marginal cost starts increasing

b) After marginal cost starts increasing

c) When marginal cost equals average variable cost

d) When marginal cost equals average fixed cost

61. What is the formula for calculating marginal cost?

a) MC = TVC / Q

b) MC = TFC / Q

c) MC = TC / Q

d) MC = TCn - TCn-1

62. What is the expenditure incurred by the producer to promote the sale of a commodity called?

a) Production cost

b) Selling cost

c) Opportunity cost

d) Fixed cost

63. Which cost refers to the total cost borne by society on account of a business activity?

a) Private cost

b) Social cost

c) Explicit cost

d) Implicit cost

64. When does Stage 3 of production occur?

a) When marginal product is increasing

b) When marginal product is diminishing

c) When marginal product becomes negative

d) None of the above

65. What is the primary characteristic of Stage 1 of production?

a) Diminishing returns

b) Negative returns

c) Increasing returns

d) Constant returns

66. What does TVC stand for?

a) Total Fixed Cost

b) Total Variable Cost

c) Total Cost

d) Total Marginal Cost

67. Which cost refers to the expenditure incurred by a producer on the purchase of inputs from the market?

a) Implicit cost

b) Explicit cost

c) Opportunity cost

d) Sunk cost

68. Which of the following is not a type of internal economies and diseconomies of scale?

A) Managerial economies

B) Commercial economies

C) Technological economies

D) Financial economies

69. Managerial economies and diseconomies refer to:

A) Reduction in managerial cost with increased output

B) Increase in managerial cost with increased output

C) Efficiency in production techniques

D) None of the above

70. Commercial economies and diseconomies arise from:

A) Specialization and division of labour in management

B) Procurement of finances for business activities

C) Placing bulk orders for materials and components

D) Better transportation and marketing facilities

71. Break-even analysis is used to determine:

A) Profitability of a company

B) The number of units needed to cover costs

C) Market demand for a product

D) Revenue generation strategies

72. Break-even point occurs when:

A) The company makes a profit

B) The company makes a loss

C) Revenue equals total costs

D) Revenue exceeds total costs

73. What is the formula for break-even analysis?

A) Fixed cost / Variable cost per unit

B) Fixed cost / Selling price per unit

C) Selling price per unit - Variable cost per unit

D) Fixed cost / Selling price per unit - Variable cost per unit

74. Break-even analysis helps in:

A) Determining the size of units to be sold

B) Maximizing profit

C) Forecasting market trends

D) All of the above

75. The break-even point of sale is usually low for organizations with:

A) Low variable costs

B) High fixed costs

C) Low fixed costs

D) High variable costs

76. Which of the following is not an importance of break-even analysis?

A) Managing the margin of safety

B) Controlling costs

C) Maximizing revenue

D) Budgeting and setting targets

77. Break-even analysis is especially crucial for:

A) Established businesses

B) Companies with high profitability

C) New ventures

D) Companies with low fixed costs

78. External economies of scale include:

A) Cheaper raw material and capital equipment

B) Managerial efficiencies

C) Reduction in risk

D) Increase in variable costs

79. Break-even analysis helps in monitoring and controlling:

A) Revenue

B) Variable costs

C) Market share

D) Capital investments

80. Break-even point is achieved when:

A) Total revenue equals total variable costs

B) Total revenue equals total fixed costs

C) Total revenue equals total costs

D) Total revenue exceeds total costs

81. Internal economies of scale include:

A) Cheaper transportation and marketing facilities

B) Specialized techniques in production

C) Growth of ancillary industries

D) Development of skilled labour

82. Break-even analysis is useful for:

A) Forecasting market demand

B) Setting prices

C) Determining production capacity

D) All of the above

83. Break-even analysis is not suitable for:

A) New business ventures

B) Budgeting purposes

C) Established businesses

D) Deciding on marketing strategies

84. Break-even analysis helps in setting:

A) Maximum production targets

B) Optimal pricing strategies

C) Minimum sales targets

D) Maximum variable costs

85. External economies of scale do not include:

A) Technological advancements

B) Better transportation facilities

C) Cheaper labour

D) Growth of ancillary industries

86. Break-even analysis assists in:

A) Calculating maximum profits

B) Forecasting revenue

C) Controlling costs

D) Minimizing variable costs

87. Managerial economies and diseconomies relate to:

A) Procurement of finances

B) Division of labour in management

C) Reduction in risk

D) Increased variable costs

88. Break-even analysis is essential for:

A) Maximizing profits

B) Setting sales targets

C) Reducing fixed costs

D) Estimating market demand

89. External economies of scale result from:

A) Internal production efficiencies

B) Development of ancillary industries

C) Reduction in managerial costs

D) Increase in fixed costs

90. Break-even analysis helps in:

A) Calculating total revenue

B) Identifying optimal pricing strategies

C) Estimating variable costs

D) Determining the number of units to be sold

91. Commercial economies and diseconomies are associated with:

A) Reduction in risk

B) Bulk ordering of materials

C) Technological advancements

D) Decrease in variable costs

92. Break-even analysis assists in:

A) Reducing market competition

B) Forecasting market share

C) Estimating financial risk

D) Determining the break-even point

93. Financial economies and diseconomies are related to:

A) Bulk ordering of materials

B) Reduction in managerial costs

C) Procurement of finances

D) Development of skilled labour

94. Break-even analysis is useful for:

A) Calculating maximum losses

B) Setting minimum price levels

C) Estimating minimum sales required

D) Predicting future market trends

95. External economies of scale do not include:

A) Development of skilled labour

B) Better transportation facilities

C) Cheaper raw materials

D) Increase in variable costs

96. Which factor of production refers to all the free gifts of nature, including natural resources, fertility of soil, water, air, light, and heat?

A) Labour

B) Capital

C) Land

D) Entrepreneur

97. What does the Cobb Douglas production function relate to?

A) Relationship between cost and output

B) Relationship between labour and capital

C) Relationship between fixed and variable factors

D) Relationship between selling and production costs

98. In the short run, which factor(s) of production remain fixed?

A) Both labour and capital

B) Labour only

C) Capital only

D) None, all factors are variable

99. What does the law of variable proportions state?

A) Marginal product initially rises, then declines

B) Total product increases at an increasing rate

C) Average product remains constant throughout production stages

D) Marginal product is always negative

100. Which type of cost cannot be recovered and is already incurred once and for all?

A) Explicit cost

B) Implicit cost

C) Sunk cost

D) Opportunity cost

UNIT-3

PRICE AND OUTPUT DECISIONS

Pricing and output decisions focus on where to set the price for the product and how much quantity to supply. A firm will choose to produce the quantity where marginal cost is equal to marginal revenue, or where the marginal cost and marginal revenue curves intersect. However, pricing and output decisions depend on the market structure.

FACTORS AFFECTING PRICING DECISIONS

The factors influencing the price can be divided into two heads – Internal Factors and External Factors.

Internal Factors

Talking about the internal factors means the factors that work from within the organization. The factors are:

- **Organizational Factors:** Two management levels decide the pricing policy, one is the price range and the policies are decided by the top-level managers while the distinct price is fixed by the lower-level staff.
- **Marketing Mix:** For implementing a price, the marketing mix needs to be in sync, without matching the marketing mix, consumers will not be attracted to the price. The marketing mix should be decisive for the price range fixed, meaning the marketing mix needs to maintain the standard of the price of the product.
- **Product Differentiation:** In today's market, it is uncommon to find a unique product, hence the differentiation lies in the nature, feature and characteristic of the product. The added features like quality, size, colour, packaging, and its utility all these factors force the customers to pay more price regarding other products.
- **Cost of the Product:** Cost and Price are closely related. With the cost of the product, the firm decides its price. The firm makes sure that the price does not fall below the cost lese they will run on losses. Cost of the price includes the input cost that a company spends on raw materials, wages for labourers, advertisement cost, promotion cost and salaries for the employees.

External Factors

External factors are not under the control of the firm. These factors affect the whole industry group uniformly. Yet, a company tries to estimate any upcoming problems in the external environment and also makes up a backup plan in advance. This is done by forecasting the market trend.

The factors are:

- **Demand:** The market demand of a product has an impact on the price of the product, if the demand is inelastic then a higher price can be fixed, if the demand is highly elastic then less price is to be fixed. When the demand for the goods is more and the supply of the goods is constant, the price of the goods can be increased and if the demand for the goods decreases the price of the goods should be decreased to survive in the market.
- **Competition:** The prices are required to be competitive without any compromise on the quality of the product. While in a monopolistic market, the prices are fixed irrespective of the competition. Thus, the manufacturer tries to estimate the price of his competitor. When the price of the supplementary goods is high, the customers will buy the manufacturer's product.
- **Supplies:** If the supplies condition, the easy availing option of the raw materials are available, then the price of the product can be moderate. Once, the raw materials supply price heightens then the price also rises.
  In the period of recession, price is lowered so that easy purchase is guaranteed. While in boom periods, prices shoot up high as now they can earn profit.

FACTORS AFFECTING OUTPUT DECISIONS

- **Production capacity:** Determining how much to produce depends on the business's production capabilities.
- **Demand forecasting:** Businesses need to estimate the future demand for their products to decide on the output level.
- **Cost considerations:** Costs related to production, storage, and distribution play key roles in output decisions.
- **Market conditions:** Prevailing market conditions, such as levels of competition, influence output decisions.

MARKET STRUCTURE

Market structure is the way in which different industries are categorized and distinguished based on the level and type of competition for goods and services. A market structure refers to the economic setting in which a business functions. It characterizes the competitiveness of the industry through aspects such as the level of difficulty in joining the industry and the number of sellers involved.

Market structure can be divided into four main categories: perfect competition, monopolistic competition, oligopoly, and monopoly. The market structure depends on several factors, such as the number of buyers and sellers, bargaining power, level of competition, product differentiation, and market accessibility.

TYPES OF MARKET STRUCTURE:-

PERFECT COMPETITION

A perfectly competitive market is characterized by a large number of small firms producing a homogenous product, no barriers to entry or exit, perfect information about prices, and no externalities. This type of market structure leads to a market price that is determined by the interaction of supply and demand.

Perfect competition is a situation where numerous small companies compete with each other. These companies offer similar products that have no price difference, and they don't have control over the market price. They also have the freedom to enter or exit the market.

In a perfect competition market structure, there are numerous companies competing with each other. Although economists don't specify the exact number of companies required, the idea is that each company's influence on the market should be minimal. Due to the absence of significant barriers to entry, competition in this market structure is high.

MONOPOLY

A monopoly is a market structure in which there is only one supplier of a particular product or service. The monopolist has complete control over the price and quantity of the product or service. Entry barriers such as high startup costs, limited resources, and patents often lead to a lack of competition in a pure monopoly market structure. Monopolies are characterized by a lack of competition in the marketplace and, as a result, the monopolist is able to set prices and outputs that may be higher than what they would be in a competitive market. Monopolies also tend to have higher barriers to entry, preventing new competitors from entering the market and competing against them.

The monopolist's market share reveals actual customer demand for the product or service, as opposed to the entire market demand. Because there is only a single supplier, the monopolist can set prices without having to worry about other firms responding with competitive pricing. This means that the monopolist can charge more for the product or service than would be possible in a competitive market.

MONOPOLISTIC COMPETITION

Monopolistic competition is a type of market that combines features of a monopoly and competitive market, resulting in an imperfectly competitive structure. In a market, there are numerous producers and consumers, and no single business has complete authority over setting the market price. Competing products are believed to have distinguishing features beyond their prices, according to consumers. In this type of imperfect competition, sellers can set themselves apart by offering higher-quality products and using distinctive branding. It has become increasingly popular for businesses to differentiate their products in a variety of ways such as design, features, and services.

OLIGOPOLY

An oligopoly market definition is characterized by a limited number of major sellers who sell their products to a large group of customers. Getting started in an industry can be tough because of high initial costs and patent requirements. However, joining an oligopoly is generally easier than trying to join a monopoly. There are only a few big companies that sell either unique or similar products.

Because there are only a few players in the market, their competitive strategies are interconnected and influenced by one another. In the market, companies can either sell the same products in perfect competition or sell different products in monopolistic competition. The main distinction is that every company possesses sufficient market power to impact its rivals.

FEATURES OF OLIGOPOLY

- There are only a handful of firms in the industry. As a result, these firms are highly interdependent, and one firm's actions can significantly impact the others' decisions.
- Oligopolies have the ability to set prices, instead of simply responding to market prices.
- Entry into this field is challenging due to various factors such as economies of scale, access to expensive and complex technology, patents, and strategic

actions by existing companies aimed at dissuading or eliminating new companies.

- The product could either be the same throughout or have variations.
- In oligopolies, competition usually takes place through non-price methods such as offering loyalty schemes, advertising, product differentiation, etc.
- Oligopolies can maintain long-term profits by creating barriers that prevent new companies from entering the market and competing against them. This lack of competition allows oligopolies to keep excess profits.

PRICE AND OUTPUT DECISION UNDER VARIOUS MARKET STRUCTURE

PERFECT COMPETITION

Demand under Perfect Competition:

Demand refers to the quantity of a product that consumers are willing to purchase at a particular price, while other factors remain constant. A consumer demands more quantity at lower price and less quantity at higher price. Therefore, the demand varies at different prices.

Figure-1 represents the demand curve under perfect competition:

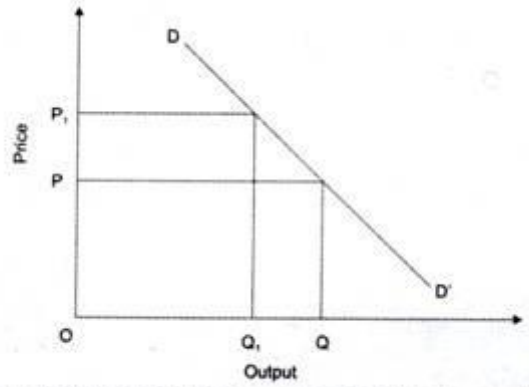


Figure-1: Demand Curve under Perfect Competition

As shown in Figure-1, when price is OP, the quantity demanded is OQ. On the other hand, when price increases to OP1, the quantity demanded reduces to OQ1. Therefore, under perfect competition, the demand curve (DD') slopes downward.

Supply under Perfect Competition:

Supply refers to quantity of a product that producers are willing to supply at a particular price. Generally, the supply of a product increases at high price and decreases at low price.

Figure-2 shows the supply curve under perfect competition:

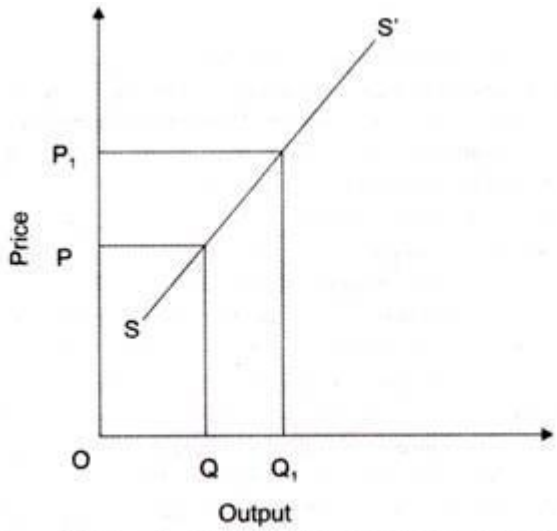


Figure-2: Supply Curve under Perfect Competition

In Figure-2, the quantity supplied is OQ at price OP. When price increases to OP1, the quantity supplied increases to OQ1. This is because the producers are able to earn large profits by supplying products at higher price. Therefore, under perfect competition, the supply curves (SS') slopes upward.

Equilibrium under Perfect Competition:

As discussed earlier, in perfect competition, the price of a product is determined at a point at which the demand and supply curve intersect each other. This point is known as equilibrium point. At this point, the quantity demanded and supplied is called equilibrium quantity.

Figure-3 shows the equilibrium under perfect competition:

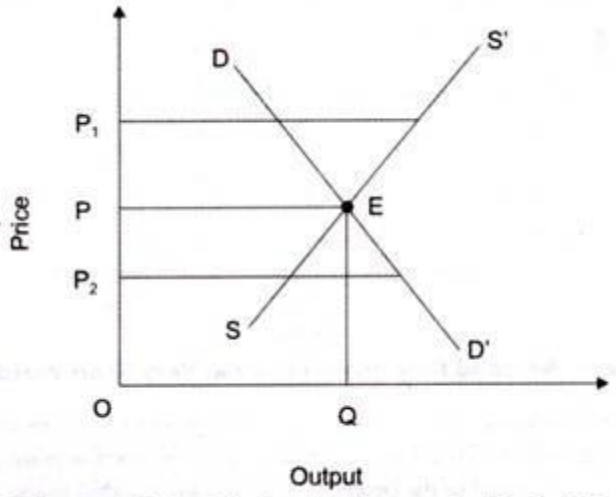


Figure-3: Price and Output Determination under Perfect Competition

In Figure-3, it can be seen that at price OP1, supply is more than the demand. Therefore, prices will fall down to OP. Similarly, at price OP2, demand is more than the supply. Similarly, in such a case, the prices will rise to OP. Thus,

E is the equilibrium at which equilibrium price is OP and equilibrium quantity is OQ.

A perfectly competitive firm can sell as large a quantity as it wishes, as long as it accepts the prevailing market price. Total revenues going to increase as the firm sells more, depending on the price of the product and the number of units sold. If you increase the number of units sold at a given price, then total revenue will increase. If the price of the product increases for every unit sold, then total revenue also increases. As an example of how a perfectly competitive firm decides what quantity to produce, consider the case of a small farmer who produces raspberries and sells them frozen for $4 per pack. Sales of one pack of raspberries will bring in $4, two packs will be $8, three packs will be $12, and so on. If, for example, the price of frozen raspberries doubles to $8 per pack, then sales of one pack of raspberries will be $8$8, two packs will be $16, three packs will be $24, and so on. Total revenue and total costs for the raspberry farm, broken down into fixed and variable costs, are shown in Table 8.3.1 and also appear in Figure 8.3.1. The horizontal axis shows the quantity of frozen raspberries produced in packs; the vertical axis shows both total revenue and total costs, measured in dollars. The total cost curve intersects with the vertical axis at a value that shows the level of fixed costs, and then slopes upward. All these cost curves follow the same characteristics as the curves covered in the Cost and Industry Structure chapter .

Table 8.3.1: Total Cost and Total at the Raspberry Farm

Quantity (Q)	Total Cost (TC)	Fixed Cost (FC)	Variable Cost (VC)
0	$62	$62	-
10	$90	$62	$28
20	$110	$62	$48
30	$126	$62	$64
40	$144	$62	$82
50	$166	$62	$104
60	$192	$62	$130
70	$224	$62	$162
80	$264	$62	$202
90	$324	$62	$262
100	$404	$62	$342

Figure 8.3.1: Total revenue for a perfectly competitive firm is a straight line sloping up. The slope is equal to the price of the good. Total cost also slopes up, but with some curvature. At higher levels of output, total cost begins to slope upward more steeply because of diminishing marginal returns. The maximum profit will occur at the quantity where the gap of total revenue over total cost is largest.

Based on its total revenue and total cost curves, a perfectly competitive firm like the raspberry farm can calculate the quantity of output that will provide the highest level of profit. At any given quantity, total revenue minus total cost will equal profit. One way to determine the most profitable quantity to produce is to see at what quantity total revenue exceeds total cost by the largest amount. On Figure 8.3.1, the vertical gap between total revenue and total cost represents either profit (if total revenues are greater that total costs at a certain quantity) or losses (if total costs are greater that total revenues at a certain quantity). In this example, total costs will exceed total revenues at output levels from 00 to 40, and so over this range of output, the firm will be making losses. At output levels from 50 to 80, total revenues exceed total costs, so the firm is earning profits. But then at an output of 90 or 100, total costs again exceed total revenues and the firm is making losses. Total profits appear in the final column of Table 8.3.1. The highest total profits in the table, as in the figure that is based on the table values, occur at an output of 70–80, when profits will be $56. A higher price would mean that total revenue would be higher for every quantity sold. A lower price would mean that total revenue would be lower for every quantity sold. What happens if the price drops low enough so that the total revenue line is completely below the total cost curve; that is, at every level of output, total costs are higher than total revenues? In this instance, the best the firm can do is to suffer losses. But a profit-maximizing firm will prefer the

quantity of output where total revenues come closest to total costs and thus where the losses are smallest.

MONOPOLY

Demand and Revenue under Monopoly:

In monopoly, there is only one producer of a product, who influences the price of the product by making Change m supply. The producer under monopoly is called monopolist. If the monopolist wants to sell more, he/she can reduce the price of a product. On the other hand, if he/she is willing to sell less, he/she can increase the price. As we know, there is no difference between organization and industry under monopoly. Accordingly, the demand curve of the organization constitutes the demand curve of the entire industry. The demand curve of the monopolist is Average Revenue (AR), which slopes downward.

Figure-9 shows the AR curve of the monopolist:

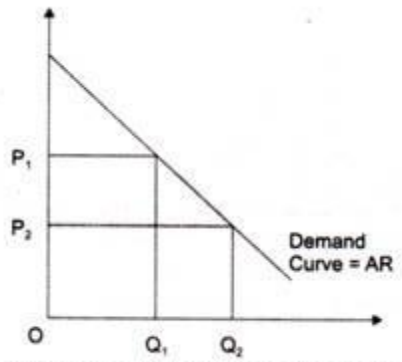


Figure-9: AR Curve under Monopoly

In Figure-9, it can be seen that more quantity (OQ_2) can only be sold at lower price (OP_2). Under monopoly, the slope of AR curve is downward, which implies that if the high prices are set by the monopolist, the demand will fall. In addition, in monopoly, AR curve and Marginal Revenue (MR) curve are different from each other. However, both of them slope downward.

The negative AR and MR curve depicts the following facts:

i. When MR is greater than AR, the AR rises

ii. When MR is equal to AR, then AR remains constant

iii. When MR is lesser than AR, then AR falls

Here, AR is the price of a product, As we know, AR falls under monopoly; thus, MR is less than AR.

Figure-10 shows AR and MR curves under monopoly:

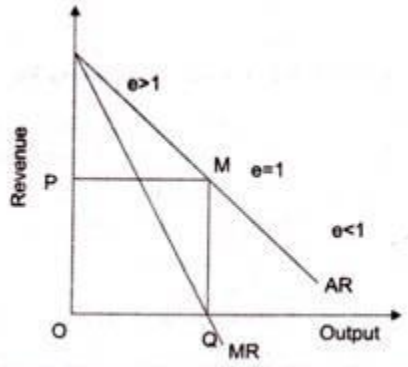


Figure-10: MR and AR Curves under Monopoly

In figure-10, MR curve is shown below the AR curve because AR falls.

Table-1 shows the numerical calculation of AR and MR under monopoly:

Table-1: AR and MR under Monopoly

No. of Units Sold (Q)	Price	TR =P *Q	MR	AR = TR /Q
1	10	10	10	10
2	9	18	8	9
3	8	24	6	8

Table-1: AR and MR under Monopoly

No. of Units Sold (Q)	Price	TR =P *Q	MR	AR = TR /Q
4	7	28	4	7
5	6	30	2	6
6	5	30	0	5
7	4	28	-2	4

As shown in Table-1, AR is equal to price. MR is less than AR and falls twice the rate than AR. For instance, when two units of

Output are sold, MR falls by Rs. 2, whereas AR falls by Re. 1.

Monopoly Equilibrium:

Single organization constitutes the whole industry in monopoly. Thus, there is no need for separate analysis of equilibrium of organization and industry in case of monopoly. The main aim of monopolist is to earn maximum profit as of a producer in perfect competition.

Unlike perfect competition, the equilibrium, under monopoly, is attained at the point where profit is maximum that is where MR=MC. Therefore, the monopolist will go on producing additional units of output as long as MR is greater than MC, to earn maximum profit.

Let us learn monopoly equilibrium through Figure-11:

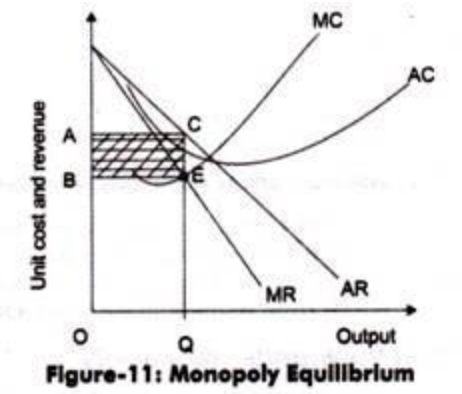


Figure-11: Monopoly Equilibrium

In Figure-11, if output is increased beyond OQ, MR will be less than MC. Thus, if additional units are produced, the organization will incur loss. At equilibrium point, total profits earned are equal to shaded area ABEC. E is the equilibrium point at which MR=MC with quantity as OQ.

It should be noted that under monopoly, price forms the following relation with the MC:

Price = AR

MR= AR [(e-1)/e]

e = Price elasticity of demand

As in equilibrium MR=MC

MC = AR [(e-1)/e]

Exhibit-2:

Determining Price and Output under Monopoly:

Suppose demand function for monopoly is Q = 200-0.4Q

Price function is P= 1000-10Q

Cost function is TC= 100 + 40Q + Q^2

Maximum profit is achieved where MR=MC

To find MR, TR is derived.

TR= (1000-10Q) Q = 1000Q-10Q^2

MR = $\Delta TR/\Delta Q$= 1000 – 20Q

MC = $\Delta TC/\Delta Q$ = 40 + 2Q

MR = MC

$1000 – 20Q = 40 + 2Q$

Q = 43.63 (44 approx.) = Profit Maximizing Output

Profit maximizing price = 1000 – 20*44 = 120

Total maximum profit= TR-TC= $(1000Q – 10Q^2) – (100+ 40Q+Q^2)$

At Q = 44

Total maximum profit = Rs. 20844

Monopoly Equilibrium in Case of Zero Marginal Cost:

In certain situations, it may happen that MC is zero, which implies that the cost of production is zero. For example, cost of production of spring water is zero. However, the monopolist will set its price to earn profit.

Figure-12 shows the monopoly equilibrium when MC is zero:

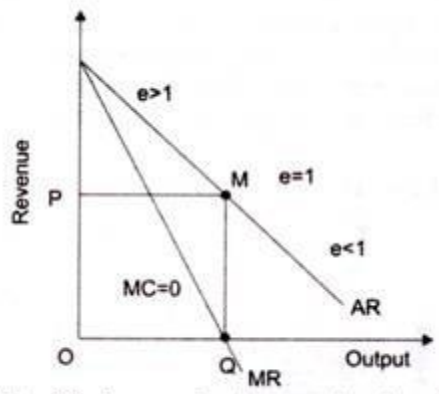


Figure-12: Equilibrium under Monopoly when MC is Zero

In Figure-12, AR is the average revenue curve and MR is the marginal revenue curve. In such a case, the total cost is zero; therefore, AR and MR are also zero. As shown in Figure-12, equilibrium position is achieved at the point where MR equals zero that is at output OQ and price P.We can see that point M is the mid-point of AR curve, where elasticity of demand is unity. Therefore, when MC = 0, the equilibrium of the monopolist is established at the output (OQ) where elasticity of demand is unity.

Short-Run and Long-Run View under Monopoly:

Till now, we have discussed monopoly equilibrium without taking into consideration the short-run and long- run period. This is because there is not so much difference under short run and long run analysis in monopoly.

In the short run, the monopolist should make sure that the price should not go below Average Variable Cost (AVC). The equilibrium under monopoly in

long-run is same as in short-run. However, in long-run, the monopolist can expand the size of its plants according to demand. The adjustment is done to make MR equal to the long run MC.

In the long-run, under perfect competition, the equilibrium position is attained by entry or exit of the organizations. In monopoly, the entry of new organizations is restricted.

The monopolist may hold some patents or copyright that limits the entry of other players in the market. When a monopolist incurs losses, he/she may exit the business. On the other hand, if profits are earned, then he/she may increase the plant size to gain more profit.

MONOPOLISTIC COMPETITION

Price and Output Determination under Short Run:

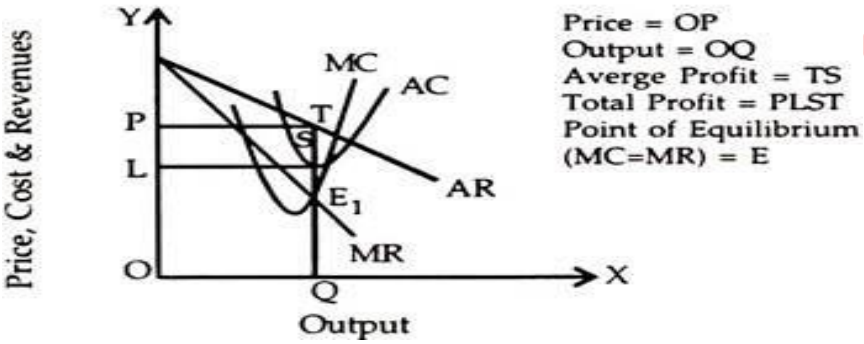
Under monopolistic competition price and output are determined as under other type of market structure during short period. The point of equilibrium of an individual firm will be at the point where its marginal cost is equal to its marginal revenue (MC=MR).

During short period there may be three situations of the firms under monopolistic competition as given below:

(1) **Profit Making Situation:**

Profit making situation will be when individual firm's revenue is greater than its cost (AR>AC). Profit making situation is also called abnormal or super profit situation as given in Diagram 1.

Diagram 1 : Profit Making Situation



Price, costs and revenues are shown on OY-axis while output on OX-axis. The point of equilibrium is E where marginal cost is equal to marginal revenue

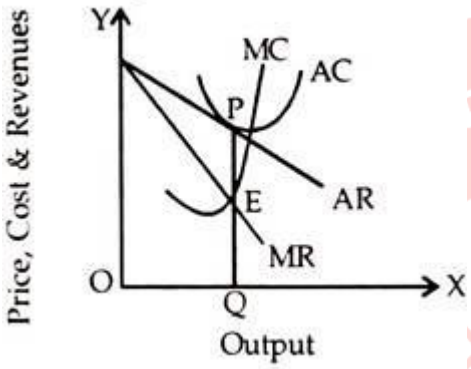
(MC=MR) of the firm. The price is OP, output is OQ. The average profit (AR—AC) is TS and total profit is PLST.

(2) **Normal Profit:**

When the firm's average revenue is equal to its average cost the situation is called normal profit.

It can be seen from the following diagram:

Diagram 2 : Normal Profit

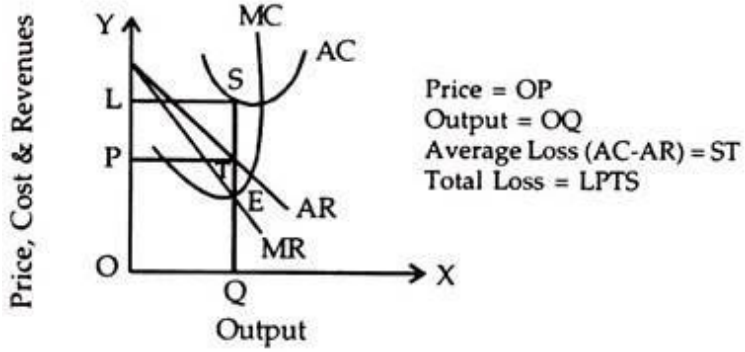


In the diagram output is shown on OX-axis, price, costs and revenue are shown on OY-axis. The point of equilibrium is E where firm's marginal cost is equal to its marginal revenue (MC=MR). Price is PQ and output is OQ. At P the average revenue is equal to average cost hence the firm is earning normal profit only.

(3) **Loss Making Situation:**

Under monopolistic situation during short period a firm will earn loss when its cost is greater than its revenue (AC>AR). It can be explained with the help of the Diagram 3.

Diagram 3 : Loss Incurring Situation



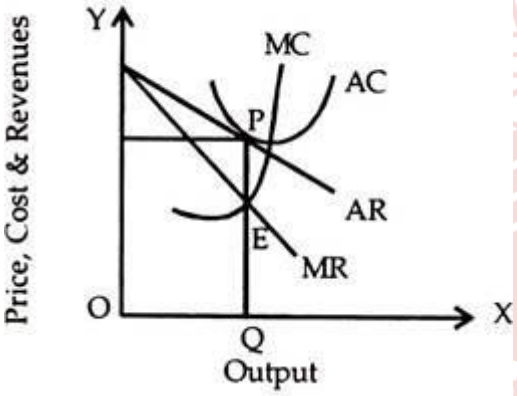
Price, cost and revenue are shown on OY-axis while output is shown on OY-axis respectively. The point of equilibrium (MC=MR) is E. Price is OP and output is OQ. Average loss (AC- AR) is ST and total loss is LPTS.

Price and Output Determination during Long Period:

Under monopolistic competition, firms have freedom to enter and exit the industry. In the long run if firms are earning profit new firms are attracted and it will increase the output and consequently prices will fall leading to conversion of profit making situation into normal profit situation.

Contrary to it when firms are incurring losses during long period they will leave the industry. It will reduce the volume of output, prices will increase and the loss making situation will be converted into normal profit. Thus, the firms will earn normal profit only during long period. It can be seen from Diagram 4.

Diagram 4 : Normal Profit



Price, costs and revenue are shown on OY-axis and output on OX-axis. Point of equilibrium (MC=MR) is E. Price is PQ and output is OQ. At P point average cost is equal to average revenue (AC=AR). Hence, the firm is earning normal profit only during long period.

OLIGOPOLY

Generally, a firm will be in equilibrium where its marginal cost curve cuts its marginal revenue curve from its below (MC=MR) and price will be depicted by the average revenue curve or demand curve of the firm.

Price and output determination under oligopoly can be studied under the following headings:

Price and Output under Perfect Collusion:

Under oligopoly perfect collusion may be formed among different producers and sellers in two ways, namely, centralised cartel and market sharing cartel and price and output are determined accordingly.

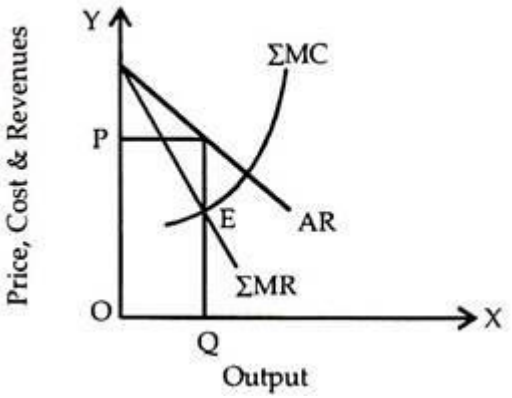
(a) Centralised Cartel:

Under this type of collusion a centralised cartel is set up by different firms of oligopoly market structure. These firms transfer their function relating to managerial decisions and other activities to the centralised cartel to improve the volume of profit. Centralised cartel aims at maximisation of profit of all the firms. The cartel fixes price of the product, volume of output and production quota of individual firms.

Once such centralized cartel is set up under perfect collusion of oligopoly the market becomes a monopoly market. Although such situation is imaginary and unrealistic. However, the situation under centralized cartel becomes more or less the same. We assume that under a centralized cartel there are only two firms and the cartel is well aware of the demand of the commodity at different levels of prices and marginal revenue curve of industry is drawn accordingly. The aggregate of all marginal costs of the firms is derived (∑MC). Central cartel will determine price and output to attain the maximum total output with the given average revenue (demand curve), marginal revenue and marginal cost.

The profit will be maximised by the centralised cartel when the group MR is equal to group marginal cost (∑MR=∑MC) as given in the following diagram-

Diagram 1



In the diagram AR is the demand curve of industry and MR is the marginal revenue curve which has been drawn on the basis of AR or demand curve. ∑MC is the total marginal cost curve of the industry which is the aggregate marginal cost of two firms engaged in production in that industry. Marginal revenue curve of industry is cut by the marginal cost curve of the industry at point E where ∑MR

is equal to ∑MC (∑MR=∑MC). It is the equilibrium of the industry. Price is OP and output is OQ in the industry.

The centralised cartel fixes the production quota of individual firm and it can be fixed in various ways. The simplest method is that once centralised cartel has determined the price the firms are given freedom to produce and sell it at given price.

In such a situation individual firm will produce to the point where its marginal cost is equal to its price and maximises its profit. Another method is to fix the quota of all firms on the basis of their average sales in the past. The last method is the geographical distribution of area within which the firms will sell their product and restrictions are imposed on outside area.

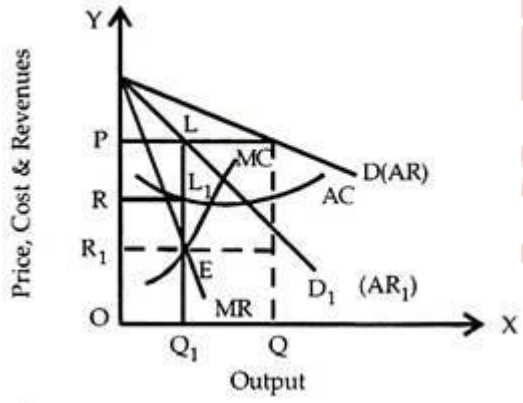
(b) **Market Sharing Cartel:**

Another form of perfect collusion is the market sharing by the firms. This type of collusion can be effective and successful when all the firms are producing homogeneous product and production costs are similar. In order to explain this type of collusion we assume that there are two firms producing on the uniform cost of production and are ready to share market on 50:50 basis.

In market sharing cartel each firm aims at maximisation of profit. The maximisation of profit will be at that point where each firm's marginal cost is equal to its marginal revenue (MC=MR).

It can be explained with the help of the following diagram:

Diagram 2



In the diagram, output is shown on OX-axis while price, cost and revenue on OY-axis. DD (AR) is the demand curve of industry and it has been divided into two parts. DD_1 (AR_1) is the demand curve of an individual firm and MR is its marginal revenue curve. The marginal cost curve of firms is MC and average cost is AC. The MC curve of firm cuts its marginal revenue curve (MR) from its below and

the point of equilibrium is E. The output of the firm is OQ_1 and its price is OP or LQ_1. The average cost of the firm is Q_1L_1 or OR. Hence, the firm is earning RL_1LP profit. The other firm will also produce and sell the same output because we have assumed that there are two firms only.

Hence, the output in industry will be OQ which is just double to the OQ_1 and the MC and MR will be OR_2 because the cost and revenue curves of the other firms are also similar. Under the market sharing cartel both the firms will have equal share in the industry. But the sharing may also be based on the geographical as well as on the efficiency of the firms and the share may be more.

(c)Price and Output under Imperfect Collusion:

Under oligopoly price and output can also be determined without any collusion among the firms. The firms may decide to follow a firm in price and output determination in the long run. Such sort of policy is called price leadership under oligopoly.

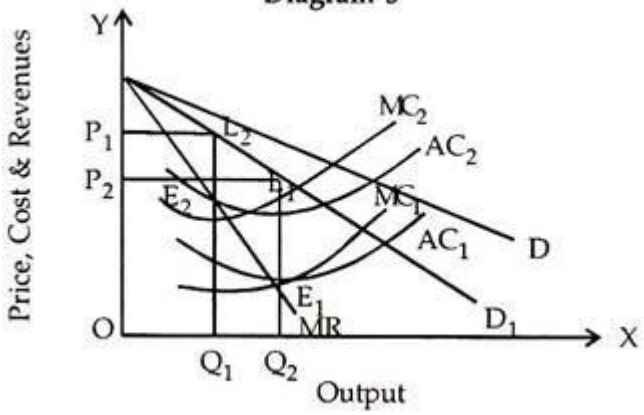
Such type of imperfect collusion in the form of price leadership may take two forms as given below:

(a) Price Leadership of Low Cost Firm:

Under imperfect collusion firms may agree to follow the price leadership of low cost firm. In other words, a firm of low cost production tries to maximize its profit and the same price and output policy can be followed by other firms in the industry. Under this type of price leadership we assume that there are two firms only producing the homogeneous product and they share the market and cost of production of one firm is lower than the former.

The price leadership of low cost firm can be explained with the help of the following diagram:

Diagram 3



In the diagram output is shown on OX-axis while price, cost, and revenue are shown on OY-axis. DD is the market demand curve while DD_1 is the demand curve of the firm. AC_2 and MC_2 are average cost curve and marginal cost curve of the firm having high cost of production. Its point of equilibrium is E_2 where the price is OP_2 and the output is OQ_2.

The average cost curve (AC_1) and marginal cost curve (MC_1) are of a firm having least cost of production. Its point of equilibrium is E_1 where the price of the firm is OP_1 and output is OQ_1. The marginal revenue curve (MR) of both the firms is equal to their MC_1 and MC_2. The firm producing OQ_1 output with OP_1 price is the low cost producing firm and it will be the price leader in the market and the same price policy OP_1 will be following by other firm.

(b) Price Leadership of a Dominant Firm:

Another type of imperfect collusion under oligopoly is the price leadership by a dominant firm. This type of price determination is possible only when there is a large size firm and another firm is a small size firm in the industry. The large size firm will fix the price and the small firm will sell the output at that price.

The price leadership of a dominant firm is based on the following assumptions:

(i) There is a large size firm and others are small sized firms. There is an agreement among all these firms.

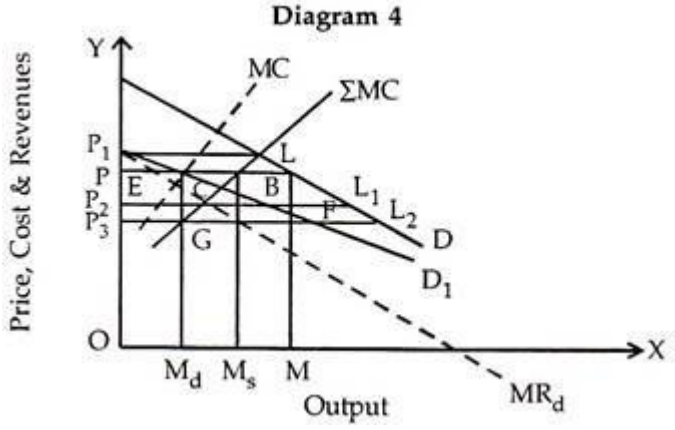
(ii) Small firms can sell their output at the price fixed by the large sized firm. Small firms are price takers.

(iii) The output is supplied by small firms at the price fixed by the dominant firm and the remaining supply of output will be produced by the large size firm.

(iv) The dominant firm will maximize its profit.

The Diagram 4 will explain the price and output determined by the dominant firm under oligopoly:

Diagram 4



Output is shown on OX-axis, price, costs and revenue are shown on OY-axis. DD is the market demand curve of the product. ∑MC is the supply curve of small firms excluding the dominant firm.

Under it the dominant firm price leadership fixes the price. On this price all the small firms will supply the market demand and remaining demand is met by the dominant firm. We assume that the dominant firm determines the OP_1 price. On this price the total market demand is P_1L and this demand is completed by all the small firms. The supply of dominant firm on this price is zero.

If the dominant firm reduces the price which will increase the demand in the market and small firms will supply less and the dominant firm will supply a major part of market demand. On OP_2 price the market demand is P_2L_1. Out of it, P_2C is supplied by small firms and the remaining part of market demand CL_1 is supplied by the dominant firm. The demand curve of the dominant firm is P_1B.

Similarly, if the dominant firm fixes OP_3 price the market demand is P_3L_2. P_3G is the supply of small firms while the dominant firm will supply GL_2. The third point of dominant firm on the demand curve is F. Thus the various points on P_1D_1 will give the demand curve of the dominant firm and the MR_d will be its marginal revenue curve. The marginal cost (MC) curve of the firm cuts its marginal revenue curve (MR_d) at E point. At this point the dominant firm produces OM_d output and sells it at OP price. At OP price the total demand of the commodity is OM. At this price (OP) small firms will supply OM_s quantity and remaining M_SM quantity will be sold by the dominant firm. Thus, under dominant price leadership the price and output are determined.

Price and Output under Independent Pricing:

Under oligopoly market structure when there is no collusion among different sellers or firms then individual firm is free to follow an independent pricing policy. Independent pricing means each individual firm follows an independent price and output policy under oligopoly. Price war starts under the oligopoly when an independent pricing policy is followed by all the firms. Uncertainty and insecurity emerge in the market.

When an individual seller reduces the price of product the customers of his competitors will be attracted and rival firm may also reduce the price. Price war starts and spreads in the industry as a whole and each firm tries to reduce the price of its product. Many firms are forced to leave the industry because of cut-throat competition and price war.

The intensity of price war can be reduced by the experience of the industry. All the firms in the market have long run experience and they can take decision

accordingly. Firms set such a price or set of prices which are accepted by all the firms from the profit point of view. Such prices are stable or rigid for a given period of time and individual firms try to adopt the policy of non-price competition (advertisement and sales promotion) in place of price competition.

KINKED DEMAND UNDER OLIGOPOLY

Assumptions of the Kinked Demand Curve Model:

This model was developed independently by Prof. Paul M. Sweezy on the one hand and Profs. R. C. Hall and C. J. Hitch on the other hand.

The assumptions of this model are:

(i) There are only a few firms in an oligopolistic market.
(ii) The firms are producing close-substitute products.
(iii) The quality of the products remains constant and the firms do not spend on advertising.
(iv) A set of prices of the product has already been determined and these prices prevail in the market at present.
(v) Each firm believes that if it reduces the price of its product, the rival firms would follow suit, but if it increases the price, then the rivals would not follow it, they would simply keep their prices unchanged. We shall see presently that, because of this asymmetric reaction pattern of the rivals, the demand curve of each firm would have a kink at the prevailing price of its product.

Why the Kink in the Demand Curve?

In Fig. 14.18 we have drawn two negatively sloped straight line demand curves, viz., dd' and DD'. Of these two curves, dd' is more flat than DD'. Now, when one particular firm in the industry changes the price of its product, all other firms keeping their prices constant, the firm's demand curve will be relatively flatter like dd', i.e., the magnitude of the change in the demand for its product as its price changes would be relatively larger.

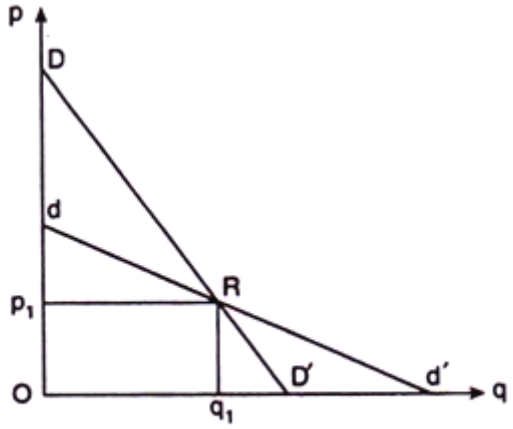


Fig. 14.18 Explaining the kink in the demand curve

This is because, as the firm reduces or increases the price of its product, the prices of the products of other firms remaining constant, the product of the firm becomes relatively cheaper or dearer, respectively, than those of the other firms.

On the other hand, if a particular firm in the industry changes the price of its product, and following this, all other firms also change their prices in the same direction, and, say by the same proportion, for the sake of simplicity, then the firm's demand curve would be relatively more steep like DD'.

This is because, in this case, as the firm decreases or increases the price, its product does not become neither relatively cheaper nor dearer. Therefore, now its demand curve would be less elastic, or more steep, than dd'—now the demand curve would be like DD'.

Let us suppose that initially the price of the product of the firm is p_1 or Op_1 and the demand for the product is q_1 or Oq_1 If the firm now increases its price from p_1, the rival firms would keep their prices unchanged according to assumption (v) of this model.

In this case, the firm's demand would decrease along the segment Rd of the relatively more elastic demand curve dd'. On the other hand, if it goes on decreasing its price from p_1, its rivals also would be decreasing their prices according to assumption (v). In this case, the quantity demanded of the firm's product will increase along the segment RD' of the relatively steeper demand curve DD'.

Therefore, at the price p_1, the firm's demand curve would be dRD'. Obviously, because of assumption (v), the segment dR of this demand curve would be more flat or more elastic than the segment RD' (and the segment RD' would be more steep or less elastic than the segment dR).

As a result, there would be a kink at the prevailing price p_1, or, at the point R on the firm's demand curve d RD', i.e., the demand curve in this model would be a kinked demand curve.

Analysis of the Kinked Demand Curve Model:

In the oligopoly model under discussion, the properties of the kinked demand curve as well as its significance are especially discussed. In the first place, as the demand curve or the average revenue (AR) curve of the firm has a kink, its MR curve cannot be obtained as a continuous curve. We may, therefore, begin with the properties of the MR curve of the kinked demand curve with the help of Fig. 14.19.

The kinked demand curve of the firm in this Fig. is dRD'. There is a kink at the point R (p_1, q_1) on this curve, because the curve consists of a segment dR of the relatively flatter curve dd' and another segment RD' of the relatively steeper curve DD'.

Therefore, in the case of the kinked demand curve dRD', the firm's MR curve, up to $q = q_1$, would consist of the MR curve dM associated with the dR segment of the kinked demand curve and for $q > q_1$, the MR curve would be the segment NB associated with the segment RD' of the demand curve.

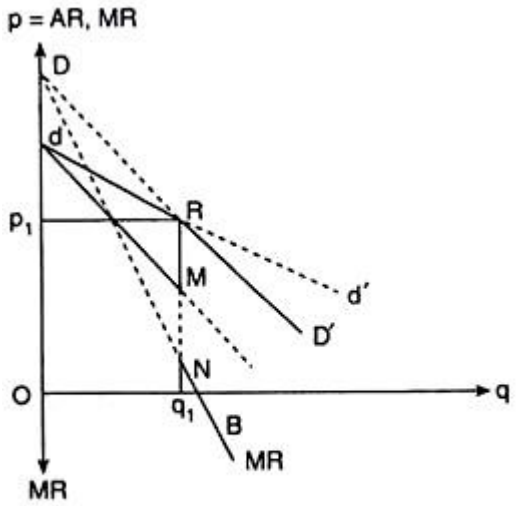


Fig. 14.19 The MR curve associated with the kinked demand curve

We have obtained above that the firm's MR curve for its kinked demand curve would consist of two parts, viz., the segments dM and NB, and there would be a vertical gap between the points M and N at $q = q_1$.

This implies that as the firm's output goes on increasing up to q_1, its MR would go on decreasing along the segment dM up to the amount Mq_1 and if

the firm's output increases even by an infinitesimally small quantity at $q = q_1$, its MR would fall to Nq_1, and, thereafter, as q increases, MR would decrease along the segment NB.

In other words, there would be no MR value between Mq_1 and Nq_1, i.e., the dotted segment MN is the discontinuity in the firm's MR curve. We may also say that at the point R on the dR segment of the kinked demand curve, the firm's MR would be Mq_1 and, at the point R on the RD' segment of the demand curve, MR would be Nq_1.

We may now easily see that the numerical coefficient of elasticity of demand (e_1) at the point R on the demand curve segment dR is different from the coefficient (e_2) at the point R on the demand curve segment RD', and the larger the difference between e_1 and e_2, the larger would be the length of the discontinuity of the MR curve at the output q_1.

As we know, at any point R (p_1, q_1) on the firm's demand curve in Fig. 14.19, numerical coefficient (e) of price- elasticity of demand is

$$e = \frac{p_1}{q_1} \times \text{reciprocal of the numerical slope at that point on the demand curve}$$

Now, the reciprocal of the numerical slope of the demand curve dRd′ at the point R on the segment dR > the reciprocal of the numerical slope of the demand curve at the point R on the segment RD′

(∵ the segment dR is more flat than the segment RD′)

Therefore, we have $e_1 > e_2$.

Now, MR (= MR_1, say) at the point R on the segment dR is

$$MR_1 = Mq_1 = p_1\left(1 - \frac{1}{e_1}\right)$$

Also, MR (= MR_2, say) at the point R on the segment RD′ is

$$MR_2 = Nq_1 = p_1\left(1 - \frac{1}{e_2}\right)$$

Therefore, from the above two equations, we obtain

$$e_1 > e_2 \Rightarrow 1 - \frac{1}{e_1} > 1 - \frac{1}{e_2} \Rightarrow p_1\left(1 - \frac{1}{e_1}\right) > p_1\left(1 - \frac{1}{e_2}\right)$$

$$\Rightarrow MR_1 (= Mq_1) > MR_2 (= Nq_1)$$

That is, at the point of kink, R, on the demand curve dRD', or at $q = q_1$, we have two different values (e_1 and e_2) of e, and that is why at $q = q_1$, we obtain two different values (MR! and MR_2) of MR and two different parts of the MR

curve. The vertical gap between the two parts of the MR curve at $q = q_1$ is $Mq_1 – Nq_1 = MN$.

It follows from the above discussion that the larger the difference between e, and e_2, i.e., the more flat the segment dR would be than the segment RD', i.e., the more prominent the kink would be at the point R, the larger would be the value of MR_1 than that of MR_2 and the larger would be the discontinuity in the MR curve at $q = q_1$.

Second, in the model under discussion, the prices of the products are given initially, and a relation between these prices has been established already. The model does not explain how these prices have been determined.

But there is a good chance that the price of the product of a firm would be consistent with its goal of profit maximisation. For example, in Fig. 14.20, the firm's demand curve is dRD' and the associated MR curve is MR_1—the discontinuity or the vertical gap between the two parts of the MR_1curve is MN.

Now, if the marginal cost (MC_1) curve of the firm passes through this gap of MN, then the firm's price-output combination $R(p_1, q_1)$ is consistent with profit maximisation although here, at $q = q_1$, we have MR (= Mq_1) > MC (= Lq_1), and not MR = MC.

Here we see that at $q < q_1$ MR > MC, making the firm increase its output to reach the profit-maximising point. Now, as q increases and becomes equal to q_1, then also we have MR > MC. But if the firm increases q beyond q_1, MR becomes less than MC (MR < MC), i.e., from the production and sale of the marginal unit of its output, the firm now would incur a loss.

Therefore, it would not produce more than q_1, and its profit would be maximum at $q = q_1$, in spite of the fact that at $q = q_1$, we have MR > MC, and not MR = MC.

Third, although the assumption (v) of the model regarding the reaction pattern of the rival firms may explain the kink in the firm's demand curve, it cannot explain how the price of the firm's product, or, for that matter, the prices of the rivals' products, are determined.

However, the reaction pattern of the rivals, as given by assumption (v), is able to explain why the prices would not tend to change, i.e., why they would be sticky, once they get determined.

For example, if, in Fig. 14.20, the firm's quantity sold increases from q_1 to q_2, it would not be inclined to change the assumption regarding the reaction

pattern of the rivals, for its conception about the rivals' reactions, is, by no means, dependent on its quantity sold.

Therefore, it would regard the increase in quantity sold, or an increase in the demand for its product, as caused by a rightward shift in its demand curve—it would think that its demand curve has shifted to the right from dRD' to dR'D".

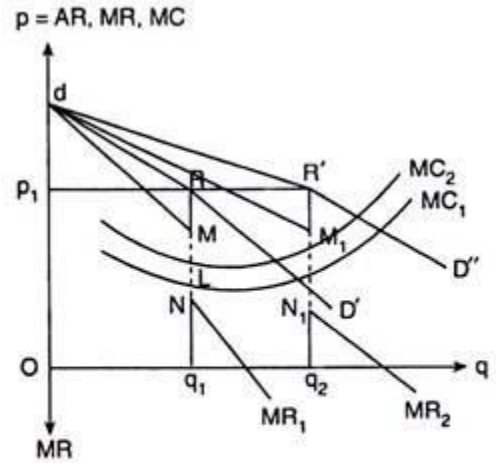


Fig. 14.20 The price may not change owing to a shift in the demand curve or marginal cost curve

We may note here that although the demand curve has shifted to the right, it has kept the price of its product unchanged, resulting not necessarily in the un fulfilment of its profit maximising goal.

In Fig. 14.20, we have assumed that the two curves, viz., dRD' and dR'D", are iso-elastic (2.8.2g), and the MC_1 curve passes also through the discontinuity (M_1N_1) of the MR_2 curve which is the marginal curve for the demand curve dR'D". Therefore, here the firm is able to maximise its profit at the same price $p_1 = R'q_2 = Rq_1$.

Fourth, in the model under discussion, the firm may not have to change the price of its product, even if its cost of production rises. For example, let us suppose that initially the firm's AR and MR curves are dRD' and MR_1, and the MC, curve is the firm's MC curve.

In this case, the firm's profit would be maximised if it sells q_1 of output at the price of p_1. Now, if the firm's cost position changes resulting in an upward shift in its MC curve from MC_1 to MC_2, and if the MC_2 curve also, like MC_1, passes through the discontinuity (MN) of its MR curve, then the firm would not have to change the price of its product in order to earn the maximum profit.

It would be able to maximise profit if it, like the previous case, sells of output at the price of p_1.

If the cost of production rises along with a shift in the demand curve, then also, profit maximisation may not require the firm to change the price of its product. For example, in Fig. 14.20, let us suppose that the firm's AR, MR and MC curves are, respectively, dRD', $MR_1$and MC_1, In this case, the firm's profit-maximising price-output combination would be R (p_1 q_1).

Now, if the firm's MC curve rises to MC_2 along with a rightward shift in its demand curve to dR'D", then also the firm would not be required to change the price of its product if the MC_2 curve passes through both the discontinuities, MN and M_1N_1, of its dRD' and dR'D" curves.

It would still be able to earn the maximum profit at the price pi; but now its quantity of output produced and sold would be q_2; that is, now the firm's price-output combination would be obtained at the point R' (p_1, q_2).

On the basis of the above discussion, we may conclude that in the kinked demand curve model of oligopoly, the firm would not consider it profitable or rational to change the prevailing price of its product because of the assumption (v) relating to the reaction pattern of its rivals.

[*This assumption states, that if a particular firm increases the price of its product, its rivals will not increase theirs, but if it reduces the price, they will promptly reduce their pr*ices.] We have seen that, because of these reactions, the demand curve of each oligopolistic firm will be kinked, and the MR curve of this demand curve will have two separate segments, and there will be a vertical gap between them.

However, it is not that the firm's goal of profit maximisation can never be achieved because of the existence of this vertical gap. Even when the firm's demand increases, i.e., its demand curve shifts to the right and/or its MC curve shifts upwards, it is not impossible for it to achieve profit maximisation at the prevailing price.

Therefore, although the kinked demand curve model cannot explain the process of price determination, it can well explain why the prices are sticky in an oligopolistic market.

PRICE LEADERSHIP

Price leadership occurs when a leading firm in a given industry is able to exert enough influence in the sector that it can effectively determine the price of goods

or services for the entire market. This type of firm is sometimes referred to as the price leader.

How price leadership works?

There are certain economic conditions that make the emergence of price leadership more likely to occur within an industry: the number of companies involved is small; entry to the industry is restricted; products are homogeneous; demand is inelastic, or less elastic; organizations have a similar long-run average total cost (LRATC). LRATC is an economics metric that is used to determine the minimum (or lowest) average total cost at which a firm can produce any given level of output in the long run (when all inputs are variable).

The proliferation of price leadership tends to occur more often in sectors that produce goods and services that offer little differentiation from one producer to another.

Price leadership also tends to emerge when there is a high level of consumer demand for a specific product; this results in consumers being drawn away from any competing products. Thus, the price of the specific product that is experiencing high levels of consumer demand becomes the market leader.

Types of Price Leadership

There are three primary models of price leadership: barometric, collusive, and dominant.

Barometric

The barometric price leadership model occurs when a particular firm is more adept than others at identifying shifts in applicable market forces, such as a change in production costs. This allows the firm to respond to market forces more efficiently. For instance, the firm may initiate a price change.

It is possible for a firm with a small market share to act as a barometric price leader if it's a good producer and if the firm is attuned to trends in its market. Other producers may follow its lead, assuming that the price leader is aware of something that they have yet to realize. However, because a barometric leader has very little power to impose its decisions on other firms in the industry, its leadership might be short-lived.

Collusive

The collusive price leadership model may emerge within markets that have oligopolistic conditions. Collusive price leadership occurs as a result of an

explicit or implicit agreement among a handful of dominant firms to keep their prices in mutual alignment.

Smaller firms within the market are effectively forced into following the price change initiated by the dominant firms. This practice is most common in industries where the cost of entry is high, and the costs of production are known.

These agreements between firms–either explicit or implicit–may be considered illegal if the effort is designed to defraud the public. There is a fine line between price leadership and illegal acts of collusion. Price leadership is more likely to be considered collusive–and potentially illegal–if the changes in the price of a good are not related to changes in the operating costs of the firm.

Dominant

The dominant price leadership model occurs when one firm controls the vast majority of the market share in its industry. Within the industry, there are other, smaller firms that provide the same products or services as the leading firm. However, in this model, these smaller firms cannot influence prices.

A dominant price leadership model is sometimes referred to as a partial monopoly. In this type of model, the price leader might engage in predatory pricing, which refers to the practice of lowering prices to levels that make it impossible for smaller, competing firms to remain in business. In most countries, business decisions that enact predatory pricing and are aimed at hurting smaller companies are illegal.

PRICING POLICIES

A pricing policy is a standing answer to recurring question. A systematic approach to pricing requires the decision that an individual pricing situation be generalised and codified into a policy coverage of all the principal pricing problems. Policies can and should be tailored to various competitive situations. A policy approach which is becoming normal for sales activities is comparatively rare in pricing.

Most well managed manufacturing enterprises have a clear cut advertising policy, product customer policy and distribution-channel policy. But pricing decision remains a patchwork of ad hoc decisions. In many, otherwise well managed firms, price policy has been dealt with on a crisis basis. This kind of price management by catastrophe discourages the kind of systematic analysis needed for clear cut pricing policies.

Objectives of Pricing Policy:

The pricing policy of the firm may vary from firm to firm depending on its objective. In practice, we find many prices for a product of a firm such as wholesale price, retail price, published price, quoted price, actual price and so on.

Pricing decision of a firm in general will have considerable repercussions on its marketing strategies. This implies that when the firm makes a decision about the price, it has to consider its entire marketing efforts. Pricing decisions are usually considered a part of the general strategy for achieving a broadly defined goal.

While setting the price, the firm may aim at the following objectives:

(i) Price-Profit Satisfaction:

The firms are interested in keeping their prices stable within certain period of time irrespective of changes in demand and costs, so that they may get the expected profit.

(ii) Sales Maximisation and Growth:

A firm has to set a price which assures maximum sales of the product. Firms set a price which would enhance the sale of the entire product line. It is only then, it can achieve growth.

(iii) Making Money:

Some firms want to use their special position in the industry by selling product at a premium and make quick profit as much as possible.

(iv) Preventing Competition:

Unrestricted competition and lack of planning can result in wasteful duplication of resources. The price system in a competitive economy might not reflect society's real needs. By adopting a suitable price policy the firm can restrict the entry of rivals.

(v) Market Share:

The firm wants to secure a large share in the market by following a suitable price policy. It wants to acquire a dominating leadership position in the market. Many managers believe that revenue maximisation will lead to long run profit maximisation and market share growth.

(vi) Survival:

In these days of severe competition and business uncertainties, the firm must set a price which would safeguard the welfare of the firm. A firm is always in its survival stage. For the sake of its continued existence, it must tolerate all kinds of obstacles and challenges from the rivals.

(vii) Market Penetration:

Some companies want to maximise unit sales. They believe that a higher sales volume will lead to lower unit costs and higher long run profit. They set the lowest price, assuming the market is price sensitive. This is called market penetration pricing.

(viii) Marketing Skimming:

Many companies favour setting high prices to 'skim' the market. Dupont is a prime practitioner of market skimming pricing. With each innovation, it estimates the highest price it can charge given the comparative benefits of its new product versus the available substitutes.

(ix) Early Cash Recovery:

Some firms set a price which will create a mad rush for the product and recover cash early. They may also set a low price as a caution against uncertainty of the future.

(x) Satisfactory Rate of Return:

Many companies try to set the price that will maximise current profits. To estimate the demand and costs associated with alternative prices, they choose the price that produces maximum current profit, cash flow or rate of return on investment.

Factors Involved in Pricing Policy:

The pricing of the products involves consideration of the following factors:

(i) Cost Data.

(ii) Demand Factor.

MULTIPLE CHOICE QUESTIONS

1.What determines the quantity a firm chooses to produce?

A) Where demand is highest

B) Where marginal cost equals marginal revenue

C) Where production capacity is fully utilized

D) Where the market is least competitive

2. Which of the following is an internal factor affecting pricing decisions?

A) Demand

B) Competition

C) Organizational Factors

D) Supplies

3. What is the role of top-level managers in pricing?

A) Fixing the distinct price

B) Deciding the price range and policies

C) Implementing the marketing mix

D) Forecasting market trends

4. How does product differentiation affect pricing?

A) It decreases the price due to increased competition

B) It allows for a higher price due to unique features

C) It is irrelevant to pricing

D) It reduces the cost of the product

5. What must a firm ensure about its price in relation to its cost?

A) The price is always higher than the cost

B) The price is set by the government

C) The price fluctuates with market trends

D) The price does not fall below the cost

6. Which factor is not under the control of the firm?

A) Marketing Mix

B) Cost of the Product

C) Demand

D) Organizational Factors

7. What happens to the price if the demand for a product is inelastic?

A) The price can be fixed higher

B) The price is always low

C) The price is set by competitors

D) The price is determined by the government

8. In a monopolistic market, how are prices fixed?

A) Based on competition

B) Irrespective of competition

C) Solely on cost

D) According to consumer preference

9. What should a company do in anticipation of external problems?

A) Increase prices

B) Decrease production

C) Forecast the market trend

D) Change the marketing mix

10. What is the impact of easy availability of raw materials on pricing?

A) Prices become more competitive

B) Prices are fixed high

C) Prices are not affected

D) Prices can be moderate

11. What does production capacity influence in output decisions?

A) The price of the product

B) The quality of the product

C) The quantity to produce

D) The marketing strategy

12. Why is demand forecasting important for output decisions?

A) It helps in setting the price

B) It determines future demand for products

C) It influences the marketing mix

D) It controls the supply of raw materials

13. Which cost is not directly related to output decisions?

A) Production

B) Storage

C) Distribution

D) Advertisement

14. How do market conditions affect output decisions?

A) They determine the cost of raw materials

B) They influence the level of competition

C) They set the government regulations

D) They fix the price of the product

15. What should a firm do if the demand for its goods decreases?

A) Increase the price

B) Decrease the price

C) Stop production

D) Increase marketing efforts

16. What is the relationship between cost and price?

A) They are inversely related

B) They are directly related

C) They are not related

D) Price is always double the cost

17. What does the marketing mix need to maintain?

A) The standard of the price of the product

B) The highest possible price

C) The lowest possible cost

D) The balance with competitors' prices

18. What is the effect of product utility on pricing?

A) It decreases the price

B) It has no effect on the price

C) It increases the price

D) It standardizes the price across the market

19. What happens to prices during a recession?

A) They increase

B) They fluctuate wildly

C) They decrease

D) They remain constant

20. What is the effect of high competition on prices?

A) Prices must be competitive

B) Prices are set by the government

C) Prices can be arbitrarily set

D) Prices are not affected by competition

21. What is a defining characteristic of an oligopoly?

A) Many sellers with differentiated products

B) A single seller dominating the market

C) A limited number of major sellers

D) Perfectly informed consumers

22. How does the presence of a few firms affect competitive strategies in an oligopoly?

A) Strategies are independent of each other

B) Strategies are highly interconnected

C) Strategies are determined by consumer choice

D) Strategies are regulated by the government

23. What can firms in an oligopoly market do that those in perfect competition cannot?

A) Set prices

B) Respond to market prices

C) Sell identical products

D) Enter the market easily

24. Which of the following is a barrier to entry in an oligopoly?

A) Low initial costs

B) Lack of technology

C) Economies of scale

D) Absence of strategic actions by existing companies

25. In an oligopoly, how do firms typically compete?

A) Through price cuts

B) Through non-price competition

C) By limiting production

D) By forming cartels

26. What does the demand curve represent in perfect competition?

A) The quantity supplied at various prices

B) The quantity demanded at various prices

C) The equilibrium quantity

D) The profit maximization point

27. How does the quantity demanded change with price in perfect competition?

A) It increases with a price increase

B) It decreases with a price increase

C) It remains constant regardless of price

D) It is unrelated to price

28. What is the shape of the supply curve under perfect competition?

A) Downward sloping

B) Upward sloping

C) Horizontal

D) Vertical

29. At what point is the price of a product determined in perfect competition?

A) Where the demand curve is highest

B) Where the supply curve is lowest

C) Where the demand and supply curves intersect

D) Where the government sets it

30. What is the equilibrium quantity in perfect competition?

A) The maximum quantity a firm can produce

B) The quantity demanded and supplied at the equilibrium point

C) The quantity where demand is highest

D) The quantity where supply is lowest

31. Which feature is common to both oligopoly and monopolistic competition?

A) A large number of small firms

B) Product differentiation

C) A single seller

D) Perfect information about prices

32. How do oligopolies maintain long-term profits?

A) By constantly lowering prices

B) By creating barriers to entry

C) By selling at a loss

D) By increasing supply

33. What happens to the quantity supplied under perfect competition when the price increases?

A) It decreases

B) It increases

C) It remains constant

D) It fluctuates unpredictably

34. Which of the following is a non-price method of competition in oligopolies?

A) Reducing production costs

B) Offering loyalty schemes

C) Increasing barriers to entry

D) Forming cartels

35. What allows oligopolies to keep excess profits?

A) High consumer demand

B) Lack of competition

C) Government subsidies

D) Constant price wars

36. What is a market structure?

A) A physical marketplace

B) The categorization of industries based on competition

C) A government-imposed system

D) The layout of a business organization

37. Which market structure is characterized by a large number of small firms with no control over market price?

A) Monopoly

B) Oligopoly

C) Monopolistic competition

D) Perfect competition

38. What is a key feature of a monopoly?

A) Low barriers to entry

B) A single supplier with complete control over price

C) Perfect information about prices

D) Homogenous products

39. What does monopolistic competition combine features of?

A) Monopoly and oligopoly

B) Perfect competition and monopoly

C) Oligopoly and perfect competition

D) Monopoly and perfect competition

40. In which market structure do firms have the freedom to enter or exit the market?

A) Monopoly

B) Oligopoly

C) Perfect competition

D) Monopolistic competition

41. What leads to a lack of competition in a pure monopoly market structure?

A) Perfect information about prices

B) A large number of small firms

C) Entry barriers such as high startup costs

D) Product differentiation

42. How do monopolies affect prices and outputs compared to competitive markets?

A) They result in lower prices and outputs

B) They have no effect on prices and outputs

C) They lead to higher prices and outputs

D) They cause prices and outputs to fluctuate

43. What allows businesses in monopolistic competition to set themselves apart?

A) The number of buyers and sellers

B) Offering higher-quality products and distinctive branding

C) The level of difficulty in joining the industry

D) The number of externalities

44. Which market structure is characterized by perfect information about prices?

A) Monopoly

B) Oligopoly

C) Monopolistic competition

D) Perfect competition

45. What factor is common to all market structures?

A) The number of sellers involved

B) The level of competition

C) Product differentiation

D) Market accessibility

46. What is the condition for a firm to be in equilibrium under perfect competition?

A) P > MC

B) P < MC

C) P = MC

D) None of the above

47. At equilibrium under perfect competition, what is true about the firm's revenue?

A) Marginal Revenue (MR) > Average Revenue (AR)

B) MR < AR

C) MR = AR

D) MR and AR are unrelated

48. What happens to the price if the market supply is greater than market demand?

A) Price increases

B) Price decreases

C) Price remains constant

D) There is no effect on price

49. In the long run, what is true for firms in a perfectly competitive market?

A) They earn super-normal profits

B) They incur losses

C) They earn normal profits

D) They shut down

50. What does the demand curve for a perfectly competitive firm look like?

A) Upward sloping

B) Perfectly elastic

C) Downward sloping

D) Perfectly inelastic

51. What is the shape of the total revenue curve for a perfectly competitive firm?

A) U-shaped

B) Downward sloping

C) Straight line

D) Upward sloping with curvature

52. What triggers entry into a perfectly competitive market in the long run?

A) Losses by existing firms

B) Super-normal profits by existing firms

C) Decrease in consumer demand

D) Increase in production costs

53. What is the implication of free entry and exit in a perfectly competitive market?

A) Firms can earn super-normal profits in the long run

B) Firms can only earn normal profits in the long run

C) Firms will always incur losses

D) Firms cannot change their output levels

54. What is the role of a firm in a perfectly competitive market?

A) Price maker

B) Price taker

C) Quantity adjuster

D) Market regulator

55. How does a perfectly competitive firm decide on the level of output?

A) Based on government regulations

B) Where MR = MC

C) Based on fixed costs

D) Based on total revenue only

56. What happens to the profits of a perfectly competitive firm when new firms enter the market?

A) Profits increase

B) Profits decrease

C) Profits remain unchanged

D) The firm shuts down

57. What is the result of perfect competition on consumer welfare?

A) Decreases consumer welfare

B) Increases consumer welfare

C) No impact on consumer welfare

D) Consumer welfare is unpredictable

58. What is the relationship between Average Revenue (AR) and Price (P) under perfect competition?

A) AR > P

B) AR < P

C) AR = P

D) AR and P are unrelated

59. What is the outcome when a perfectly competitive firm produces where MC > MR?

A) The firm maximizes profits

B) The firm minimizes losses

C) The firm should decrease output

D) The firm should increase output

60. In the short run, if the market price is below the average variable cost, what should a perfectly competitive firm do?

A) Continue producing the same output

B) Increase output

C) Shut down

D) Decrease output but continue producing

61. What does the downward-sloping demand curve in a monopoly indicate?

A) The monopolist can sell more at a higher price.

B) The monopolist's product has many substitutes.

C) The monopolist can sell more only by lowering the price.

D) The monopolist operates in a perfectly competitive market.

62. How are the Average Revenue (AR) and Marginal Revenue (MR) curves related in a monopoly?

A) AR and MR are identical.

B) AR is always below MR.

C) MR lies below AR when AR is falling.

D) MR is independent of AR.

63. When will the Average Revenue (AR) remain constant in a monopoly?

A) When Marginal Revenue (MR) is greater than AR.

B) When Marginal Revenue (MR) is equal to AR.

C) When Marginal Revenue (MR) is less than AR.

D) AR never remains constant in a monopoly.

64. What is the primary goal of a monopolist?

A) To increase social welfare.

B) To maintain a constant output level.

C) To earn maximum profit.

D) To ensure perfect competition.

65. At what point does a monopolist reach equilibrium?

A) Where AR = AC.

B) Where MC > MR.

C) Where MR = MC.

D) Where AR = MR.

66. What is the equilibrium quantity under monopoly when MR=MC? [data given in monopoly equilibrium]

A) 40

B) **43.63**

C) 50

D) 100

67. At the profit-maximizing output, what is the price under monopoly? [data given in monopoly equilibrium]

A) 100

B) **120**

C) 200

D) 1000

68. What is the total maximum profit at Q=44 for the monopolist? [data given in monopoly equilibrium]

A) Rs. 20,000

B) **Rs. 20,844**

C) Rs. 21,844

D) Rs. 22,000

69. In the case of zero marginal cost, at what output level is the equilibrium established?

A) Where MR=0

B) Where MC=0

C) Where AR=MR

D) **Where elasticity of demand is unity**

70. Under monopolistic competition, when is a firm in a profit-making situation?

A) When AR=AC

B) **When AR>AC**

C) When AR<AC

D) When MC=MR

71. What is the relationship between price and marginal cost under monopoly at equilibrium?

A) Price = MC

B) Price > MC

C) Price < MC

D) **Price = AR (\left(\frac{e-1}{e}\right))**

72. What happens to the monopolist's plant size in the long run if profits are earned?

A) It remains the same

B) It decreases

C) **It increases**

D) It fluctuates

73. What ensures the equilibrium under monopoly in the long run?

A) Entry or exit of organizations

B) **MR equal to the long-run MC**

C) Price not going below AVC

D) All of the above

74. What is the condition for a monopolist in the short run to avoid losses?

A) **Price should be above AVC**

B) Price should be below AVC

C) Price should be equal to AVC

D) AVC should be zero

75. In monopolistic competition, what determines the point of equilibrium during the short period?

A) AR=AC

B) AR>AC

C) **MC=MR**

D) MC>MR

76. In an oligopoly, when does a firm reach equilibrium?

A) When MC > MR

B) **When MC = MR**

C) When MC < MR

D) When MC is at its maximum

77. What is the aim of a centralised cartel in an oligopoly market?

A) To decrease the volume of profit

B) To fix only the price of the product

C) To reduce production quota

D) **To maximise the profit of all firms**

78. What happens to the market structure when a centralised cartel is formed under perfect collusion in oligopoly?

A) It becomes a competitive market

B) **It becomes a monopoly market**

C) It remains an oligopoly

D) It turns into a monopolistic competition

79. How is the production quota of individual firms determined by a centralised cartel?

A) Based on the manager's decision

B) **Based on various methods including past average sales**

C) Randomly

D) Equal quota for all firms

80. What is the equilibrium condition for the industry under a centralised cartel?

A) When ∑MR > ∑MC

B) When ∑MR < ∑MC

C) **When ∑MR = ∑MC**

D) When ∑MR is at its minimum

81. What is one method a centralised cartel may use to fix the production quota of individual firms?

A) By the size of the firm

B) By the age of the firm

C) **By their average sales in the past**

D) By the number of employees

82. Under perfect collusion in oligopoly, what is the market sharing cartel based on?

A) The diversity of products

B) **Homogeneity of products and similar production costs**

C) The size of the market

D) The number of firms

83. What is the result of market sharing collusion among firms in an oligopoly?

A) Decreased profits for all firms

B) Increased competition

C) **Maximisation of profit for each firm**

D) Fixed prices for consumers

84. In a market sharing cartel, when will a firm maximise its profit?

A) When MC is at its minimum

B) When MR is at its maximum

C) **When MC = MR**

D) When MC > MR

85. What type of products are produced by firms in a market sharing cartel under oligopoly?

A) Differentiated products

B) **Homogeneous products**

C) Complementary products

D) Substitute products

86. In the kinked demand curve model of oligopoly, what is the firm's reaction to an increase in quantity sold?

A) It changes the price of its product.

B) It assumes a shift in the rivals' reaction pattern.

C) **It regards it as a shift in its demand curve.**

D) It reduces the price of its product.

87. What happens to the firm's profit maximization goal when the demand curve shifts to the right but the price remains unchanged?

A) It always leads to unfulfilled profit maximization.

B) **It does not necessarily result in unfulfilled profit maximization.**

C) It results in decreased profits.

D) It requires a change in the price.

88. If a firm's cost of production rises, under what condition would it not have to change the price of its product to maximize profit?

A) If the MC curve does not pass through the discontinuity of the MR curve.

B) **If the new MC curve passes through the discontinuity of the MR curve.**

C) If the MR curve shifts to the left.

D) If the demand curve becomes perfectly elastic.

89. According to the kinked demand curve model, why are prices sticky in an oligopolistic market?

A) Because firms frequently change their prices.

B) Because the demand curve is not kinked.

C) **Because of the assumed reaction pattern of rivals.**

D) Because the MC curve is always shifting upwards.

90. What does the kinked demand curve model suggest about a firm's pricing strategy if its rivals are likely to match price decreases but not price increases?

A) The firm should frequently change its prices.

B) **The firm would find it unprofitable to change the prevailing price.**

C) The firm should always increase its prices.

D) The firm should decrease its prices to increase demand.

91. What economic conditions favor the emergence of price leadership?

A) Large number of companies

B) Easy entry to the industry

C) **Homogeneous products and inelastic demand**

D) High differentiation between products

92. Which model of price leadership is characterized by a firm's ability to efficiently respond to market forces?

A) Collusive

B) Dominant

C) **Barometric**

D) Monopolistic

93. In which type of price leadership are smaller firms forced to follow the price set by dominant firms?

A) Barometric

B) **Collusive**

C) Dominant

D) Competitive

94. What is a potential legal issue with collusive price leadership?

A) It always leads to higher prices for consumers.

B) **It may be considered illegal if not related to operating costs.**

C) It results in lower profits for the firms involved.

D) It is always considered a legal business practice.

95. What is the dominant price leadership model sometimes referred to as?

A) A competitive monopoly

B) **A partial monopoly**

C) A barometric oligopoly

D) A collusive competition

96. What is the primary goal of a firm's pricing policy?

A) To create complex pricing structures

B) **To address recurring pricing issues systematically**

C) To change prices frequently

D) To follow competitors' pricing

97. Which objective might a firm pursue to ensure its survival in a competitive market?

A) **Setting prices that safeguard the firm's welfare**

B) Maximizing short-term profits

C) Ignoring market trends

D) Focusing solely on market share

98. What is market penetration pricing?

A) Setting the highest possible price

B) **Setting the lowest price to maximize unit sales**

C) Keeping prices stable

D) Changing prices based on competitor actions

99. What strategy do firms use to 'skim' the market?

A) Offering the lowest price

B) **Setting high prices for new innovations**

C) Matching competitors' prices

D) Reducing prices to recover cash early

100. Why would a firm want to maintain price stability over time?

A) To confuse competitors

B) To complicate the pricing structure

C) **To achieve expected profit despite demand and cost changes**

D) To engage in price wars

UNIT-4

NATIONAL INCOME – DEFINING A COUNTRY'S RICHNESS

To simply understand what National Income is, it can be represented as - National Income defines a country's wealth. This income depicts the value of goods and services which are produced by an economy. This gives effect to the net result of all the economic activities performed in the country.

Imagine how you would define a country's wealth without any economic term? In that case, there would be no accountability and responsibility linked with the production in the country. The resources would go uncalculated and there would be a vague economic atmosphere. Thus, let us indulge in this study which talks about National Income.

UNDERSTANDING NATIONAL INCOME

National income is the sum total of the value of all the goods and services manufactured by the residents of the country, in a year, within its domestic boundaries or outside. It is the net amount of income of the citizens by production in a year.

To be more precise, national income is the accumulated money value of all final goods and services produced in a country during one financial year. Computation of National Income is very vital as it indicates the overall health of our economy for that particular year.

The aggregate economic performance of a nation is calculated with the help of National income data. The basic purpose of national income is to throw light on aggregate output and income and provide a basis for the government to formulate its policy, programs, to maximize the national welfare of the people. Central Statistical Organization calculates the national income in India.

CONCEPTS OF NATIONAL INCOME

The main concepts of National Income are:

- **Gross Domestic Product (GDP)**
- **Gross National Product (GNP)**
- **Net National Product (NNP)**
- **Personal Income (PI)**
- **Disposable Income (DI)**
- **Per Capita Income (PCI)**

Gross Domestic Product

Gross Domestic Product, abbreviated as GDP, is the aggregate value of goods and services produced in a country. GDP is calculated over regular time intervals, such as a quarter or a year. GDP as an economic indicator is used worldwide to measure the growth of countries economy.

Goods are valued at their market prices, so:

- All goods measured in the same units (e.g., dollars in the U.S.)
- Things without exact market value are excluded.
- The Formula for Calculation of GDP

GDP = consumption + investment + government spending + exports - imports.

Gross National Product

Gross National Product (GNP) is an estimated value of all goods and services produced by a country's residents and businesses. GNP does not include the services used to produce manufactured goods because its value is included in the price of the finished product. It also includes net income arising in a country from abroad.

Formula to Calculate GNP

GNP = GDP + NR (Net income from assets abroad or Net Income Receipts) - NP (Net payment outflow to foreign assets).

Net National Product (NNP)

Net National Product is the market value of all final goods and services after allowing for depreciation. It is also called National Income at market price. When charges for depreciation are deducted from the gross national product, we get it. Thus,

NNP = GNP-Depreciation or, NNP= (GDP+ NR-NP) -Depreciation

National Income is also known as National Income at factor cost. National income at factor cost means the sum of all incomes earned by resources suppliers for their contribution of land, labor, capital and organizational ability which go into the year's net production. Hence, the sum of the income received by factors of production in the form of rent, wages, interest and profit is called National Income.

Symbolically,

NI= NNP + Subsidies - Interest Taxes

Personal Income (PI)

Personal Income is the total money income received by individuals and households of a country from all possible sources before direct taxes.

Therefore, personal income can be expressed as follows:

PI=NI-Corporate Income Taxes - Undistributed Corporate Profits - Social Security Contribution + Transfer Payments

Disposable Income (DI)

The income left after the payment of direct taxes from personal income is called Disposable Income. Disposable income means actual income which can be spent on consumption by individuals and families.

Thus, it can be expressed as:

DI=PI-Direct Taxes From consumption approach, DI=Consumption Expenditure + Savings

Per Capita Income (PCI)

Per Capita Income of a country is derived by dividing the national income of the country by the total population of a country.

Thus, **PCI=Total National Income/Total National Population**.

MEASUREMENT OF NATIONAL INCOME

There are three methods to measure national income:

- **Income Method**
- **Production Method**
- **Expenditure Method**

Measurement of National Income – Income Method

Estimated by adding all the factors of production (rent, wages, interest, profit) and the mixed-income of self-employed.

In India, one-third of people are self-employed.

This is the 'domestic' income, related to the production within the borders of the country

Measurement of National Income – Production Method

Estimated by adding the value added by all the firms.

Value-added = Value of Output – Value of (non-factor) inputs

This gives GDP at Market Price (MP) – because it includes depreciation (therefore 'gross') and taxes (therefore 'market price')

To reach National Income (that is, NNP at FC)

Add Net Factor Income from Abroad: **GNP at MP = GDP at MP + NFIA**

Subtract Depreciation: **NNP at MP = GNP at MP – Dep**

Subtract Net Indirect Taxes: **NNP at FC = NNP at MP – NIT**

Measurement of National Income – Expenditure Method

The expenditure method to measure national income can be understood by the equation given below:

Y = C + I + G + (X-M),

where Y = GDP at MP, C = Private Sector's Expenditure on final consumer goods, G = Government's expenditure on final consumer goods, I = Investment or Capital Formation, X = Exports, I = Imports, X-M = Net Exports

Any of these methods can be used in any of the sectors – the choice of the method depends on the convenience of using that method in a particular sector.

CONSUMPTION FUNCTION OF NATIONAL INCOME

The term consumption function refers to an economic formula that represents the functional relationship between total consumption and gross national income (GNI). The consumption function was introduced by British economist John Maynard Keynes, who argued the function could be used to track and predict total aggregate consumption expenditures. It is a valuable tool that can be used by economists and other leaders to understand the economic cycle and help them make key decisions about investments as well as monetary and fiscal policy.

UNDERSTANDING THE CONSUMPTION FUNCTION

As noted above, the consumption function is an economic formula introduced by John Maynard Keynes, who tracked the connection between income and spending. Also called the Keynesian consumption function, it tracks the proportion of income used to purchase goods and services. Put simply, it can be used to estimate and predict spending in the future.

The classic consumption function suggests consumer spending is wholly determined by income and the changes in income. If true, aggregate savings should increase proportionally as the gross domestic product (GDP) grows over time. The idea is to create a mathematical relationship between disposable income and consumer spending, but only on aggregate levels.

Based in part on Keynes' Psychological Law of Consumption, the stability of the consumption function is a cornerstone of Keynesian macroeconomic theory. This is especially true when it is contrasted with the volatility of an investment, Most post-Keynesians admit the consumption function is not stable in the long run since consumption patterns change as income rises.

Calculating the Consumption Function

The consumption function is represented as:

$$C = A + MD$$

where:

***C*=consumer spending**

***A*=autonomous consumption**

***M*=marginal propensity to consume**

***D*=real disposable income**

INVESTMENT FUNCTION OF NATIONAL INCOME

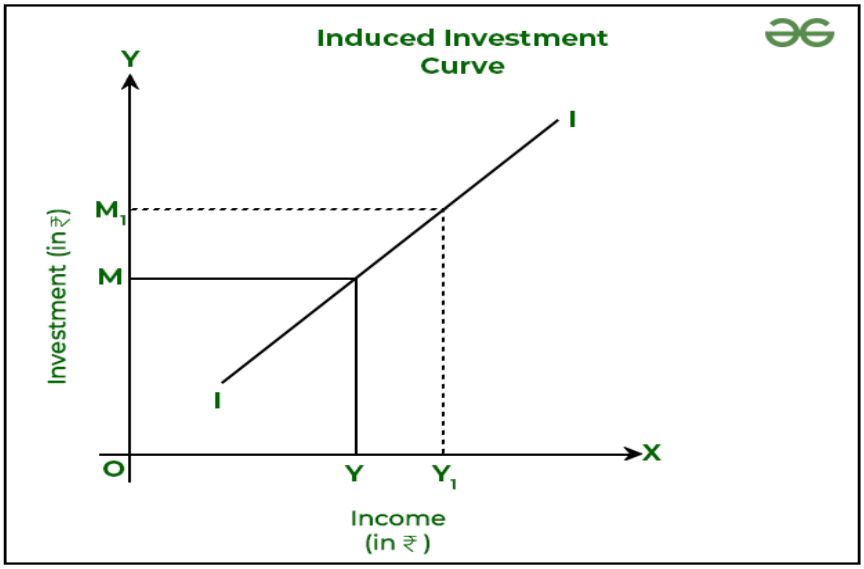
A strategy or concept of economics that helps in identifying the connection between shifts in the investment patterns of people and other variable factors affecting investment in an economy is known as Investment Functi

The expenditure incurred to create new capital assets is known as Inv . These capital assets include buildings, machinery, raw material, equipment, etc. The expenditure on these assets results in an increase in the economy's productive capacity.

The investment expenditure can be classified under the heads:

- Induced Investment
- Autonomous Investment

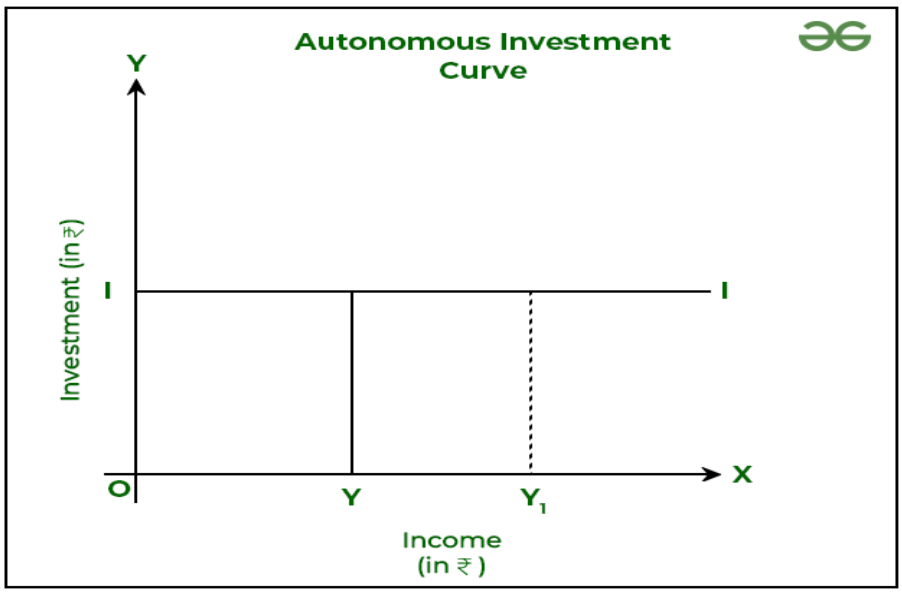
Induced Investment:The investment which depends upon the profit expectations and has a direct influence of income level on it is known as Induced Investment. Induced Investment is **income elastic** It means that the induced investment increases when income increases and vice-versa.



The above graph shows that the induced investment curve II has an upward slope from left to right. It indicates that as the income increases from OY to OY_1, the investment also increases from OM to OM_1.

Autonomous Investment: The investment on which the change in income level does not have any effect and is induced only by profit motive is known as Autonomous Investment. Autonomous Investment is **income inelastic.** It means that if there is a change in income (increase/decrease), the autonomous investment will remain the same. In general, autonomous investments are made by the Government in infrastructural activities. However, a country's level of autonomous investment depends upon its social, economic, and political conditions. Therefore, the investment can change when there is a change in technology, or there is a discovery of new resources, etc.

.The above graph shows that the amount of investment remains the same, i.e., OI, no matter whether the income level in the economy is OY or OY_1.



BUSINESS CYCLE

Business cycles are a type of fluctuation found in the aggregate economic activity of a nation—a cycle that consists of expansions occurring at about the same time in many economic activities, followed by similarly general contractions. This sequence of changes is recurrent but not periodic.

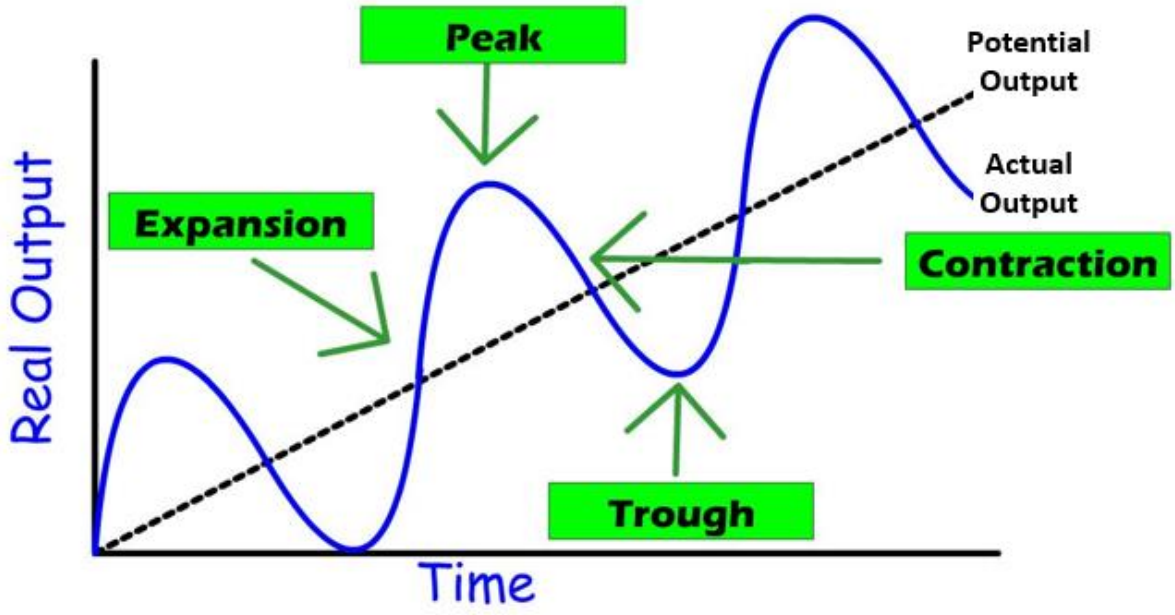
In essence, business cycles are marked by the alternation of the phases of expansion and contraction in aggregate economic activity and the co-movement among economic variables in each phase of the cycle. Aggregate economic activity is represented by not only real (i.e., inflation-adjusted) GDP—a measure of aggregate output—but also the aggregate measures of industrial

production, employment, income, and sales, which are the key coincident economic indicators used for the official determination of U.S. business cycle peak and trough dates.

On the flip side, a business cycle recovery begins when that recessionary vicious cycle reverses and becomes a virtuous cycle, with rising output triggering job gains, rising incomes, and increasing sales that feedback into a further rise in output. The recovery can persist and result in a sustained economic expansion only if it becomes self-feeding, which is ensured by this domino effect driving the diffusion of the revival across the economy.

PHASES OF BUSINESS CYCLE

- **Expansion**
- **Peak**
- **Contraction**
- **Trough**



Expansion or Boom

This phase is characterized by an increase in output and employment. There is also an increase in the demand in the market, capital expenditure, sales and subsequently an increase in income and profits. This cycle will continue till there is hundred percent utilization of available resources.

And the production level will be at the maximum capacity. The unemployment rates will be zero with the exception of voluntary unemployment and frictional or structural employment (which is temporary).

In this phase both the prices and cost increase at a somewhat faster rate. But generally, the public enjoy prosperity and a higher standard of living. The growth rate will eventually decelerate as the economy approaches its peak.

Peak

As the name suggests this is the highest point of all the phases of business cycles. At this point the output is maximum, and the involuntary unemployment is basically zero. As the economy goes through expansion, inputs become rarer. Their demands increase and so does their prices.

This leads to an increase in the price of consumer goods as well. Income does not see a proportional increase. So consumers have to review their expenses and cut back on their consumption.

Aggregate demand in the market will stagnate. This will mark the end of the expansion phase. The growth of the economy stabilizes at the peak for a short period. Then it goes in the reverse direction.

Contraction

At the peak of an economy, demand is stagnant. Then very soon, demand starts falling in certain sections of the economy. This is the start of the contraction phase of the trade cycle, which is the opposite of the expansion phase.

Even the investment levels and employment levels decrease along with the demand. Now there is a mismatch between demand and supply in the market. Once producers become aware of the shift in the economy they start disinvesting, scaling back operations, canceling orders for goods and labor etc.

This will start a domino effect. Now producers of capital goods and raw materials will also start canceling orders and holding off investment.

At this turning point in the economy, the prices of the goods also fall. Income levels decreases which decrease consumer spending as well. The outlook about the economy is pessimistic and we will see a contraction in economic activities across all sectors. We call this phase recession

Depression or Trough

Depression is the lowest of the phases of business cycles. It is a severe form of recession. In this phase, we will see a negative growth rate in the economy. There is a continuous decrease in demand.

The companies that cannot dispose of their stocks keep reducing the prices. Some companies will be forced to shut down due to mounting losses. This will adversely affect employment rates.

The capital and money market also suffer greatly. The interest rate is at its lowest. After this phase, the economy will recover by additional investments, and the business cycle will continue.

INFLATION

Inflation is the rate at which the prices for goods and services increase. Inflation often affects the buying capacity of consumers. Most Central banks try to limit inflation in order to keep their respective economies functioning efficiently. There are certain advantages as well as disadvantages to inflation.

Inflation refers to the increase in the prices of the goods and services of daily use, such as food, housing, clothing, transport, recreation, consumer staples, etc. Inflation is measured by taking into consideration the average price change in a basket of commodities and services over a period of time. Inflation is calculated in India by the Ministry of Statistics and Program Implementation.

A simple example would be, suppose a kg of apple cost Rs.100 in 2024 and it cost Rs.110 in 2025, then there would be a 10% increase in the cost of a kg of apple. In the same way, many commodities and services whose prices have raised over time are put in a group and the percentage is calculated by keeping a year as the base year. The percentage of increase in prices of the group of commodities is the rate of inflation.

CAUSES OF INFLATION

Causes of Inflation are broadly classified into two types:

Money supply: Excess currency (money) supply in an economy is one of the primary cause of inflation. This happens when the money supply/circulation in a nation grows above the economic growth, therefore reducing the value of the currency.

In the modern era, countries have shifted from the traditional methods of valuing money with the amount of gold they possessed. Modern methods of money valuation are determined by the amount of currency that is in circulation which is then followed by the public's perception of the value of that currency.

National Debt: There are a number of factors that influence national debt, which include the nations borrowing and spending. In a situation where a country's debt increases, the respective country is left with two options:

- Taxes can be raised internally.
- Additional money can be printed to pay off the debt.

Demand-Pull Effect: The demand-pull effect states that in a growing economy as wages increase within an economy, people will have more money to spend on goods and services. The increase in demand for goods and services will result in companies raising prices that the consumers will bear in order to balance supply and demand.

Cost-Push Effect: This theory states that when companies face increased input cost on raw materials and wages for manufacturing consumer goods, they will preserve their profitability by passing the increased production cost to the end consumer in the form of increased prices.

Exchange Rates: An economy with exposure to foreign markets mostly functions on the basis of the dollar value. In a trading global economy, exchange rates play an important factor in determining the rate of inflation.

EFFECTS OF INFLATION

When there is inflation in the country, the purchasing power of the people decreases as the prices of commodities and services are high. The value of currency unit decreases which impacts the cost of living in the country. When the rate of inflation is high, the cost of living also increases, which leads to a deceleration in economic growth.

However, a healthy inflation rate (2-3%) is considered positive because it directly results in increasing wages and corporate profitability and maintains capital flowing in a growing economy.

Here are some of the most prominent effects of inflation on the economy –

Effects on production

The rise in prices of goods and services stimulates its production. As producers are happy to get high profits, they utilize all resources to produce more. However, after reaching the stage of total employment, production stops at a certain point as all resources are fully used. This gives rise to the cornering and hoarding of commodities. Although, these effects are not always seen. Whereas, even after increasing prices, production comes to a still position. This condition is referred to as stagflation.

Effects on employment and income

Another significant impact of inflation is seen on income and employment. As production and spending increase, the national income also increases. Also, it gives rise to employment opportunities as there is a higher need for workers. However, the income of the people falls because of the massive fall in the purchasing power of the money.

Effects on business and trade

Because of factors like high income, enormous spending, and more outstanding production, the internal trade increases in the condition of inflation; however, some firms expand their business to attain higher profits. During inflation, the prices and the wages of the workers stop at a point, rising inequality in the economy.

Effects of government finance

During hyperinflation, the government revenue increases as they get revenue in different forms. These include tax, sales tax, excise duties, and so on. However, the government is expected to spend more; as a result, public expenditure boosts. But the rise in prices reduces the burden of public debt.

Effects on growth

On the one hand, where mild inflation contributes to economic growth, hyperinflation can negatively affect the development of an economy. In developing countries like India, benign inflation is the ideal condition.

MCQ

1. What is the primary purpose of calculating National Income?

a) To measure individual wealth

b) To assess the overall economic performance of a nation

c) To determine government expenditure

d) To regulate international trade

2. Which organization is responsible for calculating National Income in India?

a) World Bank

b) International Monetary Fund (IMF)

c) Central Statistical Organization

d) Reserve Bank of India (RBI)

3. What does GDP stand for?

a) Gross Domestic Product

b) Gross National Product

c) Gross Net Product

d) Grand Domestic Production

4. Which of the following is not included in the calculation of GDP?

a) Government spending

b) Exports

c) Personal income

d) Investment

5. How is GDP calculated?

a) GDP = consumption + investment - government spending + exports - imports

b) GDP = consumption + investment + government spending + exports - imports

c) GDP = consumption - investment + government spending + exports - imports

d) GDP = consumption + investment + government spending - exports – imports

6. What is GNP?

a) Gross National Product

b) Gross Net Product

c) Grand National Production

d) Gross National Production

7. Which component is deducted from GNP to calculate NNP?

a) Investment

b) Depreciation

c) Government spending

d) Exports

8. What does NNP stand for?

a) Net National Price

b) Net National Product

c) New National Production

d) National Net Profit

9. What does PI represent?

a) Public Income

b) Personal Investment

c) Personal Income

d) Private Investment

10. Which of the following is deducted from Personal Income to calculate Disposable Income?

a) Savings

b) Corporate Income Taxes

c) Transfer Payments

d) Interest Taxes

11. What is the formula for calculating Disposable Income?

a) DI = PI - Direct Taxes

b) DI = PI + Direct Taxes

c) DI = PI - Savings

d) DI = PI + Savings

12. Which term represents the actual income available for consumption by individuals and families?

a) Personal Income

b) Disposable Income

c) Gross National Product

d) Gross Domestic Product

13. What is the measure of Per Capita Income?

a) Total National Income divided by Total National Population

b) Total National Population divided by Total National Income

c) Total National Income multiplied by Total National Population

d) Total National Population multiplied by Total National Income

14. Which concept represents the market value of all final goods and services after allowing for depreciation?

a) Gross Domestic Product

b) Gross National Product

c) Net National Product

d) National Income

15. What does NNP represent?

a) National Net Production

b) New National Price

c) Net National Product

d) National Net Profit

16. What is the primary purpose of GDP?

a) To measure the net income of citizens

b) To calculate the total value of goods and services produced

c) To determine government expenditure

d) To assess individual wealth

17. Which term represents the aggregate value of goods and services produced in a country?

a) Gross Domestic Product

b) Gross National Product

c) Personal Income

d) Disposable Income

18. What is included in the calculation of GDP?

a) Savings

b) Government spending

c) Transfer Payments

d) Corporate Income Taxes

19. What is the formula for calculating GNP?

a) GNP = GDP + NR - NP

b) GNP = GDP - NR + NP

c) GNP = GDP + NR + NP

d) GNP = GDP - NR – NP

20. What is the primary purpose of calculating Personal Income?

a) To measure individual wealth

b) To assess the overall economic performance of a nation

c) To determine government expenditure

d) To assess household income

21. How is national income measured using the income method?

a) By adding the value added by all firms

b) By adding all factors of production and mixed-income of self-employed individuals

c) By calculating private sector expenditure on consumer goods

d) By subtracting depreciation from GDP at market price

22. What does the production method measure?

a) Private sector expenditure

b) Value added by all firms

c) Government expenditure on consumer goods

d) Imports and exports

23. Which equation represents the expenditure method to measure national income?

a) Y = C + I + G + (X-M)

b) Y = C + I + G

c) Y = GDP at MP - NFIA

d) Y = GNP at FC + Dep

24. What does NFIA stand for in the production method equation?

a) Net Factor Income from Abroad

b) Net Financial Income Assessment

c) National Financial Information Analysis

d) Non-Financial Income Adjustment

25. How is GDP at market price calculated using the production method?

a) By subtracting depreciation from GDP at factor cost

b) By adding net factor income from abroad to GDP at factor cost

c) By adding the value of output and subtracting the value of non-factor inputs

d) By adding net indirect taxes to GDP at factor cost

26. What does NIT represent in the production method equation?

a) Net Indirect Taxes

b) National Income Tax

c) Non-Investment Transactions

d) Net Interest Taxes

27. Which of the following sectors does the choice of method for measuring national income depend on?

a) Government sector

b) Manufacturing sector

c) Agricultural sector

d) Convenience of usage in a particular sector

28. What is the main component measured using the income method?

a) Government expenditure

b) Value added by firms

c) Factors of production and mixed-income of self-employed

d) Net exports

29. In the expenditure method equation, what does C represent?

a) Government expenditure

b) Private sector's expenditure on final consumer goods

c) Exports

d) Imports

30. Which method includes depreciation in its calculation?

a) Income method

b) Production method

c) Expenditure method

d) None of the above

31. What does X-M represent in the expenditure method equation?

a) Exports

b) Imports

c) Net Exports

d) Net Government Expenditure

32. What is subtracted from GDP at market price to reach National Income in the production method?

a) Net Factor Income from Abroad

b) Depreciation

c) Net Indirect Taxes

d) Net Exports

33. Which method involves adding government expenditure on final consumer goods?

a) Income method

b) Production method

c) Expenditure method

d) None of the above

34. What is included in the measurement of national income using the production method?

a) Private sector expenditure

b) Value added by firms

c) Net exports

d) Non-factor inputs

35. What is the primary component measured in the income method of national income calculation?

a) Investment

b) Consumption

c) Production

d) Factors of production

36. Who introduced the concept of the consumption function?

a) Adam Smith

b) John Maynard Keynes

c) Milton Friedman

d) Karl Marx

37. What does the consumption function represent?

a) The relationship between investment and income

b) The relationship between consumption and gross national income

c) The relationship between government expenditure and gross domestic product

d) The relationship between savings and disposable income

38. What is the formula for the consumption function?

a) C = A + MD

b) C = A - MD

c) C = M + AD

d) C = D + AM

39. What does 'A' represent in the consumption function equation?

a) Marginal propensity to consume

b) Autonomous consumption

c) Aggregate savings

d) Aggregate income

40. What does 'M' represent in the consumption function equation?

a) Real disposable income

b) Marginal propensity to consume

c) Aggregate savings

d) Autonomous consumption

41. Which term in the consumption function equation signifies the portion of income used for consumption?

a) A

b) M

c) D

d) C

42. What is the classic assumption about consumer spending in the consumption function?

a) It is wholly determined by government policies

b) It is wholly determined by income and changes in income

c) It remains constant regardless of income changes

d) It is wholly determined by savings

43. What is one purpose of the consumption function?

a) To track government expenditure

b) To estimate and predict consumer spending

c) To determine savings rates

d) To calculate inflation rates

44. According to the consumption function, what should happen to aggregate savings as GDP grows over time?

a) Aggregate savings should decrease

b) Aggregate savings should increase proportionally

c) Aggregate savings should remain constant

d) Aggregate savings should become negative

45. What is the stability of the consumption function considered to be in Keynesian macroeconomic theory?

a) A cornerstone

b) Irrelevant

c) Volatile

d) Unpredictable

46. Which law partly influences the stability of the consumption function?

a) Law of Supply and Demand

b) Law of Diminishing Marginal Utility

c) Keynes' Psychological Law of Consumption

d) Law of Comparative Advantage

47. What does 'D' represent in the consumption function equation?

a) Disposable income

b) Demand for goods and services

c) Depreciation

d) Disposable goods

48. According to the consumption function, what does 'A' represent?

a) Portion of income used for consumption

b) Portion of income not influenced by income changes

c) Portion of income saved

d) Portion of income taxed

49. What does the consumption function primarily track?

a) Government expenditure

b) Consumer spending

c) Investment patterns

d) Savings rates

50. What does the consumption function aim to create a mathematical relationship between?

a) Savings and disposable income

b) Consumption and investment

c) Disposable income and consumer spending

d) Government expenditure and GDP

51. What is the concept that helps in understanding the relationship between shifts in investment patterns and other variable factors affecting investment in an economy?

A) Investment Curve

B) Investment Function

C) Investment Elasticity

D) Investment Expansion

52. Which type of investment depends on profit expectations and is directly influenced by income levels?

A) Induced Investment

B) Autonomous Investment

C) Elastic Investment

D) Static Investment

53. Which type of investment is income inelastic and remains constant regardless of changes in income levels?

A) Induced Investment

B) Autonomous Investment

C) Dynamic Investment

D) Flexible Investment

54. What factor primarily motivates autonomous investment?

A) Income levels

B) Government policies

C) Market demand

D) Profit expectations

55. Which type of investment is influenced by factors such as technology advancements and resource discoveries?

A) Induced Investment

B) Autonomous Investment

C) Market Investment

D) Strategic Investment

56. In the investment function, what does the induced investment curve illustrate?

A) Constant investment levels

B) Fluctuating investment patterns

C) Relationship between income and investment

D) Government intervention in investments

57. What happens to induced investment when income levels increase?

A) It decreases

B) It remains constant

C) It fluctuates randomly

D) It increases

58. Which investment type exhibits an upward slope in its curve as income increases?

A) Autonomous Investment

B) Induced Investment

C) Fixed Investment

D) Variable Investment

59. What does the autonomous investment curve depict?

A) Fluctuating investment patterns

B) Constant investment levels

C) Government influence on investments

D) Market demand for investments

60. In general, which entity primarily engages in autonomous investments?

A) Private corporations

B) Non-governmental organizations

C) Individuals

D) Government

61. Which type of investment is more responsive to changes in income levels?

A) Autonomous Investment

B) Fixed Investment

C) Induced Investment

D) Flexible Investment

62. What does it mean when autonomous investment is described as income inelastic?

A) It increases with income

B) It decreases with income

C) It remains constant regardless of income changes

D) It varies randomly with income changes

63. What primarily influences induced investment?

A) Government policies

B) Profit expectations

C) Market demand

D) Technological advancements

64. Which investment type is more influenced by external economic conditions?

A) Autonomous Investment

B) Fixed Investment

C) Induced Investment

D) Strategic Investment

65. What can cause a shift in the autonomous investment level?

A) Changes in income

B) Technological advancements

C) Government policies

D) Market demand fluctuations

66. What characterizes the expansion phase of the business cycle?

A) Decrease in output and employment

B) Decrease in demand and sales

C) Increase in output and employment

D) Decrease in income and profits

67. What is the primary indicator of the peak phase in the business cycle?

A) Zero unemployment rates

B) Maximum output and involuntary unemployment

C) Stagnant aggregate demand

D) Decrease in prices of consumer goods

68. What happens to demand during the contraction phase of the business cycle?

A) It increases across all sectors

B) It remains stagnant

C) It falls in certain sections of the economy

D) It reaches its peak

69. Which phase of the business cycle is characterized by a negative growth rate in the economy?

A) Expansion

B) Peak

C) Contraction

D) Depression or Trough

70. What happens to consumer spending during the contraction phase of the business cycle?

A) It increases due to higher income levels

B) It remains constant

C) It decreases due to lower income levels

D) It fluctuates randomly

71. During which phase of the business cycle do companies experience mounting losses and may be forced to shut down?

A) Expansion

B) Peak

C) Contraction

D) Depression or Trough

72. What happens to the interest rate during the depression phase of the business cycle?

A) It remains constant

B) It increases significantly

C) It decreases to its lowest level

D) It fluctuates unpredictably

73. Which phase of the business cycle marks the end of the expansion phase?

A) Peak

B) Contraction

C) Trough

D) Depression

74. What initiates the domino effect during the contraction phase of the business cycle?

A) Rising output triggering job gains

B) Decreasing demand and investment

C) Stagnant aggregate demand

D) Increase in consumer spending

75. What characterizes the expansion phase in terms of resource utilization?

A) Resources are underutilized

B) Resources are utilized at maximum capacity

C) Resources are utilized at minimum capacity

D) Resources are not utilized

76. At which point in the business cycle do producers start disinvesting and scaling back operations?

A) Expansion

B) Peak

C) Contraction

D) Depression

77. What happens to income levels during the contraction phase of the business cycle?

A) They increase

B) They remain constant

C) They decrease

D) They fluctuate randomly

78. What is the primary indicator of the trough phase in the business cycle?

A) Maximum output

B) Lowest point of economic activity

C) Zero unemployment rates

D) Rising consumer spending

79. During which phase of the business cycle does a recession typically occur?

A) Expansion

B) Peak

C) Contraction

D) Trough

80. What effect does decreasing demand have on producers during the contraction phase?

A) It encourages them to invest more

B) It prompts them to increase production

C) It leads to disinvestment and scaling back operations

D) It has no effect on producers

81. What happens to the growth rate of the economy during the depression phase?

A) It remains constant

B) It increases

C) It becomes negative

D) It fluctuates randomly

82. What is the primary characteristic of the peak phase of the business cycle?

A) Increasing demand

B) Maximum output and involuntary unemployment

C) Rising consumer spending

D) Stagnant aggregate demand

83. What term describes a severe form of recession in the business cycle?

A) Expansion

B) Peak

C) Contraction

D) Depression

84. What happens to the prices of goods during the contraction phase of the business cycle?

A) They increase

B) They remain constant

C) They decrease

D) They fluctuate randomly

85. What happens to employment rates during the depression phase of the business cycle?

A) They increase due to additional investments

B) They remain constant

C) They decrease significantly

D) They fluctuate randomly

86. What is inflation?

A) Decrease in prices of goods and services

B) Increase in prices of goods and services

C) Stability in prices of goods and services

D) Increase in money supply

87. How is inflation calculated?

A) By measuring the increase in money supply

B) By considering the average price change in a basket of commodities and services over time

C) By analysing the government's spending

D) By calculating the unemployment rate

88. Which organization in India is responsible for calculating inflation?

A) Reserve Bank of India

B) Ministry of Finance

C) Ministry of Statistics and Program Implementation

D) Securities and Exchange Board of India

89. What is one of the primary causes of inflation related to money supply?

A) Decrease in currency circulation

B) Increase in currency circulation above economic growth

C) Stability in currency circulation

D) Increase in gold reserves

90. What is the demand-pull effect of inflation?

A) Increase in supply of goods and services

B) Increase in demand for goods and services leading to price rises

C) Decrease in demand for goods and services leading to price drops

D) Increase in wages without affecting price

91. How does the cost-push effect contribute to inflation?

A) By increasing consumer savings

B) By decreasing production costs

C) By reducing demand for goods and services

D) By passing increased production costs to consumers through higher prices

92. What role do exchange rates play in inflation?

A) They have no impact on inflation

B) They determine the value of gold reserves

C) They influence the rate of inflation in a trading global economy

D) They regulate government spending

93. What is considered a healthy inflation rate?

A) 0%

B) 10%

C) 2-3%

D) 5%

94. How does inflation affect the purchasing power of people?

A) It increases purchasing power

B) It has no effect on purchasing power

C) It decreases purchasing power

D) It stabilizes purchasing power

95. What effect does inflation have on production?

A) It decreases production

B) It has no effect on production

C) It stimulates production initially but may lead to stagnation

D) It stimulates production indefinitely

96. How does inflation impact income and employment?

A) It decreases income and employment

B) It increases income and employment

C) It has no impact on income and employment

D) It increases income but decreases employment

97. What happens to internal trade during inflation?

A) It decreases

B) It remains stable

C) It increases

D) It becomes unpredictable

98. What happens to government revenue during hyperinflation?

A) It decreases

B) It remains stable

C) It increases

D) It becomes unpredictable

99. What is the impact of hyperinflation on the burden of public debt?

A) It increases the burden of public debt

B) It decreases the burden of public debt

C) It has no impact on the burden of public debt

D) It stabilizes the burden of public debt

100. What is the ideal condition of inflation in developing countries like India?

A) Hyperinflation

B) Benign inflation

C) Deflation

D) Stagflation
