Semester V

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6	2	-	6

16CCU504A PRINCIPLES OF MICRO ECONOMICS

SCOPE

Micro Economics gives the thorough knowledge on economic theory, the concept of demand, supply, market equilibrium, production functions and market structure. This paper provides the basic of Economics is its importance in management decisions.

OBJECTIVES:

- This course seeks to enable the student to grasp the determinants of demand and supply.
- It also provides knowledge of theories relating to consumer
- It equip the students with the knowledge of concept of production and calculation of production cost
- It enable them to understand the market structure for the product
- It equip the students with the knowledge of income distribution and factor pricing.
- It also seeks to provide an understanding of modern tools of macro-economic analysis and policy framework

UNIT-I

Introduction :Demand and Supply: Determinants of Demand, Movements vs. Shift in Demand Curve, Determinants of Supply, Movement along a Supply Curve vs. Shift in Supply Curve; -Market Equilibrium and Price Determination -Elasticity of Demand and Supply -Application of Demand and Supply.

UNIT-II

Consumer Theory- Ordinal Utility theory: Indifference curve approach) Consumer‘s preferences; Interference Curves; Budget line; Consumer‘s Equilibrium; Income and Substitution effect; Price Consumption Curve and the derivation of Demand Curve for a Commodity; Criticisms of the Law of Demand.

UNIT- III

Production and Cost- Production: Firm as an agent of production. Concepts of Production function. Law of variable proportions; Isoquant; Return to scale. Economics and Diseconomies of scale. Costs: Costs in the short run. Costs in the long run, Profit maximization and cost minimization. Equilibrium of the firm, Technological Change: the very long run.

UNIT-IV

Market Structure - Perfect Competition: Assumption; Theory of a firm under perfect competition; Demand and Revenue; Equilibrium of the firm in the short run and long run, The long run industry supply curve: increasing, decreasing and constant cost industry. Allocation efficiency under Perfect Competition, Monopoly: Short-run and long-run Equilibrium of Monopoly firm; Concept of Supply Curve under Monopoly; Allocation inefficiency and dead-weight loss Monopoly; Price discrimination.

Imperfect Competition: Difference between Perfect Competitions, Monopoly and Imperfect Competition; Monopolistic Competition: Assumption; Short – run Equilibrium; Long run Equilibrium; Concepts of excess capacity; Empirical relevance. Oligopoly: Causes for the existence of oligopolistic firms in the market rather than Perfect Competition; Cooperative vs. Non cooperative Behavior and dilemma of Oligopolistic firms.

UNIT- V

Income Distribution and Factor Pricing: Demand for factors. Supply of factor, backward bending Supply Curve for labor concepts of Economic Rent; Functional Distribution of Income.

Suggested Readings :

Text Book:

1. Sankaran. (2013). Business Economics. Chennai, Margham publications Ltd .

Reference Books:

1. Karl Case, Ray Fair (2013). Principles of Micro Economics [11th Edition]. New Delhi, Pearson Education.
2. Koutsiyannis. (2008) Modern Micro Economic Theory [2 nd Edition].London; England. Macmillan Press Ltd.
3. Paul A Samuelson, William D Nordhaus (2009). Micro Economics [19th Edition]. New Delhi, McGraw-Hill.
4. P.N.Reddy & H.R.Appanaiah. (1995) Principles of Business Economics. New Delhi, S.Chand & Company Ltd.
5. Ferguson & R.Rothschild. (1993). Business Economics. Hong Kong, Macmillan Press Ltd.

6. H.S.Agarwal. (1995). Business Economics Ratan Prakashan Mandir. Bachelor of Commerce (Computer Applications) (2017-18) Karpagam Academy of Higher Education Page 67
7. K.P.Sundaram and E.Sundaram (1997). Business Economics. New Delhi: Sultan Chand & Sons

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KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)
(Established under section 3 of UGC Act 1956)
Coimbatore-641021
Department of Commerce

Name: **Dr.K.Marammal Devi**
Department: **Commerce**
Subject Code: **16CCU504A** Semester: **V** Year: **2016 - 2019 Batch**
Subject: **Principles of micro Economics** **Lesson Plan**

UNIT 1			
S.No	**Lecture Hours**	**Contents**	**References**
1	1	Introduction to economics	TB1: 4-7
2	1	Concept of Demand	TB1: 41-49
3	1	Determinants of Demand	TB1: 48
4	1	Concept of supply	TB1: 255
5	1	Factors affecting Supply	TB1: 259
6	1	Movements vs. Shift in Demand Curve	TB1: 43
7	1	Determinants of Supply	TB1: 260
8	1	Movement along a Supply Curve	W_1
9	1	Shift in Supply Curve	W_1
10	1	Market Equilibrium	W_1
11	1	Surplus and shortage	TB1: 207 - 210
12	1	Change in equilibrium price & quantity	TB1:398
13	1	Price Determination	TB1: 437 - 440
14	1	Elasticity of Demand	TB1:132
15	1	Types of Elasticity of demand	TB1: 134-153
16	1	Elasticity of supply	TB1: 262-265

17	1	Application of Demand	TB1: 39-44
18	1	Application of supply	TB1: 41-47
19	1	Recapitulation and discussion of important questions	
Total Number of hours planned for Unit 1			**19**
UNIT 2			
1	1	Consumer Theory - Introduction	TB1: 53
2	1	Ordinal Utility theory	TB1: 155
3	1	Indifference Curve	TB1: 166-172
4	1	Indifference Curve Approach	TB1: 166-167
5	1	Principles of Indifference Curve	TB1: 166-170
6	1	Consumer's Preferences	W_1
7	1	Interference Curves in price	W_1
8	1	Budget line	TB1:81-85
9	1	Determination of consumer equilibrium	W_2
10	1	Consumer's Equilibrium	TB1:178-183
11	1	Income Effect	TB3:103
12	1	Substitution Effect	TB3105
13	1	Price Consumption Curve	TB195-97
14	1	The Derivation of Demand Curve	TB1195-197
15	1	The Derivation of Demand Curve for a Commodity	TB1:62
16	1	Criticisms of the Law of Demand	TB1:44
17	1	Giffen Paradox	W_2
18	1	Exceptions to The Law of Demand	W_2
19	1	Recapitulation and discussion of important questions	
Total Number of hours planned for Unit 2			**19**

UNIT 3			
1	1	Introduction to Production	W_1
2	1	Production and Cost	W_1
3	1	Firm as an Agent of Production	TB1-169
4	1	Concepts of Production Function	TB1-87
5	1	Law of Variable Proportions	TB1-190
6	1	Law of Variable Isoquant	TB1 87-88
7	1	Return to Scale	TB1 -191
8	1	Economics of Scale	TB1 -192
9	1	Economics and Diseconomies of Scale	R1 - 147
10	1	Introduction to Costs	TB1 -289
11	1	Costs in the Short Run	TB1 - 289
12	1	Costs in the Long Run	TB1 -296
13	1	Profit Maximization	W_1
14	1	Cost Minimization	R1 - 198
15	1	Equilibrium of the Firm	R1 - 132
16	1	Technological Change	TB1 - 200
17	1	Very Long Run	TB1 - 298
18	1	Assumption of law of variable proportion	W_2
19	1	Recapitulation and discussion of important questions	
Total Number of hours planned for Unit 3			**19**
UNIT 4			
1	1	Market Structure	W_1
2	1	Perfect Competition	TB1: 416

3	1	Perfect Competition Assumption	TB1: 420
4	1	Theory of a Firm Under Perfect Competition	TB1:416 - 420
5	1	Equilibrium of the Firm in the Short Run	TB1: 424
6	1	Equilibrium of the Firm in the Long Run	TB1: 426
7	1	Short-run Equilibrium of Monopoly Firm	TB:435 - 442
8	1	Monopoly- Long-run Equilibrium of Monopoly Firm	TB:435 - 442
9	1	Price Discrimination	TB1: 445
10	1	Imperfect Competition	TB1: 443
11	1	Difference Between Perfect & Imperfect Competitions	TB1: 443
12	1	Monopoly and Imperfect Competition	TB1: 443
13	1	Monopolistic Competition	TB1: 454
14	1	Assumption; Short – Run & Long run Equilibrium	TB1: 455
15	1	Concept of excess capacity, Empirical relevance	TB1: 455
16	1	Introduction to Oligopoly	TB1: 470
17	1	Causes for the Existence of Oligopolistic Firms in the Market rather than Perfect Competition	W_1
18	1	Cooperative Vs non Cooperative behavior on oligopolistic firms	W_1
19	1	Recapitulation and discussion of important questions	
Total Number of hours planned for Unit 4			**19**
UNIT 5			
1	1	Income Distribution	W_1
2	1	Income Distribution theory	W_3
3	1	Product exhaustion theorem	W_2
4	1	Factor Pricing	TB1 - 481

5	1	Factor pricing method	TB1 – 485
6	1	Demand for Factors	W1
7	1	Factors that affect demand	W1
8	1	Supply of factor	W3
9	1	Factors that affecting labour supply	W2
10	1	Backward bending supply curve and the latter curve	TB1 - 412
11	1	Factors that affect Supply	W1
12	1	Backward Bending Supply Curve	TB1 - 410
13	1	Backward Bending Supply Curve for Labor Concepts of Economic Rent	TB1 - 411
14	1	Functional Distribution of Income.	TB1 - 509
15	1	Term distribution of income	R1 - 232
16	1	Labour curve slop backward	R1 - 251
17	1	Recapitulation and discussion of Important questions	
18	1	Discussion of previous year ESE Question papers	
19	1	Discussion of previous year ESE Question papers	
20	1	Discussion of previous year ESE Question papers	
Total Number of hours planned for Unit 5 and discussion of previous year ESE Question papers			**20**
Total Number of hours allotted for all five units			**96**

SUGGESTED READINGS:

TB 1 – Business Economics, Dr.S. Sankaran, Margham Publications (2007).

REFERENCES

R1 – Business Economics (Micro), H.S. Agarwal. Global professional publishing(8^{th}) (2013).

Websites:

1. W_1: https://www.yourarticle library.com
2. W_2: http://www.economicsdiscussion.net
3. W_3: www.investopedia.com

UNIT-I-Introduction to Demand and Supply

SYLLABUS

Introduction : Demand and Supply: Determinants of Demand - Movements vs. Shift in Demand Curve, - Determinants of Supply - Movement along a Supply Curve vs. Shift in Supply Curve - Market Equilibrium and Price Determination - Elasticity of Demand and Supply - Application of Demand and Supply.

Introduction

People have limited number of needs which must be satisfied if they are to survive as human beings. some are material needs, some are psychological needs and some others are emotional needs. People's needs are limited; however, no one would choose to live at the level of basic human needs if they want to enjoy a better standard of living. This is because human wants (desire for the consumption of goods and services) are unlimited. It doesn't matter whether a person belongs to the middle class in India or is the richest individual in the World, he or she wants always something more. For example bigger a house, more friends, more salary etc., Therefore the basic economic problem is that the resources are limited but wants are unlimited which forces us to make choices.

Economics is the study of this allocation of resources, the choices that are made by economic agents. An economy is a system which attempts to solve this basic economic problem. There are different types of economies; household economy, local economy, national economy and international economy but all economies face the same problem. The major economic problems are (i) what to produce? (ii) How to produce? (iii) When to produce and (iv) For whom to produce?

Economics is the study of how individuals and societies choose to use the scarce resources that nature and the previous generation have provided. The world's resources are limited and scarce. The resources which are not scarce are called free goods. Resources which are scarce are called economic goods.

Why Study Economics?

A good grasp of economics is vital for managerial decision making,for designing and understanding public policy, and to appreciate how an economy functions. The students need to know how economics can help us to understand what goes on in the world and how it can be used as a practical tool for decision making. Managers and CEO's of large corporate bodies, managers of small companies, nonprofit organizations, service centers etc., cannot succeed in business without a clear understanding of how market forces create both opportunities and constraints for business enterprises.

Reasons for Studying Economics:

It is a study of society and as such is extremely important.

It trains the mind and enables one to think systematically about the problems of business and wealth.

From a study of the subject it is possible to predict economic trends with some precision.

It helps one to choose from various economic alternatives. Economics is the science of making decisions in the presence of scarce resources. Resources are simply anything used to produce a good or service to achieve a goal. Economic decisions involve the allocation of scarce resources so as to best meet the managerial goal. The nature of managerial decision varies depending on the goals of the manager.

A Manager is a person who directs resources to achieve a stated goal and he/she has the responsibility for his/her own actions as well as for the actions of individuals, machines and other inputs under the manager's control.

The concepts of demand and supply are useful for explaining what is happening in the market place. Every market transaction involves an exchange and many exchanges are undertaken in a single day. The circular flow of economic activity explains clearly that every day there are a number of exchanges taking place among the four major sectors mentioned earlier.

A market is a place where we buy and sell goods and services. A buyer demands goods and services from the market and the sellers supply the goods in the market. In economics, demand is "the quantity of goods and services that will be bought for a given price over a period of time". For example if 10 Lakhs laptops are purchased in India during a year at an average price of Rs.25000/- then we can say that the annual demand for laptops is 10 Lakhs units at the rate of 25,000/-.

Demand: Demand means the ability and willingness to buy a specific quantity of a commodity at the prevailing price in a given period of time. Therefore, demand for a commodity implies the desire to acquire it, willingness and the ability to pay for it.

Law of demand: The quantity of a commodity demanded in a given time period increases as its price falls, ceteris paribus. (I.e. other things remaining constant)

Demand schedule: a table showing the quantities of a good that a consumer is willing and able to buy at the prevailing price in a given time period.

The Demand Schedule for Bovondo

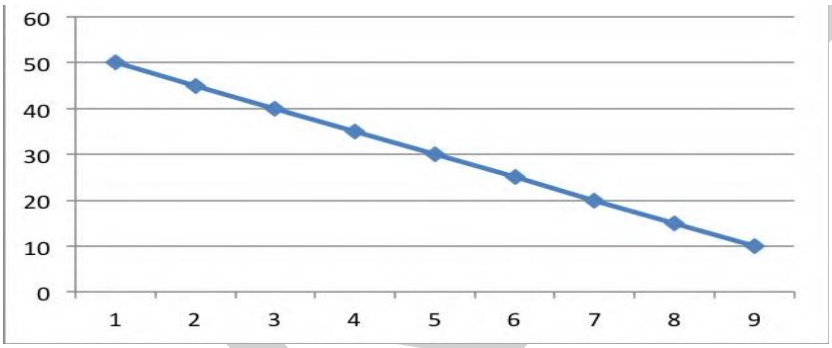
Price of Bovondo (200 ml) In Rupees	Quantity Demanded
50	1
45	2
40	3
35	5
30	7
25	9
20	12
15	15
10	20

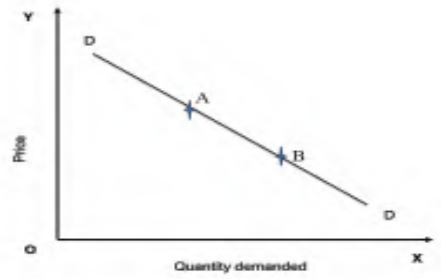
Demand Curve:

A curve indicating the total quantity of a product that all consumers are willing and able to purchase at the prevailing price level, holding the prices of related goods, income and other variables as constant.

A demand curve is a graphical representation of a demand schedule. The price is quoted in the 'Y' axis and the quantity demanded over time at different price levels is quoted in 'X' axis. Each point on the curve refers to a specific quantity that will be demanded at a given price. If for example the price of a 200 ml Bovondo is Rs. 10, this curve tells us that the consumer (the students in a class of 50) would purchase 20 units. When the price rises to Rs. 50 there was only one student would buy it. The demand curve, (DD) is downward sloping curve from left to right showing that as price falls, quantity demanded rises. This inverse relationship between price and quantity is called as the law of demand. When price changes, there is said to be a movement along the curve from point A to B.

Graph – Demand Curve





Elasticity of Demand

In economics, the demand elasticity (elasticity of demand) refers to how sensitive the demand for a good is to changes in other economic variables, such as prices and consumer income. Demand elasticity is calculated as the percent change in the quantity demanded divided by a percent change in another economic variable. A higher demand elasticity for an economic variable means that consumers are more responsive to changes in this variable.

Types of Demand Elasticity

Price elasticity of demand, which shows the responsiveness of the quantity demanded for a good relative to a change in its price. Firms collect data on price changes and how consumers respond to such changes. They then later calibrate their prices accordingly to maximize profits.

Cross-elasticity of demand, which is calculated by taking the percent change in quantity demanded for a good and dividing it by the percent change of the price for another good. This type of elasticity indicates how demand for a good reacts to price changes of other goods.

Interpretation and Example of Demand Elasticity

Demand elasticity is typically measured in absolute terms, meaning its sign (e.g., "-") is ignored. If demand elasticity is greater than 1, it is elastic: Demand is sensitive to economic changes (e.g., price). Demand elasticity that is less than 1 is inelastic: Demand does not change relative to economic changes such as price. Demand is unit elastic when the absolute value of demand elasticity is equal to 1, which means that demand will move proportionately with economic changes.

Suppose that a company calculated that the demand for a soda product increases from 100 to 110 bottles because of the price decrease from $2 to $1.50 per bottle. The price elasticity of demand is calculated as the percentage change in quantity demanded (110-100/100= 10%) divided by a percentage change in price ($2-$1.50/$2); therefore, the price elasticity of demand for this example is .4. Since the result is less than 1, it is inelastic; the change in price has little effect on the quantity demanded.

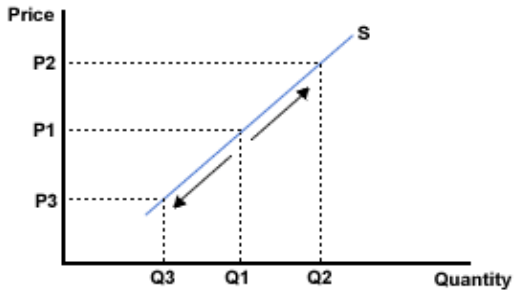
Supply of a commodity refers to the various quantities of the commodity which a seller is willing and able to sell at different prices in a given market at a point of time, other things remaining the same. Supply is what the seller is able and willing to offer for sale. The Quantity supplied is the amount of a particular commodity that a firm is willing and able to offer for sale at a particular price during a given time period.

Supply Schedule: is a table showing how much of a commodity, firms can sell at different prices.

Law of Supply: is the relationship between price of the commodity and quantity of that commodity supplied. i.e. an increase in price will lead to an increase in quantity supplied and vice versa.

Supply Curve: A graphical representation of how much of a commodity a firm sells at different prices. The supply curve is upward sloping from left to right. Therefore the price elasticity of supply will be positive. Graph - Supply curve

Graph - Supply curve



Determinants Of Supply:

1. The cost of factors of production: Cost depends on the price of factors. Increase in factor cost increases the cost of production, and reduces supply.

2. The state of technology: Use of advanced technology increases productivity of the organization and increases its supply.

3. External factors: External factors like weather influence the supply. If there is a flood, this reduces supply of various agricultural products.

4. Tax and subsidy: Increase in government subsidies results in more production and higher supply.

5. Transport: Better transport facilities will increase the supply.

6. Price: If the prices are high, the sellers are willing to supply more goods to increase their profit.

7. Price of other goods: The price of other goods is more than 'X' then the supply of 'X' will be increased.

Elasticity of Supply: Elasticity of supply of a commodity is defined as the responsiveness of a quantity supplied to a unit change in price of that commodity.

$$Es = \frac{\Delta Qs / Qs}{\Delta P / P}$$

ΔQs = change in quantity supplied
Qs = quantity supplied
ΔP = change in price
P = price

Kinds Of Supply Elasticity

Price elasticity of supply: Price elasticity of supply measures the responsiveness of changes in quantity supplied to a change in price.

Perfectly inelastic: If there is no response in supply to a change in price. (Es = 0)

Inelastic supply: The proportionate change in supply is less than the change in price (Es =0-1)

Unitary elastic: The percentage change in quantity supplied equals the change in price (Es=1)

Elastic: The change in quantity supplied is more than the change in price (Ex= 1- ∞)

Perfectly elastic: Suppliers are willing to supply any amount at a given price (Es=∞)

The major determinants of elasticity of supply are availability of substitutes in the market and the time period, Shorter the period higher will be the elasticity.

Factors Influencing Elasticity Of Supply

1. Nature of the commodity: If the commodity is perishable in nature then the elasticity of supply will be less. Durable goods have high elasticity of supply.

2. Time period: If the operational time period is short then supply is inelastic. When the the production process period is longer the elasticity of supply will be relatively elastic.

3. Scale of production: Small scale producer's supply is inelastic in nature compared to the large producers.

4. Size of the firm and number of products: If the firm is a large scale industry and has more variety of products then it can easily ransfer the resources. Therefore supply of such products is highly elastic.

5. Natural factors: Natural calamities can affect the production of agricultural products so they are relatively inelastic.

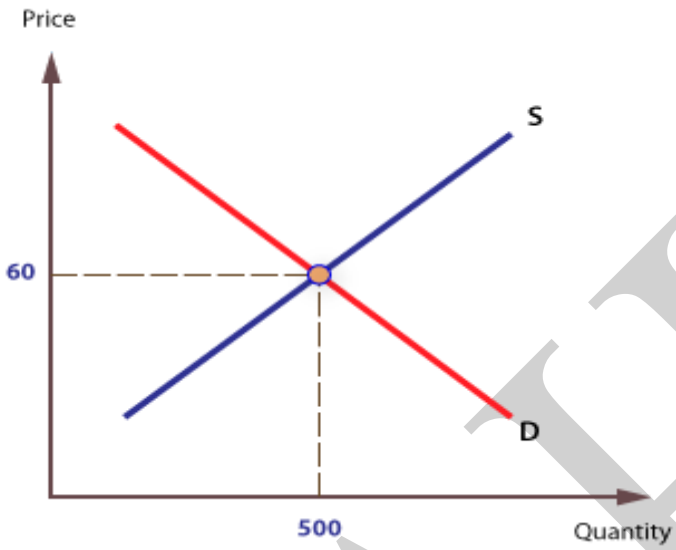
6. Nature of production: If the commodities need more workmanship,or for artistic goods the elasticity of supply will be high.

Apart from the above mentioned factors future expectations of the market, natural resources of the country and government controls can also play a role in determining supply of a good. In the long run, supply is affected by cost of production. If costs are rising, some of the existing producers may with draw from the field and new entrepreneurs may be scared of entering the field.

Market Equilibrium and Price Determination

In economics, economic equilibrium is a state where economic forces such as supply and demand are balanced and in the absence of external influences the (equilibrium) values of economic variables will not change.

When the supply and demand curves intersect, the market is in equilibrium. This is where the quantity demanded and quantity supplied are equal. The corresponding price is the equilibrium price or market-clearing price, the quantity is the equilibrium quantity.



Surplus and shortage:

If the market price is above the equilibrium price, quantity supplied is greater than quantity demanded, creating a surplus. Market price will fall.

Example: if you are the producer, you have a lot of excess inventory that cannot sell. Will you put them on sale? It is most likely yes. Once you lower the price of your product, your product's quantity demanded will rise until equilibrium is reached. Therefore, surplus drives price down.

If the market price is below the equilibrium price, quantity supplied is less than quantity demanded, creating a shortage. The market is not clear. It is in shortage. Market price will rise because of this shortage.

Example: if you are the producer, your product is always out of stock. Will you raise the price to make more profit? Most for-profit firms will say yes. Once you raise the price of your product, your product's quantity demanded will drop until equilibrium is reached. Therefore, shortage drives price up.

If a surplus exist, price must fall in order to entice additional quantity demanded and reduce quantity supplied until the surplus is eliminated. If a shortage exists, price must rise in order to entice additional supply and reduce quantity demanded until the shortage is eliminated.

Changes in equilibrium price and quantity:

Equilibrium price and quantity are determined by the intersection of supply and demand. A change in supply, or demand, or both, will necessarily change the equilibrium price, quantity or both. It is highly unlikely that the change in supply and demand perfectly offset one another so that equilibrium remains the same.

Example: This example is based on the assumption of Ceteris Paribus.

1) If there is an exporter who is willing to export oranges from Florida to Asia, he will increase the demand for Florida's oranges. An increase in demand will create a shortage, which increases the equilibrium price and equilibrium quantity.

2) If there is an importer who is willing to import oranges from Mexico to Florida, he will increase the supply for Florida's oranges. An increase in supply will create a surplus, which lowers the equilibrium price and increase the equilibrium quantity.

3) What will happen if the exporter and importer enter the Florida's orange market at the same time? From the above analysis, we can tell that equilibrium quantity will be higher. But the import and exporter's impact on price is opposite. Therefore, the change in equilibrium price cannot be determined unless more details are provided. Detail information should include the exact quantity the exporter and importer is engaged in. By comparing the quantity between importer and exporter, we can determine who has more impact on the market.

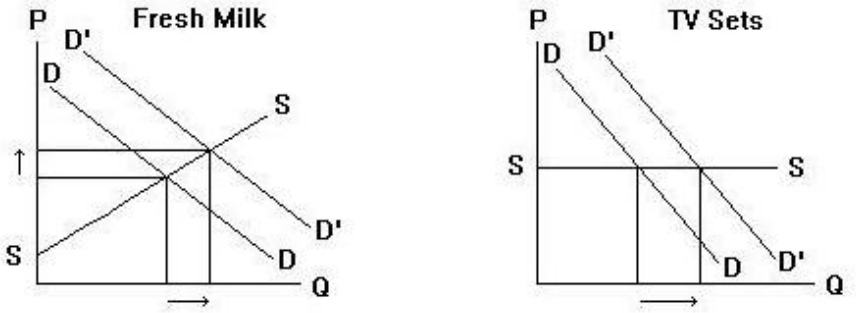
As can be seen, this market will be in equilibrium at a price of 60p per soft drink. At this price the demand for drinks by students equals the supply, and the market will clear. 500 drinks will be offered for sale at 60p and 500 will be bought - there will be no excess demand or supply at 60p.

PRICE(£)	QUANTITY DEMANDED	QUANTITY SUPPLIED
1.10	0	1000
1.00	100	900
90	200	800
80	300	700
70	400	600
60	**500**	**500**
50	600	400
40	700	300

Applications of Supply and Demand

Two important considerations arise in all applications of supply and demand analysis. First, the shapes of the supply and demand curves must be established within the context of the problem being analyzed. Second, the forces leading to shifts in the supply and demand curves must be determined in the case at hand. The effects of the forces shifting the supply and demand on the equilibrium price and quantity can then be obtained. It is useful to begin with a some simple applications that follow directly from supply and demand relationships that have been developed earlier in this lesson. Then we can proceed to more complex situations.

Figure 1 examines the effects on the price and quantity of fresh milk and TV sets of an increase in consumers' incomes. The supply curve of fresh milk is portrayed as upward sloping to reflect the effects of diminishing returns. The supply curve of TV sets is portrayed as horizontal to reflect the fact that there are no diminishing returns in that industry. Fresh milk is produced under increasing costs and TV sets are produced under conditions of constant cost.



An increase in income leads to a rightward shift of the demand curves for both fresh milk and TV sets, assuming that both are normal goods. This results in an increase in the equilibrium quantities of both, but an increase in the equilibrium price only of the one that is produced under conditions of increasing cost.

Under the assumption that both fresh milk and TV sets are normal goods, the increase in consumers' incomes shifts both demand curves to the right. The equilibrium price rises in the increasing cost industry and remains constant in the constant cost industry. Equilibrium quantity increases in both cases.

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Possible Questions

Part A (ONE Mark)

Multiple Choice Questions

Online Examination

Part B (2 Marks)

1. Define demand.
2. State the law of demand.
3. Define elastic demand.
4. Explain the concept of cross elasticity of demand.
5. What is income elasticity of demand?
6. Explain the types of supply elasticity.
7. What is cross elasticity of demand?
8. What is market equilibrium?
9. Define the concept supply and the law of supply.
10. What do you understand by Price elasticity of supply?

Part C (6 Marks)

11. Distinguish between shift in demand and a movement along a demand curve.
12. List out the significance of elasticity of demand in managerial decision making.
13. Explain the slope of income demand curve for a superior and inferior good.
14. Explain the concept of income elasticity of demand and discuss the importance of income elasticity of demand for a business firm.
15. Explain the concept of cross elasticity of demand with an example.
16. Explain perfectly elastic demand and perfectly in elastic demand with a suitable example.
17. Explain the factors influencing the elasticity of supply in the market with an example
18. Discuss the Market Equilibrium and Price Determination.
19. What is supply? And explain types of elasticity of demand.
20. Discuss the slope of income demand curve for a superior and inferior good.

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S.NO	QUESTIONS	OPTION A	OPTION B	OPTION C	OPTION D	ANSWER
1	Sales Maximization Concept is given by _____	Adam Smith	Samuelson	Marshall	Baumol	Baumol
2	Micro economic theory is also known as _____	Business Theory	Price Theory	Individual Theory	Cost theory	Price Theory
3	Which will cause a change in the demand for good X?	A Change In Tastes.	A Change In Income	A Change In The Price Of X	A Change In Price Of Complementary Product	A Change In The Price Of X
4	A market demand Schedule for a product indicates that _____	as the product's price falls, consumers buy less of the good	there is a direct relationship between price and quantity demanded	as a product's price rises, consumers buy less of other goods	there is an inverse relationship between price and quantity demanded	there is an inverse relationship between price and quantity demanded
5	Profit _____	TR+ TC	TR - TC	TR X TC	TR/T	TR - TC
6	Profit Maximisation goal is suitable for _____ and _____markets	Monopolistic and Oligopoly	Monopolistic and Duopoly	. Monopoly and perfect competition	Monopsony and Duopsony	. Monopoly and perfect competition
7	Economics is derived from the greek word oikonomikus which means	Business Management	Economics	House Management	Wealth Management	House Management
8	8. Who is assumed as father of Economics?	Adam smith	Robinson	Marshall	George Bernard	Adam smith
9	Who expressed the view that Economics is neutral between ends .	Robbins	Marshall	Pigou	Adamsmith	Robbins
10	Economics is the science of wealth who gave this definition?	J.K.Mehta	Marshall	Adam Smith	Robbins	Adam Smith
11	Paul. Samuelson has defined economics as	Science of Wealth	Science of material well being	Science of dynamic growth and development	. None of these	Science of dynamic growth and development
12	Which of the following is related with controlling economic problems ?	What to produce	How to produce	. For whom to produce	All of the above	All of the above
13	Positive science concern with economics analysis	cause relationship	Effect relationship	Cause & effect relationship	Economics	Cause & effect relationship
14	The existence of both public and private sector enterprises constitutes	capitalist economy	Mixed economy	Socialist economy	Science of Wealth	Mixed economy
15	Capitalism refers to	the use of	government	private	private	private

		markets.	ownership of capital goods	ownership of capital goods	ownership of homes & cars.	ownership of capital goods
16	An Enquiry into the Nature and Causes of Wealth of Nations is the book of economist	Adam Smith	Marshall.	Robbins.	Samuelson.	Adam Smith
17	Economics is what economists do. It has not been supported by	Richard Jones	Comte.	. Gunnar Myrdal.	Marshall	Marshall
18	People wants are	More	Limited	Unlimited	Few	Unlimited
19	The subject matter of economics is	To ensure economic progress of the people	To run business	To satisfy unlimited wants with limited means	To mobilize resources and to use them.	To satisfy unlimited wants with limited means
20	Under command economy, activities are guided by	The automatic price system	Government planning	The freedom of consumers	Competition	Government planning
21	Who has given scarcity definition of economics?	Adam smith	Marshall	Robbins	Robertson	Robbins
22	Profits is denoted as,which of the following symbol?	Sigma	Summation	Pie	Alpha	Pie
23	In economics the central problem is	money.	production.	consumption.	scarcity.	scarcity.
24	Utility is measured by	wealth .	price	value or worth	income.	value or worth
25	The extra utility from consuming one more unit of a commodity is called	Mariginal utility	Additional utility	Surplus utility	Bonus utility	Mariginal utility
26	If marginal utility is zero	Total utility is zero	An additional unit of consumption will decrease total utility	consumption will increase total utility	Total utility is maximized	Total utility is maximized
27	The phrase ceteris paribus is best expressed as	all else equal	everything affects everything else	scarcity is a fact of life	there is no such thing as a free lunch	all else equal
28	When the total utility curve reaches its maximum level, marginal utility is	Zero	Positive	Rising	Negative	Zero
29	In case of Utility theory as income increases, marginal utility of money	Decreases	Increases	constant	none of these	Decreases
30	Who has given the concept of consumer surplus	Marshall	Robbins	Pigou	None of these	Marshall
31	Education is	Merit goods	Specific goods	Both	None of the above	Merit goods
32	Utility means	Power to satisfy a	Usefulness.	Willingness of a person	Harmfulness	Usefulness.

		want.				
33	Marginal utility is equal to average utility at that time when average utility is	Increasing.	Maximum.	Falling.	Minimum	Minimum
34	At point of satiety, marginal utility is	Zero.	. Positive	Maximum.	Negative	Zero.
35	Which of the following is the second law of Gossen	Law of equi-marginal utility.	Law of equi-product.	theory ofindifference curve.	Law of diminishing marginal utility.	Law of equi-marginal utility.
36	Total utility of a commodity is measured by which price of that commodity	Value in use.	Value in exchange.	Both of above.	Value of money	Value in use.
37	According to Marshall, the basis of consumer surplus is	Law of diminishing marginal utility.	Law of equi-marginal utility.	Law of proportions.	All of the above	Law of diminishing marginal utility.
38	Economics is a science the basis of this statement does not include	relation between cause and effect.	use of deductive method and inductive method for the formations of laws.	experiments.	theory.	theory.
39	Which of the following is an economic activity	teaching teacher in the school.	To teach son at home.	. To serve her child by mother.	To play football by a student	teaching teacher in the school.
40	Sales Maximisation is suitable for _____ market	Oligopoly	Duopoly	Monopoly	Monopsony	Oligopoly
41	Demand is a function of _____	Income.	Advertisement	Consumers	Price	Price
42	When we know the quantity of a product that buyers wish to purchase at each possible price, we know	Demand	Supply	Excess demand	Excesss supply	Demand
43	Which will cause a change in the demand for commodity X	A Change In Tastes.	A Change In Income.	A Change In The Price of X .	A Change In Price Of Complementary Product	A Change In The Price of X .
44	A market demand can be derived by adding all the individual demand curves _____	vertically	horizontally.	In parallel.	The whole demand curve.	in parallel.
45	A market demand Schedule for a product indicates that _____.	as the product's price falls, consumers buy less of the goo	. there is a direct relationship between price and quantity demande	as a product's price rises, consumers buy less of other goods.	there is an inverse relationship between price and quantity demanded	there is an inverse relationship between price and quantity

						demanded
46	When one speaks of "demand" in a particular market, this refers to _____	the quantity demanded at a given price.	only one price-quantity combination on the demand schedule.	only one point on the entire demand curve.	the whole demand curve.	the whole demand curve.
47	Other things being equal, the law of demand implies that as	the demand for increases, the price will decrease.	income increases, the quantity of demanded will increase.	the price of increases, the quantity of demanded will decrease.	the price of increases, the quantity of demanded will increase	the price of increases, the quantity of demanded will decrease.
48	Law of demand does not include	Price of commodity is an independent variable.	. Quantity demanded is a dependent variable.	Reciprocal relationship is found between price and quantity demande	cost of product	cost of product
49	For inferior commodities, income effect is _____	Zero.	Negative.	Infinite.	Positive	Negative.
50	In Relatively Elastic Demand ED is _____	E=1	E=0	E>1	E<1	E>1
51	A Relative change in quantity demanded is less than the relative change in money income is _____ income elasticity	High	Zero	Low	Negative	Low
52	Which is not a determinant of demand	Income.	The Cost Of Inputs In Production .	The Prices Of Related Goods	Future Price Expectations	The Cost Of Inputs In Production .
53	The price elasticity of demand is the _____	percentage change in quantity demanded divided by the percentage change in price.	percentage change in price divided by the percentage change in quantity demande	dollar change in quantity demanded divided by the dollar change in price.	percentage change in quantity demanded divided by the percentage change in quantity supplied	percentage change in quantity demanded divided by the percentage change in price.
54	If two goods are close substitutes , _____	an increase in the price of one will decrease the demand for the other.	an increase in the price of one will increase the demand for the other.	a decrease in the price of one will increase the demand for the other.	a decrease in the price of one will have no effect on the demand for the other	an increase in the price of one will increase the demand for the other.

55	People demand more of product X when the price of product Y decreases. This means X and Y are _____.	complements.	substitutes.	not relate	both inexpensive	substitutes.
56	Derived demand is directly determined by _____	utility .	the profitability of using inputs to produce output .	. the ability to satisfy consumer desires	personal consumption	the profitability of using inputs to produce output .
57	An increase in consumer income will increase demand for a _____ But decrease demand for a	Substitute good, inferior good	Normal good, inferior good	Inferior good, normal good	Normal good, complementary good	Normal good, inferior good
58	When demand is elastic _____	a fall in price is more than offset by an increase in quantity demanded, so that total revenue rises.	the good is probably a necessity, so price has little effect on quantity demande	a rise in price will increase total revenue, even though less is sol	buyers are not much influenced by prices of competing precedes.	a rise in price will increase total revenue, even though less is sol
59	The demand for a good is highly inelastic if _____	the price elasticity of the good is close to zero.	the income elasticity of the good is close to one	if it is a necessity	both a and c	both a and c
60	A perfectly inelastic demand curve _____	is a vertical line parallel to Y-axis.	is a vertical line parallel to X-axis.	indicates a good with no close substitutes.	a and c	a and c

UNIT-II-Introduction to Consumer Theory

SYLLABUS

Consumer Theory: Ordinal Utility theory: Indifference Curve Approach- Consumer's Preferences - Interference Curves - Budget line - Consumer's Equilibrium - Income and Substitution Effect - Price Consumption Curve and the Derivation of Demand Curve for a Commodity - Criticisms of the Law of Demand.

INTRODUCTION:

ORDINAL UTILITY THEORY

The basic idea behind ordinal utility approach is that a consumer keeps number of pairs of two commodities in his mind which give him equal level of satisfaction. This means that the utility can be ranked qualitatively.

The ordinal utility approach differs from the cardinal utility approach (also called classical theory) in the sense that the satisfaction derived from various commodities cannot be measured objectively.

Ordinal theory is also known as neo-classical theory of consumer equilibrium, Hicksian theory of consumer behavior, Indifference curve theory, optimal choice theory. This approach also explains the consumer's equilibrium who is confronted with the multiplicity of objectives and scarcity of money income.

The important tools of ordinal utility are:

1. The concept of indifference curves.
2. The slop of I.C. i.e. marginal rate of substitution.
3. The budget line.

Assumptions:

The ordinal utility approach is based on the following assumptions:

1. A consumer substitutes commodities rationally in order to maximize his level of satisfaction.
2. A consumer can rank his preferences according to the satisfaction of each basket of goods.
3. The consumer is consistent in his choices.
4. It is assumed that each of the good is divisible.

5. It is assumed that the consumer has full knowledge of prices in the market.

6. The consumer's scale of preferences is so complete that consumer is indifferent between them.

7. Two commodities are used by the consumer. It is also known as two commodities model.

8. Two commodities X and Y are substitutes of each other. These commodities can be easily substituted in various pairs.

Indifference Curve Approach

Indifference curve method has been evolved to supersede the cardinal utility analysis of demand.

The indifference curve method seeks to derive all rules and laws about consumer's demand that are derivable from the cardinal utility analysis.

At the same time the inventors and supporters of new method contend that their analysis is based on fewer and more reasonable assumptions. The indifference curve analysis has however, retained some of the assumptions of Marshall's cardinal utility analysis.

Thus, the 'indifference curve approach, like the old cardinal utility approach, assumes that the consumer possesses 'complete information' about all the relevant aspects of economic environment in which he finds himself. For example, the prices of goods, the markets in which they are available the satisfaction to be obtained from them etc., are all known to the consumer.

Further it is assumed that the consumer acts rationally in the sense that, given the prices of goods and the money income, he will choose the combination from among the various possible combinations that gives him maximum satisfaction.

Moreover, the assumption of continuity has also been retained by Hicks-Allen indifference curve method. Continuity assumption means that the consumers are capable of ordering or ranking all conceivable combinations of goods according to the satisfaction they yield.

Ordinal Utility:

The fundamental approach of indifference curve analysis is that it has abandoned the concept of cardinal utility and instead has adopted the concept of ordinal utility. According to the supporters of

the indifference curves theory, utility is a psychic entity and it cannot therefore be measured in quantitative cardinal terms. In other words, utility being a psychological feeling is not quantifiable.

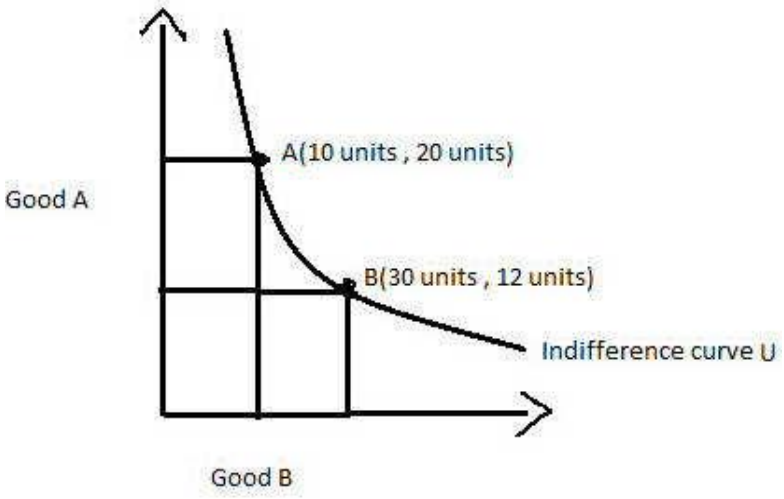
The concept of cardinal utility, according to the exponents of the indifference curve theory, is therefore untenable. On the other hand, the assumption of ordinal utility, according to them, is quite reasonable and realistic. The ordinal utility implies that the consumer is capable of simply comparing the different levels of satisfaction'.

In other words, according to the ordinal utility hypothesis, while the consumer may not be able to indicate the exact amounts of utilities that he derives from commodities or any combination of them, but he is capable of judging whether the satisfaction obtained from a good or a combination of goods is equal to, lower than, or higher than another.

Indifference curve

Definition: An indifference curve is a graph showing combination of two goods that give the consumer equal satisfaction and utility. Each point on an indifference curve indicates that a consumer is indifferent between the two and all points give him the same utility.

Description: Graphically, the indifference curve is drawn as a downward sloping convex to the origin. The graph shows a combination of two goods that the consumer consumes.



The above diagram shows the U indifference curve showing bundles of goods A and B. To the consumer, bundle A and B are the same as both of them give him the equal satisfaction. In other words, point A gives as much utility as point B to the individual. The consumer will be satisfied at any point along the curve assuming that other things are constant.

Consumer's Preferences

Customer preferences are expectations, likes, dislikes, motivations and inclinations that drive customer purchasing decisions. They complement customer needs in explaining customer behavior. For example, a customer needs shoes and they'd prefer a particular style, brand and color. Appealing to the preferences of customers is a basic marketing technique that is useful for branding, product development, distribution and customer experience. The following are common types of customer preference.

Types of Consumer's Preferences

1. Convenience

Preferring things that are easy such as a settling for a nearby restaurant. Convenience is considered a strong type of customer motivation.

2.Effort

The satisfaction that results from effort. For example, a customer who gains a sense of accomplishment from a diy project.

3.User Interfaces

Some customers will prefer the simplest user interface possible. Others will prefer lots of buttons to play with. This can be as much about preference as need.

4.Communication & Information

Preferences related to communication style and information density. For example, some customers want to read detailed specifications and others want to hear a story.

5.Stability vs Variety

Customers who would prefer the same exact shoes they purchased a year ago in the same season versus customers who prefer an incredible variety of shoes and avoid repeat purchases.

6.Risk

The risk tolerance of the customer. Applies to seemingly innocuous things such as purchasing a new brand for the first time.

7.Values

Preferences related to values such as customers who purchase environmentally friendly products.

8.Sensory

Preferences related to color, look, taste, smell, touch and sound.

9.Time

Time preferences such as a customer who prefers an attentive waiter who drops buy every 5 minutes versus a customer who doesn't want to feel rushed.

10.Customer Service

It is well known in the customer service industry that some customers prefer friendly service and others prefer diligence and professional distance. For example, a hotel porter who engages in friendly conversation versus dry information about the room and hotel.

11.Customer Experience

Preferences related to the end-to-end customer experience. For example, the interior design lighting, art, music and social atmosphere at a cafe.

Budget Line

Definition: The Budget Line, also called as Budget Constraint shows all the combinations of two commodities that a consumer can afford at given market prices and within the particular income level.

We know that the higher the indifference curve, the higher is the utility, and thus, utility maximizing consumer will strive to reach the highest possible Indifference curve. But, he has two strong constraints: limited income and given the market price of goods and services. The income in hand is the main constraint (budgetary) that decides how high a consumer can go on the indifference map. In a two commodity model, the budgetary constraint can be expressed in the form of the budget equation:

Px . Qx + Py . Qy =M

Where,

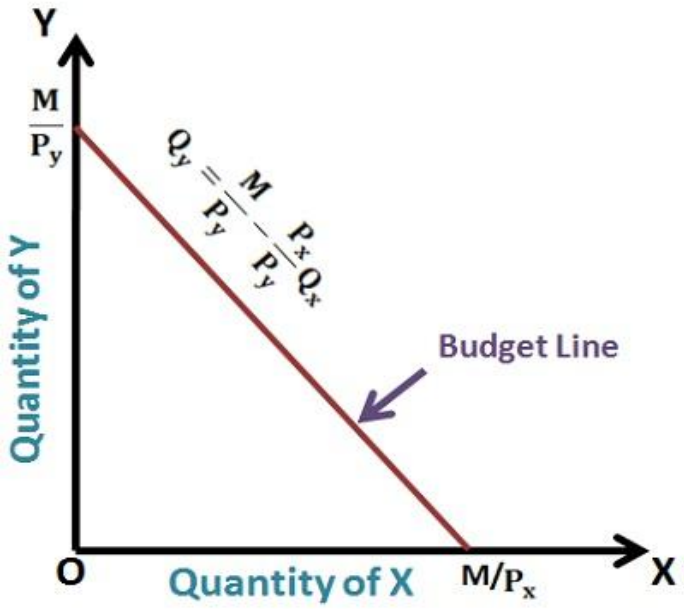
Px and Py are the prices of commodity X and Y and Qx, and Qy is their respective quantities.

M= consumer's money income

The Budget equation states that the consumer's expenditure on commodity X and Y cannot exceed his money income (M). Thus, the quantities of commodities X and Y that a consumer can buy from his income (M) at given prices Px and Py can be calculated through the budget equation given below:

$$Q_x = \frac{M}{P_x} - \frac{P_y}{P_x} Q_y$$

$$Q_y = \frac{M}{P_y} - \frac{P_x}{P_y} Q_x$$



The values of Qx and Qy are plotted on the X and Y axis, and a line with a negative slope is drawn connecting the points so obtained. This line is called the budget line or price line.

Consumer's Equilibrium

When consumers make choices about the quantity of goods and services to consume, it is presumed that their objective is to maximize total utility. In maximizing total utility, the consumer faces a number of constraints, the most important of which are the consumer's income and the prices of the goods and services that the consumer wishes to consume. The consumer's effort to maximize total utility, subject to these constraints, is referred to as the consumer's problem. The solution to the consumer's problem, which entails decisions about how much the consumer will consume of a number of goods and services, is referred to as consumer equilibrium

Determination of consumer equilibrium. Consider the simple case of a consumer who cares about consuming only two goods: good 1 and good 2. This consumer knows the prices of goods 1 and 2 and has a fixed income or budget that can be used to purchase quantities of goods 1 and 2. The consumer will purchase quantities of goods 1 and 2 so as to completely exhaust the budget for such purchases. The actual quantities purchased of each good are determined by the condition for consumer equilibrium, which is

$$\frac{\text{marginal utility of good 1}}{\text{price of good 1}} = \frac{\text{marginal utility of good 2}}{\text{price of good 2}} = \cdots = \frac{\text{marginal utility of good } N}{\text{price of good } N}$$

This condition states that the marginal utility per dollar spent on good 1 must equal the marginal utility per dollar spent on good 2. If, for example, the marginal utility per dollar spent on good 1 were higher than the marginal utility per dollar spent on good 2, then it would make sense for the consumer to purchase more of good 1 rather than purchasing any more of good 2. After purchasing more and more of good 1, the marginal utility of good 1 will eventually fall due to the law of diminishing marginal utility, so that the marginal utility per dollar spent on good 1 will eventually equal that of good 2. Of course, the amount purchased of goods 1 and 2 cannot be limitless and will depend not only on the marginal utilities per dollar spent, but also on the consumer's budget.

Income and Substitution Effect

The income effect expresses the impact of increased purchasing power on consumption, while the substitution effect describes how consumption is impacted by changing relative income and prices. Different goods and services experience these changes in different ways.

The economic concepts of income effect and substitution effect express changes in the market and how these changes impact consumption patterns for consumer goods and services. The income effect expresses the impact of increased purchasing power on consumption, while the substitution effect describes how consumption is impacted by changing relative income and prices. Different goods and services experience these changes in different ways. Some products, called inferior goods, generally decrease in consumption whenever incomes increase. Consumer spending and consumption of normal goods typically increases with higher purchasing power, in contrast with inferior goods.

Substitution Effect

Substitution may occur in the form of a consumer replacing cheaper or moderately priced items with ones that are more expensive when a change in finances occurs. For example, a good return on an investment or other monetary gain may prompt a consumer to replace an older model of an expensive item for a newer one.

The inverse is true when incomes decrease. Substitution in the direction of buying lower-priced items generally has a negative consequence on retailers. It also means fewer options for the consumer. There are, however, some retailers that may benefit from such an effect, such as those in the market for cheaper items.

While the substitution effect changes consumption patterns in favor of the more affordable alternative, even a modest reduction in price may make a more expensive product more attractive to consumers.

Income Effect

The income effect results in consumers spending more or less in general and does not necessarily indicate buying items of higher or lower value. A consumer may opt to purchase more expensive goods in lesser quantities or cheaper goods in higher quantities. A concept called marginal propensity to consume explains how consumers spend based on income. It is based on the balance between the spending versus saving habits of the consumer. Marginal propensity to consume is included in a larger theory of macroeconomics known as Keynesian economics. The theory draws comparisons between production, individual income and the tendency to spend more of it.

The price-consumption curve

The price-consumption curve (PCC) indicates the various amounts of a commodity bought by a consumer when its price changes. The Marshallian demand curve also shows the different amounts of a good demanded by the consumer at various prices, other things remaining the same.

We will now explain how the consumer reacts to charges in the price of a good, his money income, tastes and prices of other goods remaining the same. Price effect shows this reaction of the consumer and measures the full effect of the change in the price of a good on the quantity purchased since no compensating variation in income is made in this case.

When, the price of good charges, the consumer would be either better off or worse off than before, depending upon whether the price falls or rises. In other words, as a result of change in price of a good, his equilibrium position would lie at a higher indifference curve in case of the fall in price and at a lower indifference curve in case of the rise in price.

Price effect is shown in Fig. 8.31. With given prices of goods X and Y, and a given money income as represented by the budget line PL1, the consumer is in equilibrium at Q on indifference curve C1. In this equilibrium position at Q, he is buying OM1 of X and ON1 of Y. Let price of good id X fall, price of Y and his money income remaining unchanged.

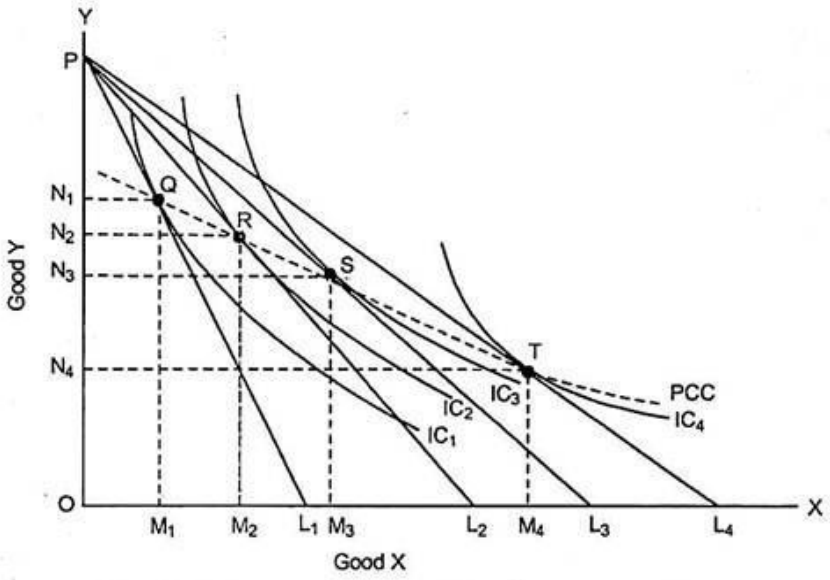


Fig. 8.31. Downward-Sloping Price Consumption Curve

As a result of this price change, budget line shifts to the position PL2. The consumer is now in equilibrium at R on a higher indifference curve IC2 and is buying OM2 of X and ON2 of Y. He has thus become better off, that is, his level of satisfaction has increased as a consequence of the fall in the price of good X. Suppose that price of X further falls so that PL3 is now the relevant price line.

With budget line PL3 the consumer is in equilibrium at S on indifference curve IC3 where he has OM3 of X and ON3 of Y. If the price of good X falls still further so that budget line now takes the position of PL4, the consumer now attains equilibrium at T on indifference curve IC4 and has OM4 of X and ON4 of Y.

When all the equilibrium points such as Q, R, S, and T are joined together, we get what is called Price Consumption Curve (PCC). Price consumption curve traces out the price effect. It shows how the changes in price of good X will affect the consumer's purchases of X, price of Y, his tastes and money income remaining unaltered.

In Fig. 8.31 price consumption curve (PCC) is sloping downward. Downward sloping price consumption curve for good X means that as the price of good X falls, the consumer purchases a larger quantity of good X and a smaller quantity of good Y. This is quite evident from Fig. 8.31.

In elasticity of demand, we obtain downward-sloping price consumption curve for good X when demand for it is elastic (i.e., price elasticity is greater than one). But downward sloping is one possible shape of price consumption curve. Price consumption curve can have other shapes also.

In Fig. 8.32 upward-sloping price consumption curve is shown. Upward-sloping price consumption curve for X means that when the price of good X falls, the quantity demanded of both goods X and Y rises. We obtain the upward-sloping price consumption curve for good X when the demand for good is inelastic, (i.e., price elasticity is less than one).

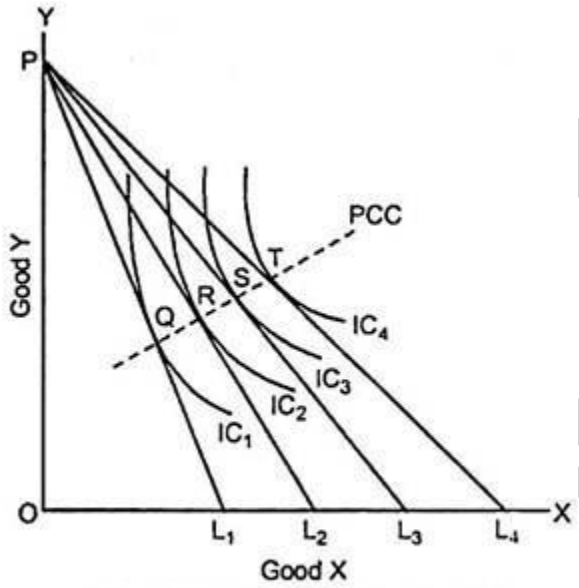


Fig. 8.32. Upward-Sloping Price Consumption Curve

Price consumption curve can also have a backward-sloping shape, which is depicted in Fig. 8.33. Backward-sloping price consumption curve for good X indicates that when price of X falls, after a point smaller quantity of it is demanded or purchased. This is true in case of exceptional type of goods called Giffen Goods.

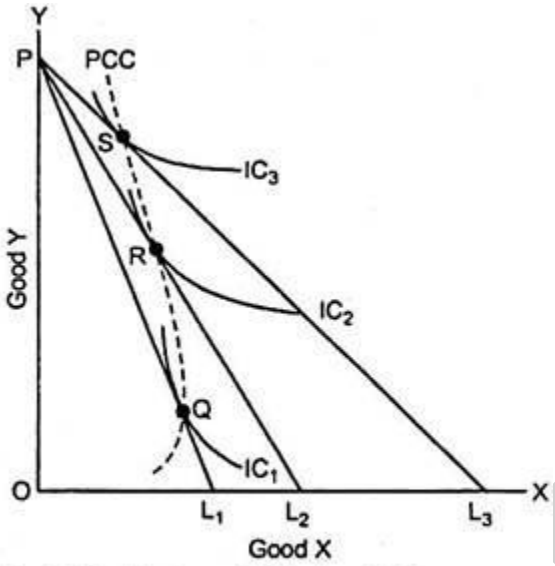


Fig. 8.33. Backward-Sloping Price Consumption Curve

Price consumption curve for a good can take horizontal shape too. It means that when the price of the good X declines, its quantity purchased rises proportionately but quantity purchased of Y remains the same. Horizontal price consumption curve is shown in Fig. 8.34. We obtain horizontal price consumption curve of good X when the price elasticity of demand for good X is equal to unity.

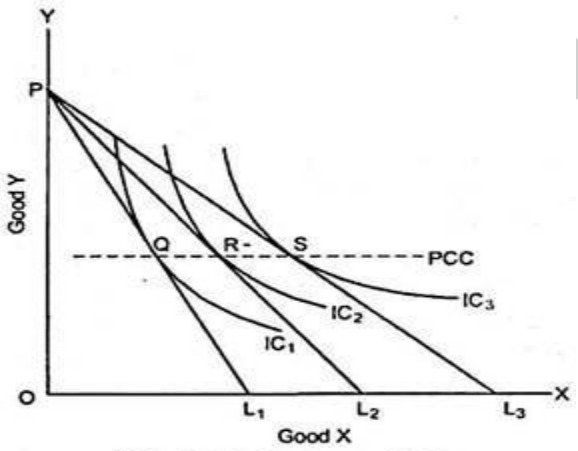


Fig. 8.34. Horizontal Price Consumption Curve

But it is rarely found that price consumption curve slopes downward throughout or slopes upward throughout or slopes backward throughout. More generally, price consump-tion curve has different slopes at different price ranges. At higher price levels it generally slopes downward, and it may then have a horizontal shape for some price ranges but ultimately it will be sloping upward. For some price ranges it can be backward sloping as in case of Giffen goods. A price consumption curve which has different shapes or slopes at different price ranges is drawn in Fig. 8.35.

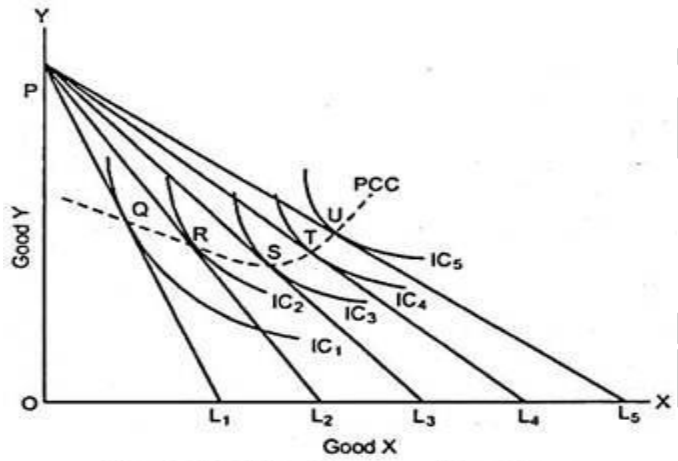


Fig. 8.35. Price Consumption Curve with Varying Slopes

Derivation of Demand Curve for a Commodity

The price-consumption curve (PCC) indicates the various amounts of a commodity bought by a consumer when its price changes. The Marshallian demand curve also shows the different amounts of a good demanded by the consumer at various prices, other things remaining the same.

Given the consumer's money income and his indifference map, it is possible to draw his demand curve for any commodity from the PCC.

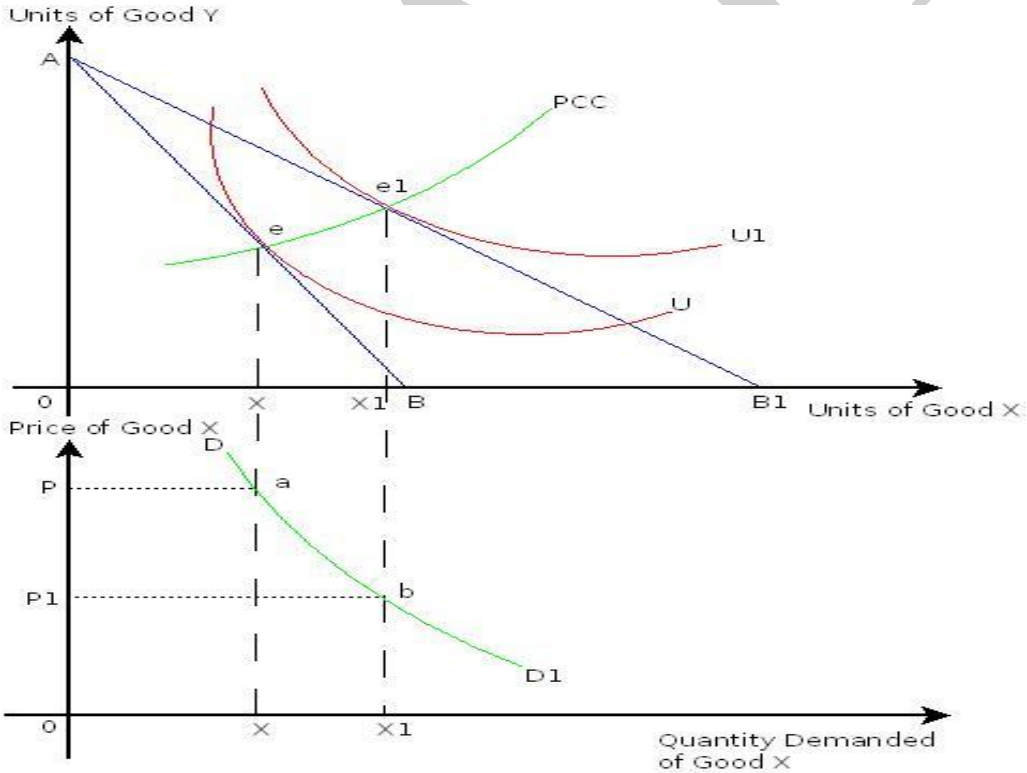
The conventional demand curve is easy to draw from a given price demand schedule for a commodity, whereas the drawing of a demand curve from the PCC is somewhat complicated. But

the latter methods has an edge over the former. It arrives at the same results without making the dubious assumptions of measurability of utility and constant marginal utility of money.

The derivation of demand curve from the PCC also explains the income and substitution effects of a given fall or rise in the price of a good which the Marshallian demand curve fails to explain. Thus the ordinal technique of deriving a demand curve is better than the Marshallian method.

Derivation of the Consumer's Demand Curve: Normal Goods

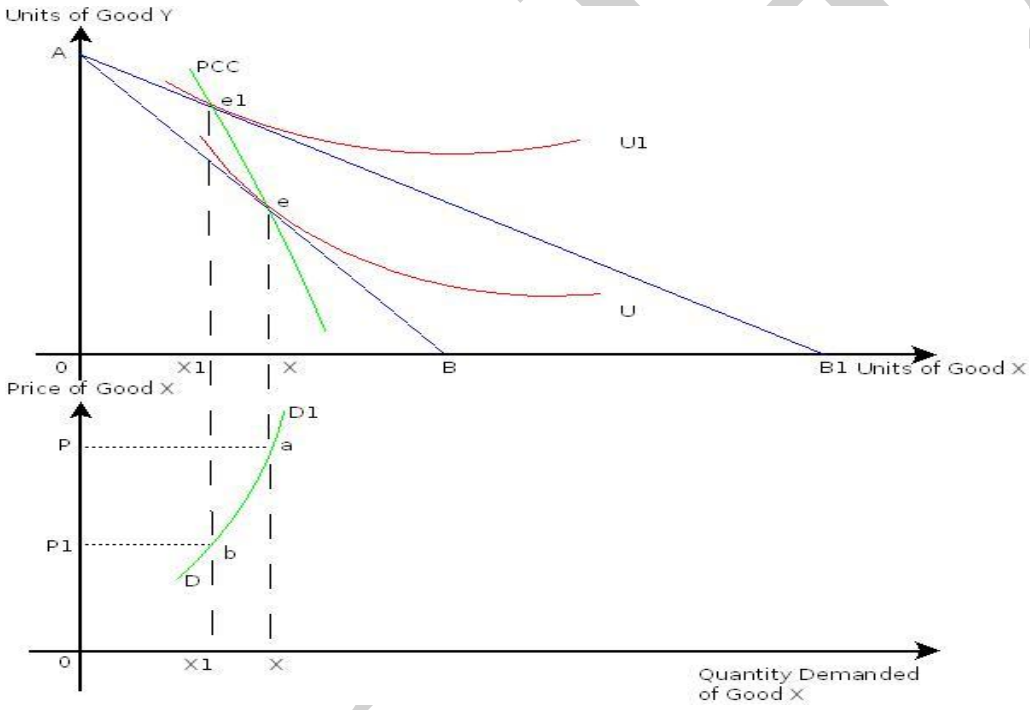
We have already seen how the price consumption curve traces the effect of a change in price of a good on its quantity demanded. However, it does not directly show the relationship between the price of a good and its corresponding quantity demanded. It is the demand curve that shows relationship between price of a good and its quantity demanded. In this section we are going to derive the consumer's demand curve from the price consumption curve . Figure.1 shows derivation of the consumer's demand curve from the price consumption curve where good X is a normal good.



The upper panel of Figure.1 shows price effect where good X is a normal good. AB is the initial price line. Suppose the initial price of good X (Px) is OP. e is the initial optimal consumption combination on indifference curve U. The consumer buys OX units of good X. When price of X (Px)falls, to say OP1, the budget constraint shift to AB1. The optimal consumption combination is e1 on indifference curve U1. The consumer now increases consumption of good X from OX to OX1 units. The Price Consumption Curve (PCC) is rising upwards.

Derivation of the Consumer's Demand Curve: Giffen Goods

In this section we are going to derive the consumer's demand curve from the price consumption curve in the case of inferior goods. Figure.2 shows derivation of the consumer's demand curve from the price consumption curve where good X is an inferior good.

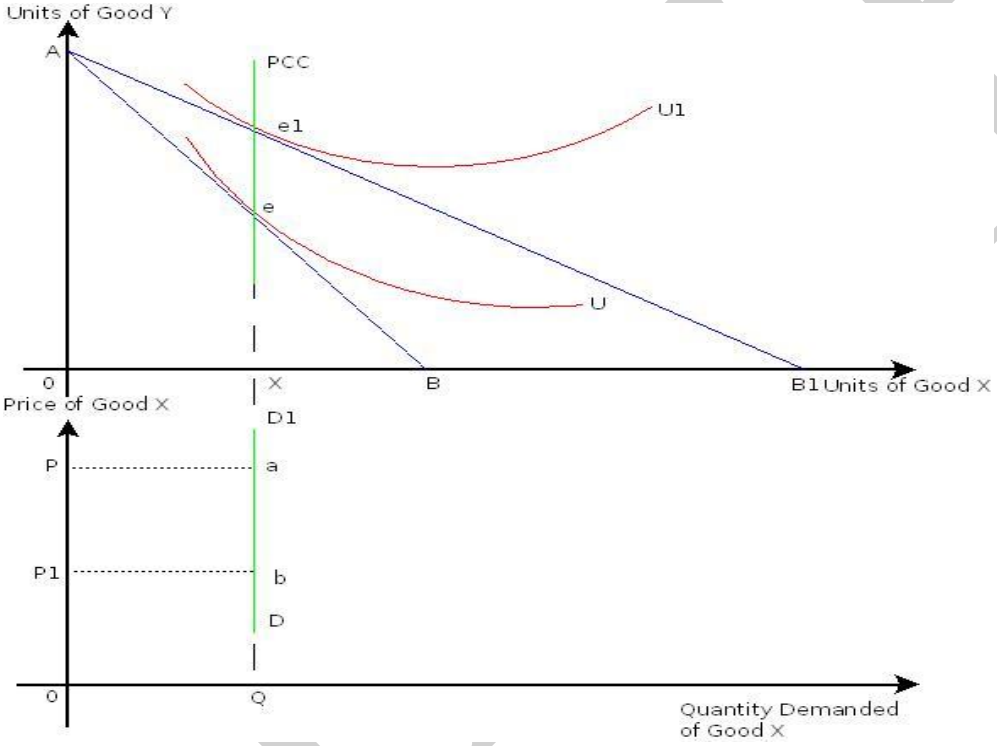


The upper panel of Figure.2 shows price effect where good X is an inferior good. AB is the initial price line. Suppose the initial price of good X (Px)is OP. e is the initial optimal consumption combination on indifference curve U. The consumer buys OX units of good X. When price of X Px) falls, to say OP1, the budget constraint shift to AB1. The optimal consumption combination is e1 on

indifference curve U1. The consumer now reduces consumption of good X from OX to OX1 units as good x is inferior. The Price Consumption Curve (PCC) is rising upwards and bending backwards towards the Y-axis.

Derivation of the Consumer's Demand Curve: Neutral Goods

In this section we are going to derive the consumer's demand curve from the price consumption curve in the case of neutral goods. Figure.3 shows derivation of the consumer's demand curve from the price consumption curve where good X is a neutral good.



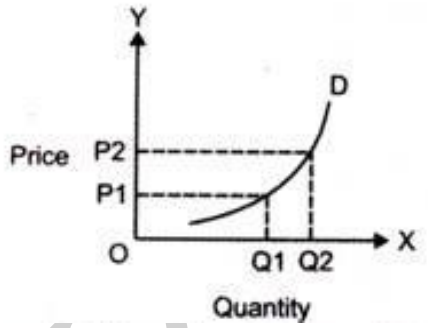
The upper panel of Figure.3 shows price effect where good X is a neutral good. AB is the initial price line. Suppose the initial price of good X (Px) is OP. e is the initial optimal consumption combination on indifference curve U. The consumer buys OX units of good X. When price of X (Px)falls, to say OP1, the budget constraint shift to AB1. The optimal consumption combination is e1 on indifference curve U1 at which the consumer buys same OX units of good X as it is a neutral good. The Price Consumption Curve (PCC) is a vertical straight line.

Criticisms of the Law of Demand

Till now, we have studied that there is an inverse relationship between demand and price of a product. The universal law of demand states that the increase in the price of a product would decrease the demand for that product and vice versa.

However, there are certain exceptions that with a fall in price, the demand also falls and there is an increase in demand with increase in price. This situation is paradoxical in nature and regarded as exception to the law of demand. In simple words, exception to law o demand refers to conditions where the law of demand is not applicable. In case of exceptions, demand curve shows an upward slope and referred as exceptional demand curve.

Exceptional demand curve is shown in Figure



In above Figure, D represents the demand curve in which OP1 is the price, and OQ1 is the initial demand. When the price rises from OP1 to OP2, then the demand also rises from OQ1 to OQ2. This implies that if the price of a product increases its demand also increases, which constitutes an exception to law of demand.

Certain cases that are exceptions to the law of demand are as follows:

i. Giffen Paradox:

Refer to one of the major criticism of law of demand. Giffin Paradox was given by Sir Robert Giffen, who classified goods into two types, inferior goods and superior goods, generally called

Giffen goods. The inferior goods are those whose demand decreases with increase in consumer's income, such as cheap potatoes and vegetable ghee.

These goods are of low quality; therefore, the demand for these goods decreases with increase in consumer's income. In addition, if the price of these goods increases, then the demand for these goods increases assuming that the high price good would be of good quality tor example, coffee is considered as superior and tea as inferior. In case tile price of both of these goods increases the consumers would increase the demand of tea to satisfy their need by paying tile same amount.

ii. Necessity Goods:

Refer to goods that are considered as essential for consumer. The demand of necessity goods does not increase or decrease with increase or decrease in their prices. For example, salt is a necessity good whose consumption cannot be increased in case its price decreases. In such a scenario, the law of demand is not applicable.

iii. Prestige Goods:

Refers to goods that are perceived as a status symbol, such as diamond and Johny Walker Scotch Whisky. The demand for these goods remains same in case of increase or decrease in their price. In such a case, the law of demand is not applicable.

iv. Speculation:

Refers to an assumption of consumers about the change in prices of a product in future. If the price of a product IS expected to rise in future, then the demand for the product increases in the present situation. However, this is against the law of demand.

v. Psychologically Bias Customers:

Refer to one of the important exceptions to the law of demand. Different customers have different perceptions about the price of a product. Some customers have perceptions that low price means bad

quality of a particular product, which is not true in all cases. Therefore, if there is a fall in the price of a product, then the demand for that product decreases automatically.

vi. Brand Loyalty:

Refers to the preference of a consumer towards a particular brand. Consumers do not prefer to change a brand with increase in the price of that brand. For example, if a consumer prefers, to wear Levi's jeans, he would continue to purchase it, irrespective of increase in its price. In such a situation, the law of demand cannot be applied.

vii. Emergency Situations:

Refers to a condition for which the law of demand is not applicable. In emergencies, such as war flood, earthquake, and famine, the availability of goods become scarce and uncertain. Therefore, in such situations, consumer.' prefer to store a large quantity of goods, regardless of their prices.

KAHE

Possible Questions

Part A (ONE Mark)

Multiple Choice Questions

Online Examination

Part B (2 Marks)

1. Define the ordinal utility.
2. What is Giffen Paradox?
3. Define Budget Line.
4. What are types of consumer's preferences?
5. Explain the important tools of ordinal utility.
6. Explain the term Consumer's Equilibrium.
7. What do you mean by income effect?
8. Explain the exceptions to the law of demand.
9. What is meant by Customer preferences?
10. Define the Indifference Curve Approach.

Part C (6 Marks)

11. Discuss the Certain cases that are exceptions to the law of demand.
12. Describe the Derivation of Demand Curve for a Commodity in detail.
13. What is meant by price-consumption curve? And explain with sloping downward price consumption curve diagram.
14. Explain in detail for Income and Substitution Effect.
15. Describe the term Consumer's Equilibrium and determinations of Consumer's Equilibrium.
16. Explain The Budget Line with clear diagram and equation.
17. Discuss the types of consumer preference in detail.
18. What is Indifference Curve Approach? And explain it in detail.
19. Explain ordinal utility theory and its assumptions.
20. What is indifference curve method? And explain its important tools.

S.NO	QUESTIONS	OPTION A	OPTION B	OPTION C	OPTION D	ANSWER
1	Demand curve is a _____	falling curve.	Rising curve.	Downward sloping curve.	upward sloping curve	downward sloping curve.
2	A positive cross elasticity of demand coefficient indicates that _____	A product is an inferior good	A product is a normal good	Two products are substitute goods	Two products are complementary goods	Two products are substitute goods
3	Forecasts _____	become more accurate with longer time horizons.	are rarely perfect.	are more accurate for individual items than for groups of items.	all of the above	become more accurate with longer time horizons.
4	One purpose of short-range forecasts is to determine _____	production planning.	inventory budgets.	research and development plans.	facility location.	facility location.
5	Forecasts are usually classified by time horizon into three categories they are _____	short-range, medium-range, and long-range.	finance/accounting, marketing, and operations.	strategic, tactical, and operational.	exponential smoothing, regression, and time series.	short-range, medium-range, and long-range.
6	A forecast with a time horizon of about 3 months to 3 years is typically called a _____	long-range forecast.	medium-range forecast.	short-range forecast.	weather forecast	medium-range forecast.
7	Forecasts used for new product planning, capital expenditures, facility location or expansion, and R&D typically utilize a _____	short-range time horizon.	medium-range time horizon.	long-range time horizon.	naive method, because there is no data history.	long-range time horizon.
8	The three major types of forecasts used by business organizations are _____	strategic, tactical, and operational.	economic, technological, and deman	exponential smoothing, Delphi, and regression.	causal, time-series, and seasonal.	causal, time-series, and seasonal.
9	Which of the following is not a step in the forecasting process	Determine The Use Of The Forecast.	Eliminate Any Assumptions.	Determine The Time Horizon.	Select A Forecasting Model(S).	Eliminate Any Assumptions.
10	The two general approaches to forecasting are _____	Qualitative and quantitative	Mathematical and statistical.	Judgmental and qualitative.	Historical and associative	Mathematical and statistical.

11	Which of the following uses three types of participants: decision makers, staff personnel, and respondents	Executive Opinions.	Sales Force Composites.	The Delphi Metho	Consumer Surveys.	Consumer Surveys.
12	The forecasting model that pools the opinions of a group of experts or managers is known as _____	sales force composition model.	multiple regression.	jury of executive opinion model.	consumer market survey model.	jury of executive opinion model.
13	Which of the following techniques uses variables such as price and promotional expenditures, which are related to product demand, to predict demand	Associative Models.	Exponential Smoothing.	Weighted Moving Average	Simple Moving Average	Exponential Smoothing.
14	Time-series data may exhibit which of the following behaviors?	Trend	Random Variations.	Seasonality.	Cycles.	Trend
15	Gradual, long-term movement in time-series data is called _____	seasonal variation.	cycles.	trends.	Exponential variation	seasonal variation.
16	Which of the following is not present in a time series?	Seasonality.	Operational Variations.	Tren	Random Variations	Random Variations
17	In Sample survey method _____Technique is adopted	Deliberate	Convenience	Quota	Random	Random
18	In time series, which of the following cannot be predicted?	Large Increases In Deman	Technological Trends.	Seasonal Fluctuations.	Random Fluctuations	Seasonal Fluctuations.
19	Which of the following is not a characteristic of simple moving averages	It Smoothes Random Variations In The Dat	It Has Minimal Data Storage Requirements.	It Weights Each Historical Value Equally.	It Smoothes Real Variations In The Dat	It Has Minimal Data Storage Requirements.
20	Car and petrol are _____ goods	Substitutes	Complementay	producers	Income	Complementay
21	Tea and coffee are _____ Goods	Substitutes	Complementay	Producers	Expenditure	Substitutes
22	In cross elasticity of demand, for unrelated goods the demand curve will be _____	Horizontal straight line	Rectangular hyperbola	Vertical line	a fall in demand	Vertical line
23	The total outlay method expains the relationship between Price and _____	Demand	Supply	Expenditure	Income	Expenditure

24	Which of the following is included in exceptions to the law of demand	Giffen Goods	Joint demand	Composite demand	Complementay	Giffen Goods
25	When a commodity with many uses is demanded then it is called	Direct demand	Joint demand	Composite demand	a fall in deman	Composite demand
26	A fall in the price of a commodity leads to _____	a shift in deman	a fall in deman	a rise in the consumers real income.	a fall in the consumers real income	a rise in the consumers real income.
27	An increase in demand can result from _____	a decline in market price.	an increase in income.	a reduction in the price of a substitute.	an increase in the price of complements	an increase in income.
28	Giffen goods are goods _____	for which demand increases as price increases.	which have a high income elasticity of deman	which have a low cross elasticity of deman	which are in very short supply.	for which demand increases as price increases.
29	In a normal demand schedule, quantity demanded _____	is independent of price.	changes inversely with price.	changes directly with price.	remains unchanged despite price change	changes inversely with price.
30	Decrease in demand means _____	movement upward on a demand curve. .	movement downward on the demand curve.	shift downward of a demand curve	shift upward of a demand curve	shift downward of a demand curve
31	Elasticity of demand is _____	slope of the demand curve.	usually unity.	usually zero.	degree of responsiveness of quantity demanded to a change in price.	degree of responsiveness of quantity demanded to a change in price.
32	If demand is elastic and price increases _____	total revenue will remain unchange	total revenue will fall.	total revenue will rise.	total revenue will become zero	total revenue will fall.
33	How would you indicate relatively inelastic demand by using one of the following measures _____.	E = Zero.	. E is less than 1.	E is greater than 1.	E = 1.	. E is less than 1.
34	When the demand is elastic, a price reduction _____	will increase total revenue.	will decrease total revenue.	will not affect total revenue.	will not affect marginal revenue	will increase total revenue.

35	If the income elasticity of demand is greater than unity, the commodity is _____	a necessity.	a luxury.	an inferior goo	a non-related good	a luxury.
36	A demand curve which is a horizontal straight line has an elasticity that is _____	zero.	greater than zero but less than one.	one.	infinite.	infinite.
37	Demand forecasting means _____	simply guessing about future deman .	establishing relations between demand and its determinants.	predicting level of demand at a future date	all the above	predicting level of demand at a future date
38	Opinion polling method refers to _____	executive polling method;	sales force polling method;	consumer intentions surveys;	all the three.	consumer intentions surveys;
39	The income effect _____	must always be negative . .	must always be positive.	can be negative or positive	must be smaller than substitution effect	can be negative or positive
40	The demand for labor slopes down and to the right because of _____	the law of demand . .	the iron law of wages .	. the law of diminishing marginal returns	economies of scale.	. the law of diminishing marginal returns
41	Normal goods experience an increase in consumption when _____	real income increase	. real income falls.	Price changes	.tastes change.	.tastes change.
42	The demand for a good is price inelastic if _____	the price elasticity is one.	the price elasticity is less than one.	the price elasticity is greater than one.	zero	the price elasticity is less than one.
43	A demand curve with unitary elasticity at all points is _____	A straight line.	A parabola	A hyperbola.	convex to the origin	A hyperbola .
44	Supply is a function of _____	Income.	Advertisement	Consumers	Price	Price

45	The supply of a product does not depend on _____.	labor costs .	The number of sellers in the market .	consumers tastes	existing technology	consumers tastes .
46	Passive factor of production is _____	Only lan	Only capital.	Both land and capital.	Neither land nor capital	Both land and capital.
47	Reasons for increasing returns in Stage I of law of variable proportion is _____	Indivisibility	Specialisation	Both (a) and (b)	None of the above	Both (a) and (b)
48	_____ Economies views on reducing the Production costs	Internal	Inventory	Pecuniary	External	External
49	Which of the following are not related with factors of production (FOP)	Land	Capital	Raw material	Labour	. Raw material
50	Which factor of production is considered as fixed input?	Labour	Technology	Capital	Land	Land
51	The supply of a product does not depend on _____	labor costs .	The number of sellers in the market .	Consumers tastes	Existing technology	consumers tastes
52	_____ is the remuneration for organization	Rent .	Wages	Interest	Profit	Profit
53	_____ input factor is divided as skilled, semi skilled, unskilled	Land	Capital	Technology	labour	labour
54	In the Law of Variable Proportion when TP is Maximum then the MP _____	MP = 1	MP < 0	MP = 0	MP > 1	MP = 0
55	When the output increases in the same proportion as the increase in input it is _____Returns.	Constant	Average	Decreasing	Increasing	Constant

56	Cobb Douglas production function mainly studies ___	Capital & labour	Labour & Entreprenueur	Land & Labour	Land & capital	Capital & labour
57	Marginal cost is defined as	Change in total cost due change in output.	Total cost divided by output	change in output due to a one unit change in an input	Total product divided by the quantity of input	Change in total cost due change in output.
58	Which of the following is correct	TC= TFC+ TVC	TFD= TC- TVC	TVC= TC- TFD	TVC	TC= TFC+ TVC
59	The cost with which the concept of marginal cost is closely related	Variable cost	Fixed cost	Opportunity cost	Economic Cost	Variable cost
60	Opportunity Cost is also Known as _____	outlay cost	Sunk Cost	**Alternative Cost**	Total Cost	Alternative Cost

UNIT-III-Introduction to Production and Cost

SYLLABUS

Production and Cost: Production: Firm as an Agent of Production - Concepts of Production Function - Law of Variable Proportions – Isoquants - Return to Scale - Economics and Diseconomies of Scale - **Costs**: Costs in the Short Run. Costs in the Long Run, Profit Maximization and Cost Minimization - Equilibrium of the Firm, Technological Change - Very Long Run

INTRODUCTION:

Production is an important economic activity which satisfies the wants and needs of the people. Production function brings out the relationship between inputs used and the resulting output. A firm is an entity that combines and processes resources in order to produce output that will satisfy the consumer's needs. The firm has to decide as to how much to produce and how much input factors (labour and capital) to employ to produce efficiently. This chapter helps to understand the set of conditions for efficient production of an organization.

Factors of production include resource inputs used to produce goods and services. Economist categories input factors into four major categories such as land, labour, capital and organization.

Land: Land is heterogeneous in nature. The supply of land is fixed and it is a permanent factor of production but it is productive only with the application of capital and labour.

Labour: The supply of labour is inelastic in nature but it differs in productivity and efficiency and it can be improved.

Capital: is a man made factor and is mobile but the supply is elastic. Organization: the organization plans, supervises, organizes and controls the business activity and also takes risks. And, *Entrepreneurial and coordination*

Firm as agents of production

The agents of production are commonly classed as Land, Labour and Capital. ... It is the main stock of wealth regarded as an agent of production rather than as a direct source of gratification.

The production of goods, services, and income depends on the combined effects of four essential economic ingredients called the agents of production. Combining the four agents of production (land, labour, capital, and entrepreneurial coordination) creates a finished real estate product.

Economists divide the factors of production into four categories: land, labor, capital, and entrepreneurship. The first factor of production is land, but this includes any natural resource used to produce goods and services

Production in ordinary sense means creation of a commodity. We say the carpenter has produced the chair. But in Economics it is a wrong view. The carpenter has given shape to the wood which is a free gift of nature as a result of which it has become more useful to us than before. He has strictly speaking, created additional utility. So production in Economics means creation of new utility. Man takes the things given by nature and simply gives it a new form so that it becomes more useful to us than before.

Production Function

Production function indicates the maximum amount of commodity 'X' to be produced from various combinations of input factors. It decides on the maximum output to be produced from a given level of input, and how much minimum input can be used to get the desired level of output. The production function assumes that the state of technology is fixed. If there is a change in technology then there would be change in production function.

Q = f (Land, Labour, Capital, Organization)

Q = f (L, L, C, O)

The production manager's responsibility is that of identifying he right combination of inputs for the decided quantity of output. As a manager ,he has to know the price of the input factors and the

budget allocation of the organization. The major objective of any business organization is maximizing the output with minimum cost. To achieve the maximum output the firm has to utilize the input factors efficiently. In the long run, without increasing the fixed factors it is not possible to achieve the goal. Therefore it is necessary to understand the relationship betweenthe input and output in any production process in the short and long run.

Cobb Douglas Production Function:

This is a function that defines the maximum amount of output that can be produced with a given level of inputs. Let us assume that all input factors of production can be grouped into two categories such as labour (L) and capital (K).The general equilibrium for the production function is

$Q = f(K, L)$

There are various functional forms available to describe production. In general Cobb-Douglas production function (Quadratic equation) is widely used

$Q = A K\alpha L\beta$

Q = the maximum rate of output for a given rate of capital (K) and labour (L).

Short Run Production Function:

In the short run, some inputs (land, capital) are fixed in quantity. The output depends on how much of other variable inputs are used. For example if we change the variable input namely (labour) the production function shows how much output changes when more labour is used. In the short run producers are faced with the problem that some input factors are fixed. The firms can make the workers work for longer hours and also can buy more raw materials. In that case, labour and raw material are considered as variable input factors. But the number of machines and the size of the building are fixed. Therefore it has its own constraints in producing more goods.

In the long run all input factors are variable. The producer can appoint more workers, purchase more machines and use more raw materials. Initially output per worker will increase up to an extent. This

is known as the Law of Diminishing Returns or the Law of Variable Proportion. To understand the law of diminishing returns it is essential to know the basic concepts of production.

Man may create additional utility in at least three ways:

(a) By changing the form of an object of nature, viz., iron ore into steel, wood into furniture. It is known as form utility.

(b) By changing the place, i.e., transferring a thing from the place of abundance to the place of scarcity. It is called place utility.

(c) Utility may be increased by transferring a thing from one time to another, i.e., when it is relatively abundant to a time when it is scarce. It is what is known as place utility.

Production requires co-operation of certain factors. These are known as agents of production. Broadly, there are four such agents, namely, land, labour, capital and organization. Land includes both manual and intellectual labour. Capital is produced means of production.

Organization is a broad term. It is the factor that faces all the challenges and hazards of production. It pilots the ships of production unit through storm and strain. Factors of production may again be classified into two categories- fixed factors and variable factors.

Different Types of Production:

Since the purpose of any economic activity is the satisfaction of human wants, any activity which helps to satisfy wants is defined as production. In order to survive man must consume; in order to consume he must produce.

In fact, consumption needs determine production plans, and the actual production satisfies those original consumption needs. This, in short, is the economic cycle.

1. Primary production:

Primary production is carried out by 'extractive' industries like agriculture, forestry, mining and oil extraction. These indus-tries are engaged in such activities as extracting the gifts of Nature from beneath the earth's surface and from the oceans. Primary activities refer to such things as extraction of raw materials from the earth's surface, e.g., coal mining or pisiculture (fishing). In advanced countries, the primary sector is providing less employment because machinery is replacing man power.

2. Secondary production:

This includes production in manufacturing industry, viz., turning out semi-finished and finished goods from raw materials and intermediate goods — conversion of flour into bread or iron ore into finished steel. These activities are generally described as manufac-turing and construction industries, such as the manufacture of cars, furnishing, clothing and chemicals, as also engineering and building. In short, secondary production is concerned with conversion of raw mate-rials into finished products, e.g., manufacturing motor cars, shirts, medicines, food, etc.

3. Tertiary production:

Industries in the tertiary sector produce all those services which enable the finished goods to be put in the hands of consum-ers. In fact, these services are supplied to the firms in all types of industries and directly to consumers. Examples cover distributive traders, banking, insurance, transport and communications. Government services, such as law, administration, education, health and defense, are also included.

Law of Variable Proportions

The law of variable proportions states that as the quantity of one factor is increased, keeping the other factors fixed, the marginal product of that factor will eventually decline. This means that upto the use of a certain amount of variable factor, marginal product of the factor may increase and after a certain stage it starts diminishing. When the variable factor becomes relatively abundant, the marginal product may become negative.

Assumptions: The law of variable proportions holds good under the following conditions:

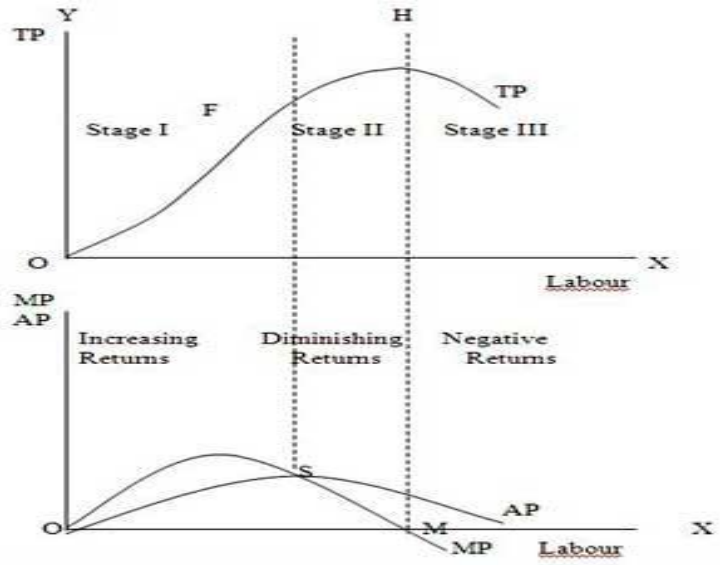
1. Constant State of Technology: First, the state of technology is assumed to be given and unchanged. If there is improvement in the technology, then the marginal product may rise instead of diminishing.

2. Fixed Amount of Other Factors: Secondly, there must be some inputs whose quantity is kept fixed. It is only in this way that we can alter the factor proportions and know its effects on output. The law does not apply if all factors are proportionately varied.

3. Possibility of Varying the Factor proportions: Thirdly, the law is based upon the possibility of varying the proportions in which the various factors can be combined to produce a product. The law does not apply if the factors must be used in fixed proportions to yield a product.

Three Stages of the Law of Variable Proportions: These stages are illustrated in the following figure where labour is measured on the X-axis and output on the Y-axis.

Stage 1. Stage of Increasing Returns: In this stage, total product increases at an increasing rate up to a point. This is because the efficiency of the fixed factors increases as additional units of the variable factors are added to it. In the figure, from the origin to the point F, slope of the total product curve TP is increasing i.e. the curve TP is concave upwards upto the point F, which means that the marginal product MP of labour rises. The point F where the total product stops increasing at an increasing rate and starts increasing at a diminishing rate is called the point of inflection. Corresponding vertically to this point of inflection marginal product of labour is maximum, after which it diminishes. This stage is called the stage of increasing returns because the average product of the variable factor increases throughout this stage. This stage ends at the point where the average product curve reaches its highest point.



Stage 2. Stage of Diminishing Returns: In this stage, total product continues to increase but at a diminishing rate until it reaches its maximum point H where the second stage ends. In this stage both the marginal product and average product of labour are diminishing but are positive. This is because the fixed factor becomes inadequate relative to the quantity of the variable factor. At the end of the second stage, i.e., at point M marginal product of labour is zero which corresponds to the maximum point H of the total product curve TP. This stage is important because the firm will seek to produce in this range.

Stage 3. Stage of Negative Returns: In stage 3, total product declines and therefore the TP curve slopes downward. As a result, marginal product of labour is negative and the MP curve falls below the X-axis. In this stage the variable factor (labour) is too much relative to the fixed factor.

Importance and Applicability of the Law of Variable Proportion:

The Law of Variable Proportion has universal applicability in any branch of production. It forms the basis of a number of doctrines in economics. The Malthusian theory of population stems from the fact that food supply does not increase faster than the growth in population because of the operation of the law of diminishing returns in agriculture.

Ricardo also based his theory of rent on this principle. According to him rent arises because the operation of the law of diminishing return forces the application of additional doses of labour and capital on a piece of land. Similarly the law of diminishing marginal utility and that of diminishing marginal physical productivity in the theory of distribution are also based on this theory.

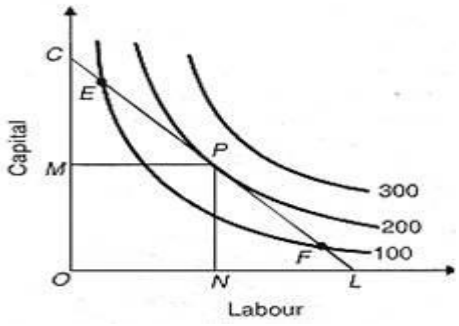
The law is of fundamental importance for understanding the problems of underdeveloped countries. In such agricultural economies the pressure of population on land increases with the increase in population. This leads to declining or even zero or negative marginal productivity of workers. This explains the operation of the law of diminishing returns in LDCs in its intensive form. Ragnar Nurkse have suggested ways to make use of these disguisedly unemployed labour by withdrawing them and putting them in those occupations where the marginal productivity is positive.

Isoquant

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

To understand the production function with two variable inputs, iso-quant curve is used. These curves show the various combinations of o variable inputs resulting in the same level of output. The shape of an Iso-quant reflects the ease with which a producer can substitute among inputs while maintaining the same level of output. From the graph we can understand that the iso-quant curve indicates various combinations of capital and labour usage to produce 100 units of motor pumps. The points a, b or any point in the curve indictes the same quantum of production. If the production increases to 200 or 300 units definitely the input usage will also increase therefore the new iso-quant curve for 200 units (Q1) is shifted upwards. Various iso-quant curves presented in a graph is called as iso- quant map.

Iso-cost: different combination of inputs that can be purchased at a given expenditure level.



The above graph explains clearly that the iso quant curve for 100 units of motor consists of 'n' number of input combinations to produce the same quantity. For example at 'a' to produce 100 units of motors the firm uses OC amount of capital and OL amount of labour ie., more capital and less labour force. At 'b' OC1 amount of capital and OL1 labour force is used to produce the same that means more labour and less capital.

The Law of Returns to Scale

In the long run the fixed inputs like machinery, building and other factors will change along with the variable factors like labour, raw material etc. With the equal percentage of increase in input factors various combinations of returns occur in an organization.

Returns to scale: the change in percentage output resulting from a percentage change in all the factors of production. They are increasing, constant and diminishing returns to scale.

Increasing returns to scale may arise: if the output of a firm increases more than in proportionate to an increase in all inputs. For example the input factors are increased by 50% but the output has doubled (100%).

Constant returns to scale: when all inputs are increased by a certain percentage the output increases by the same percentage. For example input factors are increased by 50% then the output has also increased by 50 percentages. Let us assume that a laptop consists of 50 components we call it as a

set. In case the firm purchases 100 sets they can assemble 100 laptops but it is not possible to produce more than 100 units.

Diminishing returns to scale: when output increases in a smaller proportion than the increase in inputs it is known as diminishing return to scale. For example 50% increment in input factors lead to only 20% increment in the output.

From the graph given below we can see the total production (TP) curve and the marginal production curve (MP) and average production curve (AP). It is classified into three stages; let us understand the stages in terms of returns to scale.

Stage I: The total production increased at an increasing rate. We refer to this as increasing stage where the total product, marginal product and average production are increasing.

Stage II: The total production continues to increase but at a diminishing rate until it reaches the next stage. Marginal product, average product are declining but are positive. The total production is at the maximum level at the end of the second stage with a zero marginal product.

Stage III: In this third stage total production declines and marginal product becomes negative. And the average production also started decline. Which implies that the change in input factors there is a decline in the overall production along with the average and marginal.

In economics, the production function with one variable input is illustrated with the well known law of variable proportions. (below graph) it shows the input-output relationship or production function with one factor variable while other factors of production are kept constant.

Economies of Scale

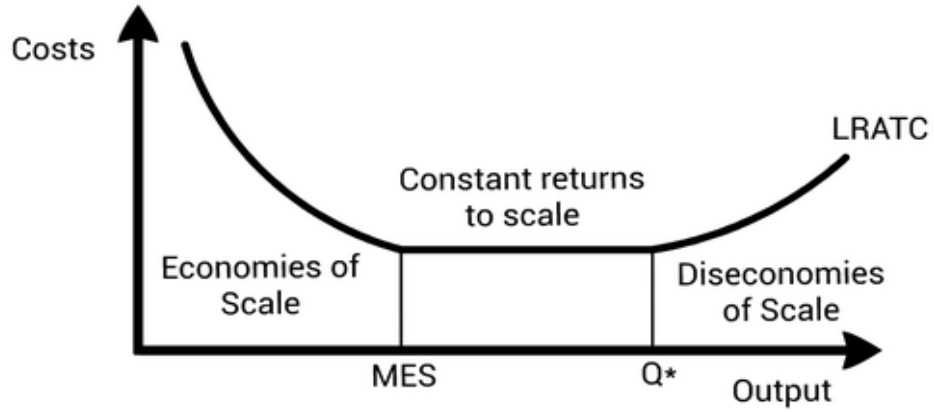
Economies of scale exist when long run average costs decline as output is increased. Diseconomies of scale exist when long run average cost rises as output is increased. It is graphically presented in the following graph. The economies of scale occur because of (i) technical economies: the change in production process due to technology adoption. (ii) Managerial economies (iii) purchasing economies, (iv) marketing economies and (v) financial economies.

Economies of scale means a fall in average cost of production due to growth in the size of the industry within which a firm operates.

Diseconomies of Scale:

Arises due to managerial problems. If the size of the business becomes too large, then it becomes difficult for management to control the organizational activities therefore diseconomies of scale arise.

Graph – Economies of Scale and Diseconomies of scale



Factors Causing Economies of Scale:

There are various factors influencing the economies of scale of an organization. They are generally classified in to two categories as Internal factors and External factors.

Internal Factors:

1. Labour economies: if the labour force of a firm is specialized in a specific skill then the organization can achieve economies of scale due to higher labour productivity.

2. Technical economies: with the use of advanced technology they can produce large quantities with quality which reduces their cost of production.

3. Managerial economies: the managerial skills of an organization will be advantageous to achieve economies of scale in various business activities.

4. Marketing economies: use of various marketing strategies will help in achieving economies of scale.

5. Vertical integration: if there is vertical integration then there will be efficient use of raw material due to internal factor flow.

6. Financial economies: the firm's financial soundness and past record of financial transactions will help them to get financial facilities easily.

7. Economies of risk spreading: having variety of products and diversification will help them to spread their risk and reduce losses.

8. Economies of scale in purchase: when the organization purchases raw material in bulk reduces the transportation cost and maintains uniform quality.

External Factors:

1. Better repair and maintenance facilities: When the machinery and equipments are repaired and maintained, then the production process never gets affected.

2. Research and Development: research facilities will provide opportunities to introduce new products and process methods.

3. Training and Development: continuous training and development of skills in the managerial, production level will achieve economies of scale.

4. Economies of location: the plant location plays a major role in cutting down the cost of materials, transport and other expenses.

5. Economies of Information Technology: advanced Information technology provides timely accurate information for better decision making and for better services.

6. Economies of by-products: Organizations can increase the economies of scale by minimizing waste and can be environmental responsible by using the by- products of the organization.

Factors Causing Diseconomies of Scale:

1. Labour union: continuous labour problem and dissatisfaction can lead to diseconomies of scale.

2. Poor team work: Poor performance of the team leads to diseconomies of scale.

3. Lack of co-ordination: lack of coordination among the work force has a major role to play in causing diseconomies of scale.

4. Difficulty in fund raising: difficulties in fund raising reduce the scale of operation.

5. Difficulty in decision making: the managerial inability, delay in decision making is also a factor that determines the economies of scale.

6. Scarcity of Resources: raw material availability determines the purchase and price. Therefore there is a possibility of facing diseconomies in firms.

7. Increased risk: growing risk factors can cause diseconomies of scale in an organization. It is essential to reduce the same.

Short Run Costs

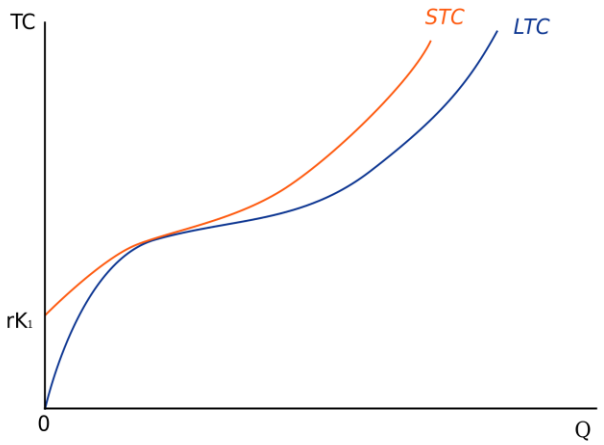
Short run costs are accumulated in real time throughout the production process. Fixed costs have no impact of short run costs, only variable costs and revenues affect the short run production. Variable costs change with the output. Examples of variable costs include employee wages and costs of raw materials. The short run costs increase or decrease based on variable cost as well as the rate of production. If a firm manages its short run costs well over time, it will be more likely to succeed in reaching the desired long run costs and goals.

Long Run Costs

Long run costs are accumulated when firms change production levels over time in response to expected economic profits or losses. In the long run there are no fixed factors of production. The land, labor, capital goods, and entrepreneurship all vary to reach the the long run cost of producing a good or service. The long run is a planning and implementation stage for producers. They analyze the current and projected state of the market in order to make production decisions. Efficient long run costs are sustained when the combination of outputs that a firm produces results in the desired quantity of the goods at the lowest possible cost. Examples of long run decisions that impact a firm's costs include changing the quantity of production, decreasing or expanding a company, and entering or leaving a market.

Difference between short run and long run cost

The main difference between long run and short run costs is that there are no fixed factors in the long run; there are both fixed and variable factors in the short run. In the long run the general price level, contractual wages, and expectations adjust fully to the state of the economy. In the short run these variables do not always adjust due to the condensed time period. In order to be successful a firm must set realistic long run cost expectations. How the short run costs are handled determines whether the firm will meet its future production and financial goals.



Profit Maximization

In economics, profit maximization is the short run or long run process by which a firm may determine the price, input, and output levels that lead to the greatest profit. Neoclassical economics, currently the mainstream approach to microeconomics, usually models the firm as maximizing profit.

There are several perspectives one can take on this problem. First, since profit equals revenue minus cost, one can plot graphically each of the variables revenue and cost as functions of the level of output and find the output level that maximizes the difference

Second, if specific functional forms are known for revenue and cost in terms of output, one can use calculus to maximize profit with respect to the output level.

Third, since the first order condition for the optimization equates marginal revenue and marginal cost, if marginal revenue and marginal cost functions in terms of output are directly available one can equate these, using either equations or a graph.

Fourth, rather than a function giving the cost of producing each potential output level, the firm may have input cost functions giving the cost of acquiring any amount of each input, along with a production function showing how much output results from using any combination of input quantities.

In this case one can use calculus to maximize profit with respect to input usage levels, subject to the input cost functions and the production function. The first order condition for each input equates the marginal revenue product of the input (the increment to revenue from selling the product caused by an increment to the amount of the input used) to the marginal cost of the input.

For a firm in a perfectly competitive market for its output, the revenue function will simply equal the market price times the quantity produced and sold, whereas for a monopolist, which chooses its level of output simultaneously with its selling price, the revenue function takes into account the fact that higher levels of output require a lower price in order to be sold. An analogous feature holds for the input markets: in a perfectly competitive input market the firm's cost of the input is simply the

amount purchased for use in production times the market-determined unit input cost, whereas a monopolist's input price per unit is higher for higher amounts of the input purchased.

The principal difference between short-run and long-run profit maximization is that in the long run the quantities of all inputs, including physical capital, are choice variables, while in the short run the amount of capital is predetermined by past investment decisions. In either case there are inputs of labor and raw materials.

Cost minimization

Cost minimization is a basic rule used by producers to determine what mix of labor and capital produces output at lowest cost. In other words, what the most cost effective method of delivering goods and services would be while maintaining a desired level of quality.

An essential financial strategy, it is important to understand why cost minimization is important and how it works.

The Flexibility of the Production Function

In the long run, a producer has the flexibility over all aspects of production--how many workers to hire, how big of a factory to have, what technology to use, and so on. In more specific economic terms, a producer can vary both the amount of capital and the amount of labor it uses in the long run.

Therefore, the long-run production function has 2 inputs: capital (K) and labor (L). In the table provided here, q represents the quantity of output that is created.

Choices of Production Process

In many businesses, there are a number of ways in which a particular quantity of output can get created. If your business is making sweaters, for example, you could produce sweaters either by hiring people and buying knitting needles or by buying or renting some automated knitting machinery.

In economic terms, the first process uses a small quantity of capital and a large quantity of labor (i.e. is "labor intensive"), whereas the second process uses a large quantity of capital and a small quantity of labor (i.e. is "capital intensive"). You could even choose a process that is in between these 2 extremes.

Given that there are often a number of different ways to produce a given quantity of output, how can a company decide what mix of capital and labor to use? Not surprisingly, companies are generally going to want to choose the combination that produces a given quantity of output at the lowest cost.

The Cost-Minimization Rule

Cost is minimized at the levels of capital and labor such that the marginal product of labor divided by the wage (w) is equal to the marginal product of capital divided by the rental price of capital (r).

More intuitively, you can think of cost being minimized and, by extension, production being most efficient when the additional output per dollar spent on each of the inputs is the same. In less formal terms, you get the same "bang for your buck" from each input. This formula can even be extended to apply to production processes that have more than 2 inputs.

Equilibrium of the Firm:

"A firm is a unit engaged in the production for sale at a profit and with the objective of maximizing profit." -Watson

A firm is in equilibrium when it is satisfied with its existing level of output. The firm wills, in this situation produce the level of output which brings in greatest profit or smallest loss. When this situation is reached, the firm is said to be in equilibrium.

"Where profits are maximized, we say the firm is in equilibrium". -Prof. RA. Bilas

"The individual firm will be in equilibrium with respect to output at the point of maximum net returns." -Prof. Meyers

Conditions of the Equilibrium of Firm:

A firm is said to be in equilibrium when it satisfies the following conditions:

1. The first condition for the equilibrium of the firm is that its profit should be maximum.

2. Marginal cost should be equal to marginal revenue.

3. MC must cut MR from below.

The above conditions of the equilibrium of the firm can be examined in two ways:

1. Total Revenue and Total Cost Approach

2. Marginal Revenue and Marginal Cost Approach.

1. Total Revenue and Total Cost Approach:

A firm is said to be in equilibrium when it maximizes its profit. It is the point when it has no tendency either to increase or contract its output. Now, profits are the difference between total revenue and total cost. So in order to be in equilibrium, the firm will attempt to maximize the difference between total revenue and total costs. It is clear from the figure that the largest profits which the firm could make will be earned when the vertical distance between the total cost and total revenue is greatest.

2. Marginal Revenue and Marginal Cost Approach:

Joan Robinson used the tools of marginal revenue and marginal cost to demonstrate the equilibrium of the firm. According to this method, the profits of a firm can be estimated by calculating the marginal revenue and marginal cost at different levels of output. Marginal revenue is the difference made to total revenue by selling one unit of output. Similarly, marginal cost is the difference made to total cost by producing one unit of output. The profits of a firm will be maximum at that level of output whose marginal cost is equal to marginal revenue.

Thus, every firm will increase output till marginal revenue is greater than marginal cost. On the other hand, if marginal cost happens to be greater than marginal revenue the firm will sustain losses. Thus, it will be in the interest of the firm to contract the output. It can be shown with the help of a figure. In fig. 2 MC is the upward sloping marginal cost curve and MR is the downward sloping marginal revenue curve. Both these curves intersect each other at point E which determines the OX level of output. At OX level of output marginal revenue is just equal to marginal cost.

It means, firm will be maximizing its profits by producing OX output. Now, if the firm produces output less or more than OX, its profits will be less. For instance, at OX1 its profits will be less because here MR = JX1, while MC = KX1 So, MR > MC. In the same fashion at OX2 level of output marginal revenue is less than marginal cost. Therefore, beyond OX level of output extra units will add more to cost than to revenue and, thus, the firm will be incurring a loss on these extra units.

Besides first condition, the second order condition must also be satisfied, if we want to be in a stable equilibrium position. The second order condition requires that for a firm to be in equilibrium marginal cost curve must cut marginal revenue curve from below. If, at the point of equality, MC curve cuts the MR curve from above, then beyond the point of equality MC would be lower than MR and, therefore, it will be in the interest of the producer to expand output beyond this equality point.

Determination of Short Run Equilibrium of Firm:

Short-run refers to that period in which fixed factors remaining unchanged the firms in order to incur maximum profits can vary their output by changing the variable factors like labour, raw material etc. In the short period, it is not necessary that the firms must earn super-normal or normal profits but even the firms may have to sustain the losses.

A firm may earn supernormal profits because in the short run, firms cannot enter the industry. Moreover, a firm may suffer losses, because in the short run, may not step up production even when price of the product falls. In case, it stops production temporarily, it will have to bear the loss of fixed cost which will constitute the minimum losses of the firm.

Determination of Long Run Equilibrium of the Firm:

Long run refers to that period in which the producer can change its supply by changing all the factors of production. In other words, the producer has the sufficient time to adjust their supplies according to the changed demand conditions.

Moreover, new firms can also enter and existing firms can leave the industry. In the long-run, the firm is said to be in equilibrium when marginal cost is equal to price. Besides it, the firm under perfect competition to be in equilibrium-price must be equal to average cost. Generally, in the long run, firm in equilibrium earns normal profits. If the firms happen to earn the super normal profits in the long period, the existing firms will increase their production.

Technological Change

In economics, a technological change is an increase in the efficiency of a product or process that results in an increase in output, without an increase in input. In other words, someone invents or improves a product or process, which is then used to get a bigger reward for the same amount of work.

The telephone is an example of a product that has undergone a technological change. It has undergone many different changes over the years that have made it more efficient. Processes or products, such as the telephone, move through technological change in three stages:

- Invention - the creation of a new product or process
- Innovation - the application of the invention for the first time
- Diffusion - how fast others begin to adopt the innovation

Impacts of Technological Change

We have all likely experienced the impact of technology. Let's take a look at the ways, both good and bad, technological change has impacted our world:

Creates new products and processes

When telephones were first invented, the object was to be able to verbally communicate with someone. Due to technological changes, we have multiple ways to communicate using our phones, such as text, email, or talk.

Increases efficiency, lower costs

Technology makes it possible to perform everyday tasks faster and with less energy on our part. For instance, some people have a vacuum cleaning robot. Instead of spending 30 minutes vacuuming, they push a button and go do something else. That's efficiency.

Helps economies evolve

People are able to increase the ways in which they create wealth. It also has a ripple effect. When one technological change occurs, it changes how we live. With the integration of technology, societies evolved from traditional hunting and gathering to industrialized. So that fewer people are growing crops and more are moving into other industries

Very Long Run.

A production time period in which all inputs are variable, including those under control of the firm and those beyond the control of the firm. During the very long run, not only are the labor, capital, land, and entrepreneurship inputs variable, but so too are key production inputs such as government rules, technology, and social customs. This is one of four production time periods used in the study of microeconomics. The other three are short run, long run, and very short run.

The very long run is a production time period that is so long that all productive inputs are variable, including those that are variable in the long run (labor and capital) as well as those that change slowly and/or are beyond the control of the firm. In the very long there are no fixed inputs. Everything affecting production is likely to change. The task facing a firm is then to adjust to all sorts of changes.

Consider a comparison between the long run and the very long run:

In the long run, all inputs under the control of the firm or producer are variable. In other words, a firm can change the size of the workforce as well as the plant size and other capital inputs. However, the firm operates under existing government regulations, has access to the same transportation infrastructure, and makes use of the same production technology.

In the very long run, technology, social institutions, and other things that may change very slowly and/or may be largely beyond the direct control of the firm can change. A firm not only builds a new plant in the very long run, but this plant makes use of improved technology and is adapted to new government regulations.

KAHE

Possible Questions

Part A (ONE Mark)

Multiple Choice Questions

Online Examination

Part B (2 Marks)

1. Define the Production.
2. Define Cost minimization
3. Define profit maximization.
4. Explain the term place utility.
5. Explain the Short Run Production Function.
6. What do you mean by Production function?
7. Explain the various Types of Production.
8. Explain need for Cost-Minimization Rule.
9. What are the Factors of production?
10. Define the Cobb Douglas Production Function.

Part C (6 Marks)

1. Explain the concept of technological change and its impact.
2. Discuss the Determination of Long Run Equilibrium of the Firm
3. Distinguish between the term 'long run' and 'very long run'.
4. What is meant by equilibrium of the firm? And explain examined of equilibrium of the firm.
5. Explain the Factors Causing Economies of Scale.
6. Describe the profit maximization concept in detail.
7. What is meant by Diseconomies of Scale? And explain the Factors Causing Diseconomies of Scale.
8. Discuss in detail about the law of returns to scale.
9. Explain the Importance and applicability of the law of variable proportion.
10. Describe the law of variable proportions and Diminishing returns to scale.

S.NO	QUESTIONS	OPTION A	OPTION B	OPTION C	OPTION D	ANSWER
1	_____costs are business costs which do not involve any cash payments but for them a provision is made in accounts.	Private cost	Social Cost	Accounting Cost	Book Cost	Book Cost
2	The vertical difference between TVC and TC is equal to _____	MC	AVC	TFC	None	TFC
3	The costs that depend on output in the short run are _____	Total variable costs only.	Both total variable costs and total costs.	Total costs only.	Total fixed cost only	Total variable costs only.
4	In the short run, as economists use the phrase, is characterised by _____	All inputs being variable.	A period where the law of diminishing returns does not hold	At least one fixed factor of production and firms neither leaving nor entering the industry.	No variable inputs - that is, all of the factors of production are fixe	At least one fixed factor of production and firms neither leaving nor entering the industry.
5	The rate at which a firm can substitute capital for labour and hold output constant is the _____	Marginal rate of production.	law of diminishing marginal returns	marginal rate of factor substitution.	isoquant.	marginal rate of factor substitution.
6	A graph showing all the combinations of capital and labour available for a given total cost is the _____.	isoquant.	budget constraint.	isocost line	expenditure set	isoquant.
7	The formula for average fixed costs is _____	TFC/Q	DQ/DF	Q/TF	TFC _ Q	TFC/Q
8	The formula for average variable cost (AVC) is _____	DQ/DTV	DTVC/DQ.	TVC/Q.	Q/TV	TVC/Q.
9	Implicit costs are _____	Equal to total fixed costs.	comprised entirely of variable costs.	payments for self-employed resources.	always greater in the short run than in the long run	payments for self-employed resources.
10	Which would be an implicit cost for a firm? The cost _____	of worker wages and salaries for the firm.	paid for leasing a building for the firm.	paid for Production supplies for the firm.	of wages foregone by the owner of the firm.	of wages foregone by the owner of the firm.

11	If a firm's revenues just cover all its opportunity costs, then _____	Normal profit is zero.	economic profit is zero.	total revenues equal its explicit costs.	total revenues equal its implicit costs.	Normal profit is zero.
12	The short run is a time period in which _____	All resources are fixe	the level of output is fixe	the size of the production plant is variable.	some resources are fixed and others are variable.	all resources are fixe
13	When the total product curve is falling, the _____	Marginal product of labor is zero.	marginal product of labor is negative.	average product of labor is increasing.	average product of labor must be negative	marginal product of labor is negative.
14	Variable costs are _____	sunk costs.	multiplied by fixed costs.	costs that change with the level of production	defined as the change in total cost resulting from the production of an additional unit of output.	costs that change with the level of production
15	Opportunity cost of a factor of production with specific use is _____	very high.	infinite.	zero.	constant	zero.
16	The accountant never considers _____	explicit costs.	actual costs.	opportunity costs	total cost	opportunity costs
17	Incremental cost is closely related to _____	average cost. .	marginal cost.	total cost	fixed cost.	marginal cost.
18	When inputs are increased in a given proportion and output increases in a greater proportion, the returns to scale said to be_____	Constant returns to scale	Increasing returns to scale	Decreasing retuns to scale	None	Increasing returns to scale
19	Money paid to unskilled labour is called	Wages	Salary	Royalty	None	Wages
20	Which of the following curve is not U-shaped?	AVC	AFC	AC	MC	AFC
21	Labour is a _____	gift.	Immovable factor.	bargaining factor.	passive factor	bargaining factor.
22	Off all the factors of production given below, which one is perishable in nature _____	labour.	land	capital.	entrepreneurship	labour.

23	An isoquant is _____	least cost combination of inputs.	combination that gives rise to same level of output, provided the firm is minimizing production cost.	locus of input combinations of factor inputs which firm can buy with a given outlay and factor prices.	Factors unchanged	combination that gives rise to same level of output, provided the firm is minimizing production cost.
24	External economies of scale arise when _____	expansion of output of one firm improves the efficiency of others.	a large firm acquires monopoly advantage.	. the staff of the firm makes a discovery which patentable.	prices for bulk buying of raw materials	expansion of output of one firm improves the efficiency of others.
25	Internal economies of scale may not arise due to _____	division of labour.	vertical integration.	bulk purchases.	high cost.	high cost.
26	Opportunity cost is a term which describes _____	a bargain price for a factor of production.	costs related to an optimum level of production.	variable costs.	cost of one product in terms of production of others forgone	cost of one product in terms of production of others forgone
27	Total cost is _____	the overall cost associated with a given level of output.	Equal to marginal cost times the quantity of output.	determined by adding marginal cost and average cost.	fixed cost plus marginal cost	.the overall cost associated with a given level of output.
28	Marginal cost curve cuts the average cost curve _____	at the left of its lowest point.	at its lowest point.	at the right of its lowest point.	at its highest point	at its lowest point.
29	Marginal cost means _____	Subtutional cost. .	addition to the total cost.	multiplication to the total cost	variable cost	addition to the total cost.
30	An LAC curve is not known as _____	envelope curve.	planning curve.	operating curve.	Plant curve.	Plant curve.
31	The marginal product equals the average product when the latter is _____	Halfof its maximum value.	quarter of its maximum value.	equals to its maximum value .	equals to its minimum value	equals to its minimum value

32	The firm cost functions are determined by _____	the price of its product .	its assets.	Its production function .	the age of the firm	its production function .
33	In case of oligopoly , number of firms is_____	larger	Infinite	One	Few	Few
34	What are homogenous products?	Undifferentiated products	Differentiated products	Both (a) and (b)	None of the above	Undifferentiated products
35	A distinguishing characteristic of monopolistic competition is	Large number of firms	Low entry barriers	Product standardisation	Product differentiation	Product differentiation
36	In perfect competition, the marginal revenue curve	And the demand curve facing the firm are identical	Is always above the demand curve facing the firm	Is always below the demand curve facing the firm	Intersects the demand curve when marginal revenue is minimize	And the demand curve facing the firm are identical
37	In case of perfect competition, no of selling firm would be	Large	Single	Varied but too many	None of the above	Large
38	If firms can neither enter nor leave an industry, the relevant time period is the	Short run	Intermediate run	Long run	Immediate run	Short run
39	Which of the following is a characteristic of a perfectly competitive market?	Firms are price setters.	There are few sellers in the market.	Firms can exit and enter the market freely.	All of the above are correct.	Firms can exit and enter the market freely.
40	When a perfectly competitive firm makes a decision to shut down, it is most likely that _____	price is below the minimum of average variable cost.	fixed costs exceed variable costs.	average fixed costs are rising.	. marginal cost is above average variable cost.	price is below the minimum of average variable cost.
41	In the long run, a profit-maximizing firm will choose to exit a market when _____	fixed costs exceed sunk costs.	average fixed cost is rising	revenue from production is less than total costs.	marginal cost exceeds marginal revenue at the current level of production.	revenue from production is less than total costs.

42	When firms have an incentive to exit a competitive market, their exit will _____.	Firms are price setters.	There are few sellers in the market.	Decrease the quantity of goods supplied in the market.	average fixed costs are rising.	Decrease the quantity of goods supplied in the market.
43	In a perfectly competitive market, the process of entry or exit ends when _____.	firms are operating with excess capacity.	. firms are making zero economic profit.	. firms experience decreasing marginal revenue.	price is equal to marginal cost.	. firms experience decreasing marginal revenue.
44	Imperfect competition was introduced by _____	Marshall	Chamberlin	Keynes	None of these	Chamberlin
45	In case of Monopoly, a firm in long run can have ____	Normal	Profit	Long run	Immediate run	Profit
46	In Perfect Competition equilibrium is attained When__	AR = AC	TR = TC	MR = MC	Q = P	MR = MC
47	Kinked demand curve is associated with _____	cournot.	Chamberlain.	Edgeworth.	sweezy.	sweezy.
48	The important difference between perfect competition and monopolistic competition is that monopolistic competitors _____	Do not try to maximize profits.	Have an inelastic demand curve facing them.	Worry about their influence on the market.	Sell similar but not identical products.	Sell similar but not identical products.
49	Which one is not collusive oligopoly _____	price leadership.	market-sharing cartel.	price discrimination.	price fixing cartel.	market-sharing cartel.
50	Price leadership may not arise due to _____	cost advantage.	substantial market share.	initiative in developing a product.	make poor quality of the product.	make poor quality of the product.
51	The upper portion of the kinked demand curve is relatively	More inelastic	More elastic	Less elastic	Less inelastic	More elastic
52	Concentration of monopoly is implemented under	FERA	MRTP	FEMA	MR	MRTP
53	Which of the following is a characteristic of pure monopoly?	One Seller Of The Product .	Low Barriers To Entry .	Close Substitute products.	Perfect information.	Close Substitute products.

54	Cartel is a part of _____	Monopoly	Oligopoly	Duopoly	Perfect Competition	Oligopoly
55	Which method is better in measuring the national income	Expenditure census method	Social accounting method	Opportunity method	Incremental method	Expenditure census method
56	How to calculate per capita income.	National income /Total population	National income /Total Employed population	National income /Total personal Income-Commercial	All the above	National income /Total population
57	In perfectly inelastic, demand curve will be	Horizontal Straight line	Vertical line	Rectangular hyperbola	None	Vertical line
58	In relatively inelastic, demand curve will be	Horizontal Straight line	Vertical line	Steeper	Flatter	Steeper
59	Deductive method explains things from	General to particular	Particular to General	Both	None	General to particular
60	While determining equilibrium of firm in short run for perfect competition, the X-axis in the diagram represents	Revenue	Output	Cost	Price	Output

UNIT-IV Market Structure

SYLLABUS

Market Structure: Perfect Competition: Assumption; Theory of a Firm Under Perfect Competition- Equilibrium of the Firm in the Short Run and Long Run - **Monopoly:** Short-run and Long-run Equilibrium of Monopoly Firm- Price Discrimination - **Imperfect Competition:** Difference Between Perfect Competitions, Monopoly and Imperfect Competition - **Monopolistic Competition:** Assumption; Short – Run Equilibrium - Long run Equilibrium -. **Oligopoly:** Causes for the Existence of Oligopolistic Firms in the Market rather than Perfect Competition

Meaning of Market

The term market refers to a public place in which goods and services are bought and sold. In economics, it has a different meaning. Different economists have tried to define market in different ways. Cournot defines market as, "not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with each other that the prices of the same goods tend to equality easily and quickly". To Ely, "Market means the general field within which the force determining the price of particular product operates".

The only essential for a market is that all buyers and sellers should be in constant touch with each other, either because they are in the same building or because they are able to talk to each other by telephone at a moment's notice.

Thus a market has the following basic components.

- There should be buyers of the product. If a country consists of people who are very poor, there can hardly be market for luxuries like cars, VCR etc.
- A commodity should be offered for sale in the market. Otherwise there is no question of buying the commodity. Therefore, existence of sellers is a necessity for any market.
- Buyers and sellers should have close contact with each other.
- There should be a price for the commodity. The exchange of commodities between buyers and sellers occurs at a particular price which is mutually agreeable to both the buyers and sellers.

CLASSIFICATION OF MARKET

Market may be classified into different types:

On the basis of area

Markets may be classified on the basis of area into local, national and international markets. If the buyers and sellers are located in a particular locality, it is called as a local market, e.g. fruits, vegetables etc. These goods are perishable; they cannot be stored for a long time; they cannot be taken to distant places. When a commodity is demanded and supplied all over the country, national market is said to exist. When a commodity commands international market or buyers and sellers all over the world, it is called international market.

Whether a market will be local, national or international in character will depend upon the following factors:

(a) Nature of commodity

(b) Taste and preference of the people

(c) Availability of storage

(d) Method of business

(e) Political stability at home and abroad

On the basis of time

Time element has been used by Marshall for classifying the market. On the basis of time, market has been classified into very short period, short period, long period and very long period. Very short period market refers to the market in which commodities that are fixed in supply or are perishable are transacted. Since supply is fixed, only the changes in demand influence the price. The short period markets are those where supply can be increased but only to a limited extent. Long period market refers to a market where adequate time is available for changing the supply by changing the fixed factors of production. The supply of commodities may be increased by installing a new plant or machinery and the output can be changed accordingly. Very long period or secular period is one in which changes take place in factors like population, supply of capital and raw material etc.

On the basis of nature of transactions

Markets are classified on the basis of nature of transactions into two broad categories viz., Spot market and future market. When goods are physically transacted on the spot, the market is called as spot market. In case the transactions involve the agreements of future exchange of goods, such markets are known as future markets.

On the basis of volume of business

Based on the volume of business, markets are broadly classified into wholesale and retail markets. In the wholesale markets, goods are transacted in large quantities. Wholesale markets are in fact, a link between the producer and the retailer while the retailer is a link between the wholesaler and the consumer.

On the basis of status of sellers

During the process of marketing, a commodity passes through a chain of sellers and middlemen. Markets can be classified into primary, secondary and terminal markets. The primary market consists of manufacturers who produce and sell the product to the wholesalers. The wholesalers who are an international link between the manufacturers and retailers constitute secondary markets while the retailers who sell it to the ultimate consumer constitute the terminal market.

On the basis of regulation

On this basis, market is classified into regulated and unregulated markets. For some goods and services, the government stipulates certain conditions and regulations for their transactions. Market of goods and services is called regulated market.

On the other hand, goods and services whose transactions are left to the market forces belong to unregulated market. Regulations of market by the government become essential for those goods whose supply or price can be manipulated against the interests of the general public.

On the basis of competition

Markets are classified on the basis of nature of competition into perfect competition and imperfect competition.

MARKET STRUCTURE

The term market structure refers to the degree of competition prevailing in that particular market. For price analysis it is vital for business management to gain knowledge of the nature and process of competition in the prevailing business society.

PERFECT COMPETITION

Perfect competition in economic theory has a meaning diametrically opposite to the everyday use of the term. In practice, businessmen use the word competition as synonymous to rivalry. In theory, perfect competition implies no rivalry among firms. Perfect competition, therefore, can be defined as a market structure characterized by a complete absence of rivalry among the individual firms.

FEATURES

Large number of buyers and sellers

There must be a large number of firms in the industry. Each individual firm supplies only a small part of the total quantity offered in the market. As a result, no individual firm can influence the price. Similarly, the buyers are also numerous. Hence, no individual buyer has any influence on the market price. The price of the product is determined by the collective forces of industry demand and industry supply. The firm is only a 'price taker'. Each firm has to adjust its output or sale according to the prevailing market price.

Homogeneity of products

A perfectly competitive industry, the product of any one firm is identical to the products of all other firms. The technical characteristics of the product as well as the services associated with its sale and delivery are identical.

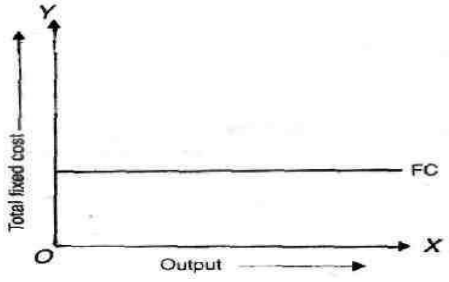


Fig. 1.

The demand curve of the individual firm is also its average revenue and its marginal revenue curve.

The assumptions of large numbers of sellers and product homogeneity imply that the individual firm in pure competition is a price taker. Its demand curve is infinitely elastic indicating that the firm can sell any amount of output at the prevailing market price.

Free entry exit

There is no barrier to entry or exit from the industry. Entry or exit may take time but firms have freedom of movement in and out of the industry. If the industry earns abnormal profits, new firms will enter the industry and compete away the excess profits. Similarly, if the firms in the industry are incurring losses some of them will leave the industry which will reduce the supply of the industry and will thus raise the price and wipe away the losses.

Absence of government regulation

There is no government intervention in the form of tariffs, subsidies, relationship of production or demand. If these assumptions are fulfilled, it is called pure competition which requires the fulfillment of some more condition.

Perfect mobility of factors of production

The factors of production are free to move from one firm to another throughout the economy. It is also assumed that workers can move between different jobs. Raw materials and other factors are not monopolized and labour is not unionized. In short, there is perfect competition in the factor market.

Perfect knowledge

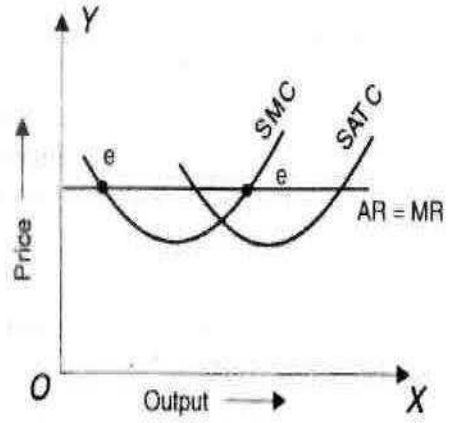
It is assumed that all sellers and buyers have complete knowledge of the conditions of the market. This knowledge refers not only to the prevailing conditions in the current period but in all future periods as well. Information is free and costless. Under these conditions uncertainty about future developments in the market is ruled out.

Absence of transport costs

In a perfectly competitive market, it is assumed that there are no transport costs.

SHORT RUN EQUILIBRIUM OF THE FIRM

The firm is in equilibrium at the point of intersection of the marginal cost and marginal revenue curves. The first condition for the equilibrium of the firm is that marginal cost should be equal to marginal revenue. The second condition for equilibrium requires that marginal cost curve should cut the marginal revenue curve from below.



The firm is in equilibrium only at 'e' because only at 'e' both the conditions are satisfied. At 'e ' the firm is not in equilibrium as the second condition is not fulfilled.

The fact that the firm is in equilibrium in the short run does not mean that it makes excess profits. Whether the firm makes excess profits or losses depends on the level of average total cost at the short run equilibrium.

In the short run a firm generally keeps on producing even when it is incurring losses. This is so because by producing and earning some revenue, the firm is able to cover a part of its fixed costs. So long as the firm covers up its variable cost plus at least a part of annual fixed cost, it is advisable for the firm to continue production. It is only when it is unable to cover any portion of its fixed cost, it should stop producing. Such a situation is known as shut down point. The shut down point of the firm is denoted by W. If price falls below P the firm does not cover its variable costs and is better off if it closes down.

(A), the SATC is below the price at equilibrium; the firm earns excess profits. (B), the SATC is above the price; the firm makes a loss.

The industry is in equilibrium at price P at which the quantity demanded and supplied is OQ. However this will be a short-run equilibrium as some firms are earning abnormal profits and some incur losses as shown in figures 5. (B) and 5. (C) respectively. In the long run, firms that make losses will close down. Those firms which make excess profits will expand and also attract new firms into the industry. Entry, exit and readjustment will lead to long run equilibrium in which firms will be earning normal profits and there will be no entry or exit from the industry.

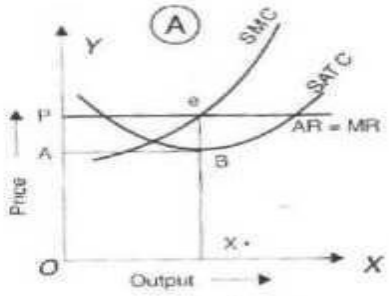


Fig. 3. (A)

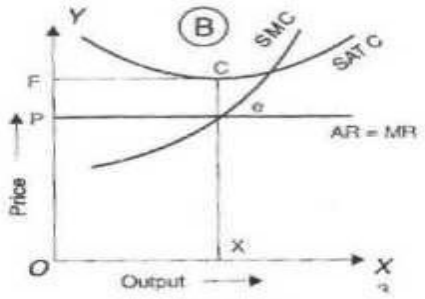


Fig. 3. (B)

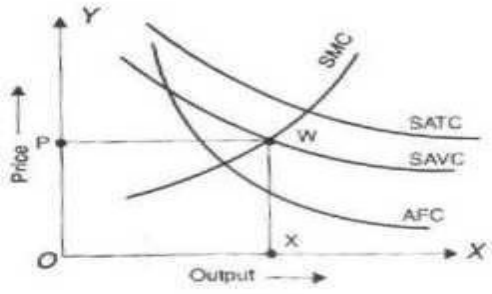


Fig. 4.

Long-run equilibrium of the firm

In the long run firms are in equilibrium when they have adjusted their plant so as to produce at the minimum point of their long run AC curve, which is tangent to the demand curve. In the long run the firms will be earning just normal profits, which are included in the LAC. The long run equilibrium position of the firm is shown in figure

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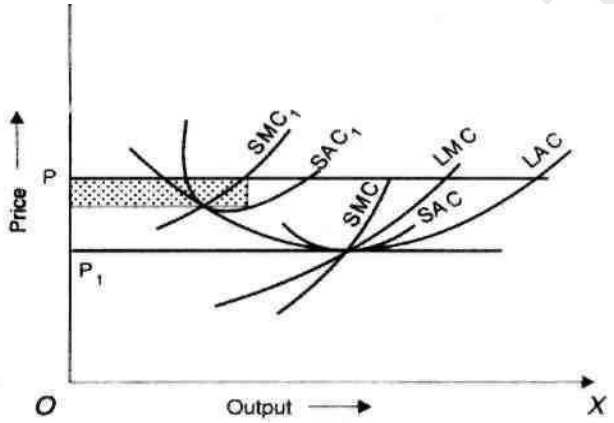


At the price of OP, the firm is making excess profits. Therefore, it will have an incentive to build new capacity and hence it will move along its LAC. At the same time, attracted by excess profits new firms will be entering the industry. As the quantity supplied increases, the price will fall to P_i at which the firm and the industry are in long-run equilibrium. The condition for the long-run equilibrium of the firm is that the marginal cost tie equal to the price and to the long run-average cost.

LMC = LAC = P

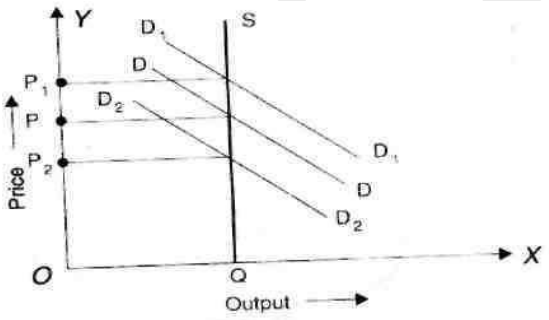
The firm adjusts its plant size so as to produce that level of output I which the LAC is the minimum. At equilibrium the short run marginal is equal to the long run marginal cost and the short run average cost is equal to the long run average cost. Thus, in equilibrium in the long

SMC = LMC = LAC = SAC = P = MR

This implies that at the minimum point of the LAC the plant worked at its optimal capacity, so that the minimal of the LAC and SAC coincide.

Long-run Equilibrium of the Industry

The industry is in long run equilibrium when price is reach which all firms are in equilibrium producing at the minimum point of LAC curve and making just normal profits. Under these conditions there is no further entry or exit of firms in the industry. The long run equilibrium is shown in the figure



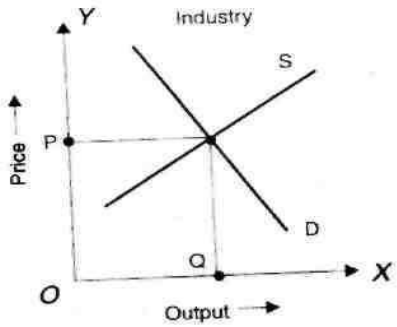


Fig. 7. Industry

At the market price P the firms produce at their minimum cost, earning just normal profits. The firm is in equilibrium because at the level of output x

LMC = SMC = P = MR

This equality ensures that the firm maximizes its profit. At the price P the industry is in equilibrium because profits are normal and all costs are covered so that there is no incentive for entry or exit.

Price determination under perfect competition-Role of time

`Price of a commodity in an industry is determined at that point where industry demand is equal to industry supply. Marshall laid emphasis on the role of time element in the determination of price. He distinguished three periods in which equilibrium between demand and supply was brought about viz., very short period or market period; short run equilibrium and long run equilibrium.

Market period

Price is determined by the equilibrium between demand and supply in market period. In the market period, the supply of commodity is fixed. The firms can sell only what they have already produced. This market period may be an hour, a day or few days or even few weeks depending upon the nature of the product. So far as the supply curve in a market period is concerned, two cases are prominent-one is that of perishable goods and the other is that of non perishable durable goods.

For perishable goods like fish, vegetables etc. the supply is given and cannot be kept for the next period; therefore, the whole of it must be sold away on the same day whatever be the price. The supply curve will be a vertical straight line.

QS is the supply curve. OQ is the quantity of fish available. DD is the market demand curve. The equilibrium price OP is determined at which quantity demanded is equal to the available supply i.e. at the point where DD intersects the vertical supply curve QS. If demand increases from DD to D_1D_1 supply remaining the same price will increase from OP to OP_1. On the contrary, if there is a decrease in demand from DD to D2D2 the price will fall and the quantity sold will remain the same.

If the commodity is a durable good, its supply can be adjusted to demand. If the demand for commodity declines the firms will start building inventories, while on the other hand, if demand goes up the firms will increase their supplies out of the existing stocks. The firm can keep on supplying out of its existing stocks only upto the availability of stocks. If demand increases beyond that level, the firm cannot supply any additional quantity of the good. Thus the supply curve for the

durable goods is upward sloping upto a distance and then becomes vertical. A firm selling a durable good has a reserve price below which it will not like to sell. The reserve price, is influenced by the cost of production.

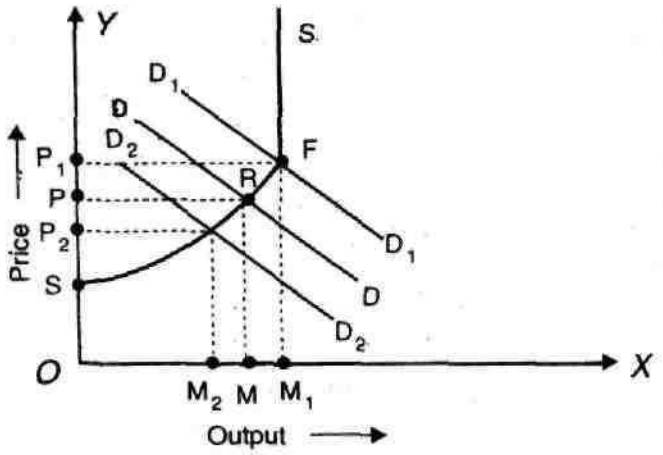


Fig. 9.

SRFS is the supply curve of the durable goods. OM_1 is the total amount of stock available. Upto OP_1 the quantity supplied varies will I price. At OS price, nothing is sold. It is the reserve price. At OP_1 price, the whole stock is offered for sale. DD is the demand curve. Price ul determined at OP at which quantity demanded is equal to the quantity supplied. At this price OM quantity is sold. If demand increases form DD to D_1 D_1 the price will increase to OP_1 and the whole stock will be sold. If the demand decreases from DD to D2D2 the price will fall to OP2 and the amount sold will fall to OM2.

MONOPOLY COMPETITION

Monopoly is that market form in which a single producer controls the entire supply of a single commodity which has no close substitutes. There must be only one seller or producer. The commodity produced by the producer must have no close substitutes. Monopoly can exist only when there are strong barriers to entry. The barriers which prevent the entry may be economic, institutional or artificial in nature.

Features

- There is a single producer or seller of the product.
- There are no close substitutes for the product. If there is a substitute, then the monopoly power is lost.
- No freedom to enter as there exists strong barriers to entry.
- The monopolist may use his monopolistic power in any manner to get maximum revenue. He may also adopt price discrimination.

PRICE-OUTPUT DETERMINATION UNDER MONOPOLY

The monopolist, to be in equilibrium should satisfy two conditions:

- ❖ Marginal cost should be equal to marginal revenue and
- ❖ The marginal cost curve should cut marginal revenue curve from below. The short run equilibrium of the monopolist is shown in figure

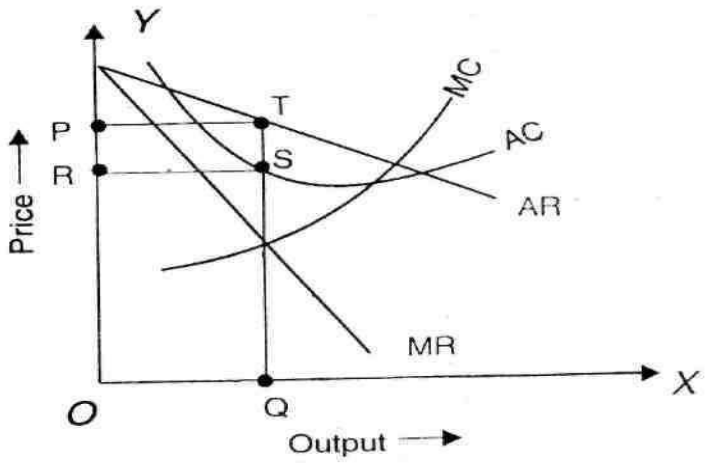
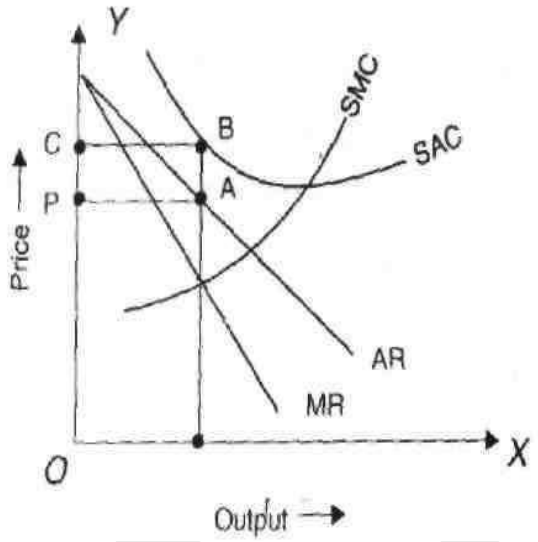


Fig. 12

AR is the average revenue curve, MR is the marginal revenue curve, AC is the average cost curve and MC is the marginal cost curve. Upto OQ level of output marginal revenue is greater than marginal cost but beyond OQ the marginal revenue is less than marginal cost. Therefore, the monopolist will be in equilibrium where MC = MR. Thus a monopolist is in equilibrium at OQ level

of output and at OP price. He earns abnormal profit equal to PRST.

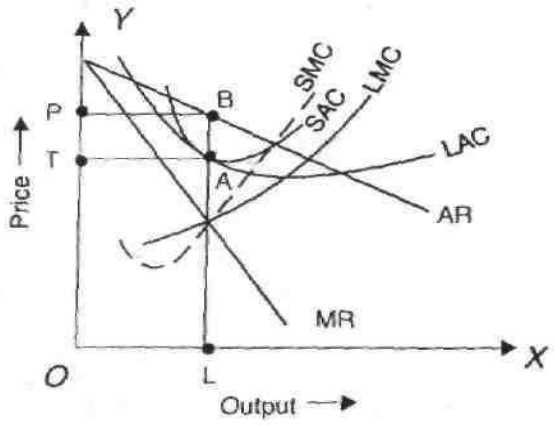
But it is not always possible for a monopolist to earn super- normal profits. If the demand and cost situations are not favorable, the monopolist may realize short run losses.



Though the monopolist is a price maker, due to weak demand and high costs, he suffers a loss equal to PABC.

Long run equilibrium

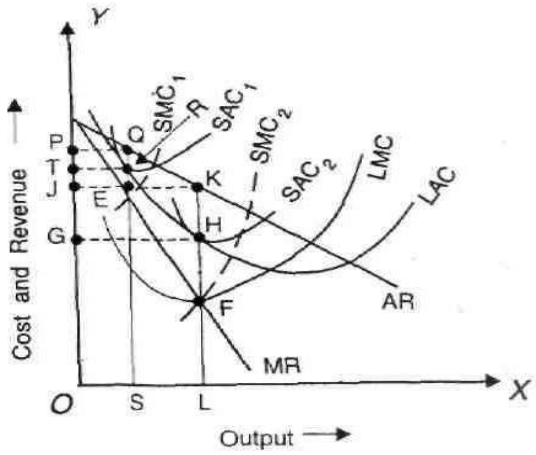
In the long run the firm has the time to adjust his plant size or to use the existing plant so as to maximize profits. The long run equilibrium of the monopolist is shown in figure



The monopolist is in equilibrium at OL output where LMC cuts MR curve. He will charge OP price and earn an abnormal profit equal to TPQH

In order to show the difference between the short run equilibrium and long run

Equilibrium under monopoly both can be shown in a single figure.



The monopolist is in the short run equilibrium at E producing OS level of output. In the long run he can change the plant and will be in equilibrium at F where MR curve cuts LMC curve. The monopolist has increased his output from OS to OL and price has fallen from OP to OJ. Profits have also increased in the long run from TPQR to GHKJ.

PRICE DISCRIMINATION OR DISCRIMINATING MONOPOLY

Price discrimination refers to the practice of selling the same product at different prices to different buyers. Mrs. Robinson defines it as "charging different price for the same product or same price for differentiated product". Prof. Stigler defines price discrimination as "the scale of technically

similar products at prices which are not proportional to Marginal costs".

Price discrimination may be divided into three types-personal, local and according to use. Price discrimination is personal when a seller charges different prices for different persons.

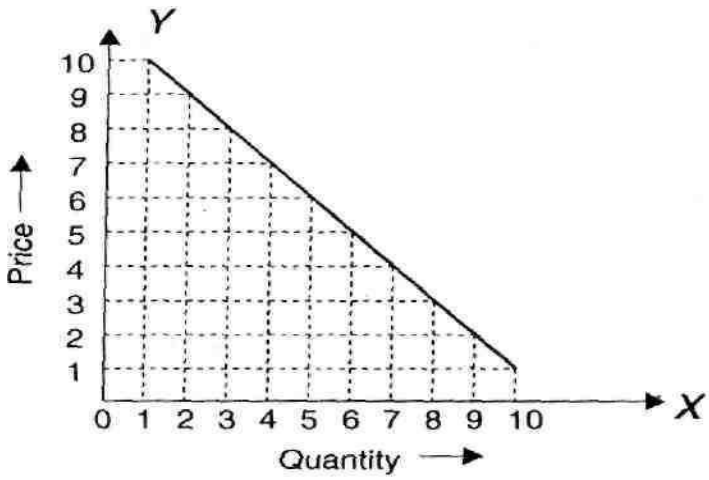
Degrees of price discrimination

Prof. A.C. Pigou has distinguished between three degrees of price discrimination.

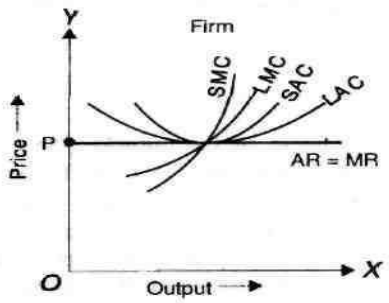
1. Price discrimination of the first degree.
2. Price discrimination -of the second degree.
3. Price discrimination of the third degree.

Price discrimination of the first degree

It is also known as perfect price discrimination. Price discrimination of the first degree is said to occur when the monopolist is able to sell each separate unit of the output at a different price. In other words, it involves maximum possible exploitation of each buyer. Price discrimination of the first degree is depicted in figure. 16.



At price Rs. 10 the buyer will purchase one unit of the good; at price Rs. 9 the buyer would purchase 2 units of the good; at price of Rs. 8 he would purchase 3 units of the good; at price of Rs. 7 he would take 4 units of the good and so on. Under simple monopoly, if the seller fixes the price at Rs. 7 the buyer buys 4 units then he would pay Rs. 28 as the price for 4 units. By doing so, he gets a



consumer surplus of Rs. 6. This is so because; the buyer is willing to pay Rs. 10 for the first unit, Rs. 9 for the second, Rs.8 for the third and Rs. 7 for the fourth. In all he is willing to pay Rs. 34. He actually pays only Rs. 28. But under price discrimination of the first degree the monopolist charges Rs. 34. As a result the buyer has no consumer's surplus.

Price discrimination of the second degree

In price discrimination of the second degree buyers are divided into different groups and from each group a different price is charged which is the lowest demand price of that group. This is shown in figure. 17.

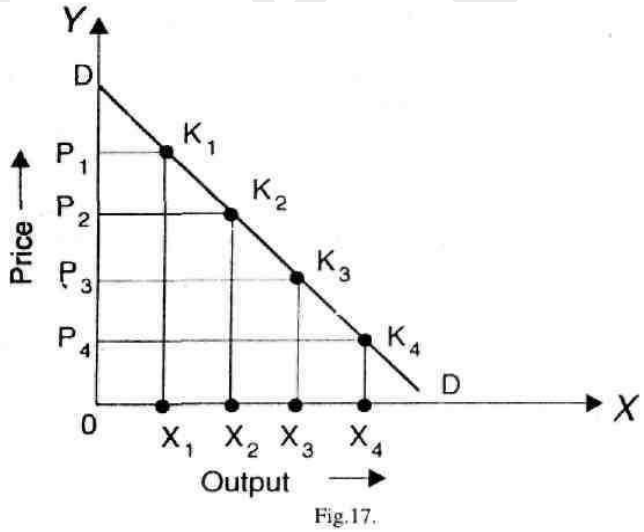


Fig.17.

Market is divided into four groups. DD is the market demand curve. In the first group X units

of output will be sold at a price of OP1. All the buyers in this group pay OP1 price and the group gets DK_1 P_1 as consumer's surplus. Similarly for other groups, consumers pay OP2, OP3, OP4 and get the consumer's surplus equal to DK2 P2, DK3 P3 and DK4 P4 respectively.

Price discrimination of the third degree

It occurs when the seller divides his buyers into two or more than two sub-markets or groups and charges a different price in each sub- market. The price charged in the sub- market need not be the lowest demand price of that sub-market.

Possibility of price discrimination

Price discrimination is possible in the following cases:

- The nature of the commodity should be such as to enable the monopolist to charge different prices. This is possible only when there is no possibility of transference of the commodity from one market to the other. For example, doctors charge different fees for the rich and for the poor for same service.
- When the markets are separated by long distance or tariff, then price discrimination is possible. If the transportation cost is higher than the price difference between the two markets, one monopolist can charge different prices.
- In certain cases, the firms have a legal sanction for price discrimination. For example, electricity board charges a lower price for industrial purposes and a higher price for domestic purposes. Similarly, transportation companies charge different fares for different classes of passengers.
- Price discrimination is possible due to preferences or prejudices of the consumers. Different prices are charged for different varieties although they differ only in label or name. Upper class people may prefer to buy in fashionable quarters to buy in a congested, ugly and cheaper locality.
- Price discrimination may become possible due to ignorance and laziness of buyers. If a seller is discriminating between two markets but the buyers are ignorant that the seller is selling the product at a lower price in another market, price discrimination is possible. Price discrimination is also possible if the buyers are aware that the seller is

selling the product at lower price in another market but due to laziness may not go for shopping, in the cheaper market.

- When a monopolist is able to meet different needs for his customers it is possible for him to follow price discrimination.
- A monopolist can easily charge discriminating prices when goods are being supplied to special orders. In such a case, there is no question of comparing prices by the buyers.

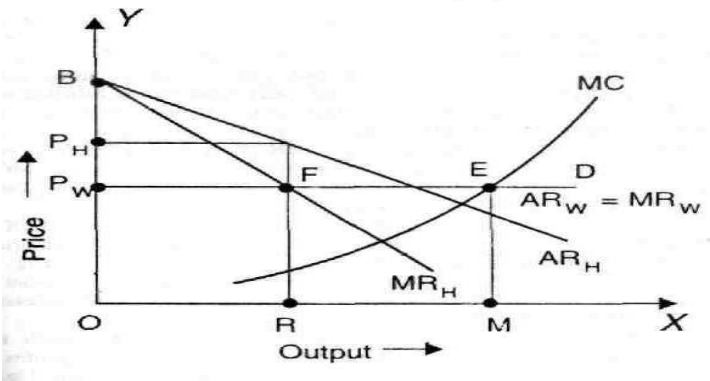
Equilibrium under price discrimination in the case of dumping

A special case of price discrimination is one in which a producer sells in two markets, one under conditions of perfect competition and another under the conditions of monopoly. Such a situation occurs when a producer sells his product in domestic market in which he is a monopolist and also in the world market which is perfectly competitive.

Monopoly equilibrium Vs Competitive equilibrium

The only similarity between the two is that a firm is in equilibrium at the level of output at which marginal revenue is equal to marginal cost. But there are many differences:

1. Under perfect competition, the average revenue curve is horizontal straight line parallel to the X axis. Therefore, MR is equal to AR at all levels of output and MR curve coincides with AR curve. But under monopoly, AR is sloping downwards. Hence, MR is less than AR at all levels of output and MR curve lies below the AR curve. In equilibrium the marginal revenue will be smaller than the average revenue.



2. Both under perfect competition and monopoly, the firm is in equilibrium where MC is equal to MR. But in perfect competition, when MC is equal to MR, it is also equal to price or AR. This is not so in case of monopoly. Under monopoly, MR is less than AR or price; in equilibrium MC will be equal to MR but it will be less than price. Therefore, in perfect competition, price is equal to MC and in monopoly price is higher than the marginal cost.
3. Another significant difference between the two is that whereas a perfectly competitive firm is in long-run equilibrium at the minimum point of the long-run average cost curve, monopolistic firm is in equilibrium at the level of output where average cost is still declining and has not yet reached its minimum point. Under perfect competition, it pays the firm to expand production so long as the average cost is falling since AR and MR remain constant. But it does not pay a monopolist firm to expand production to the minimum of AC curve.
4. Another important difference between the two is that while under perfect competition equilibrium is possible only when MC is rising at the point of equilibrium, but monopoly equilibrium can be reached whether marginal cost is rising, remaining constant or falling at the equilibrium output. This is so because the second order condition of equilibrium namely MC curve should cut MR curve from below at the equilibrium point, can be satisfied in monopoly in all the three cases, whereas in perfect competition the second order condition is fulfilled only when MC curve is rising. Since in perfect competition the MR curve is a horizontal straight line, MC curve can cut the MR curve from below only when MC is rising. But under monopoly MR curve is sloping downward and therefore, MC curve can cut the MR curve from below whether MC is rising, remaining constant or falling.
5. Still another difference between the two is that while the perfectly competitive firm in the long run, earns only normal profits, a monopolist can make supernormal profits even in the long run. Under perfect competition, if firms in the short run are making supernormal profits, the new firms will enter the industry to compete away the profits. But under monopoly, the firm continues to earn supernormal profits even in the long run since there are strong barriers to the entry of new firms in monopoly. It does not mean that the monopoly always guarantees

supernormal profits. If the demand and cost conditions are not favorable, the monopolist may suffer short run losses, as shown in the figure

Imperfect Competition

Definition of 'Imperfect Competition'

Definition: Imperfect competition is a competitive market situation where there are many sellers, but they are selling heterogeneous (dissimilar) goods as opposed to the perfect competitive market scenario. As the name suggests, competitive markets that are imperfect in nature.

Meaning: Imperfect competition is the real world competition. Today some of the industries and sellers follow it to earn surplus profits. In this market scenario, the seller enjoys the luxury of influencing the price in order to earn more profits. If a seller is selling a non identical good in the market, then he can raise the prices and earn profits. High profits attract other sellers to enter the market and sellers, who are incurring losses, can very easily exit the market.

There are four types of imperfect markets:

Monopoly (only one seller) - Oligopoly (few sellers of goods) Monopolistic competition (many sellers with highly differentiated product) - Monophony (only one buyer of a product) some of the main characteristics of Imperfect Competition are as follows: The concept of imperfect competition was propounded in 1933 in England by Mrs. Joan Robinson and in America by E.H. Chamberlin. It is an important market category where the individual firms exercise their control over the price to a smaller or larger degree. Prof. Chamberlin called it "Monopolistic competition". Under imperfect competition, there are large number of buyers and sellers. Each seller can follow its own price-output policy. Each producer produces the differentiated product, which are close substitutes of each other. Thus, the demand curve under monopolistic competition is highly elastic.

Characteristics:

1. Large number of Sellers and Buyers:

There are large numbers of sellers in the market. All these firms are small sized. It means that each firm produces or sells such an insignificant portion of the total output or sale that it cannot influence the market price by its individual action. No firm can affect the sales of any other firm either by increasing or reducing its output; so there is no reaction from other firms. Every firm acts independently without bothering about the reactions of its rivals. There are a large number of buyers and none of them can affect price by his individual action.

2. Product Differentiation:

Another important characteristic is product differentiation. The product of each seller may be similar to, but not identical with the product of other sellers in the industry. For example, a packet of Amul butter may be similar in kind to another packet of milky mist butter, but because of the idea that there are differences, real or imaginary, in the quality of these two products, each buyer may have a definite preference for the one rather than for the other. As a result, each firm will have a group of buyers who prefer, for one reason or another, the product of that particular firm.

3. Selling Costs:

Another important characteristic of the monopolistic competition is existence of selling costs. Since there is product differentiation and products are close substitutes, selling costs are important to persuade buyers to change their preferences, so as to raise their demand for a given article. Under monopolistic competition, advertisement is not only persuasive but also informatory because a large number of firms are operating in the market and buyer's knowledge about the market is not perfect.

4. Free Entry and exit of Firms:

Firms under monopolistic competition are free to join and leave the industry at any time they like to. The implication of this characteristic is that by entering freely into the market, the firms can produce close substitutes and increase the supply of commodity in the market.

Similarly, the firm commands such a meager amount of resources that in the event of losses, they may easily quit the market.

5. Price-makers:

In the monopolistic competitive market, each firm is a price-maker as it can determine the price of its own brand of the product.

6. Blend of Competition and Monopoly:

In this market, each firm has a monopoly power over its product as it would not lose all customers if it raises the price as its product is not perfect substitute of other brands. At the same time, there is an element of competition because the consumers treat the different firms' products as close substitutes. Hence, if a firm raises the price of its brand, it would lose some customers to other brands.

Difference between perfect and imperfect competition

Perfect competition is a microeconomics concept that describes a market structure controlled entirely by market forces. In a perfectly competitive market, all firms sell identical products and services, firms cannot control prevailing market prices, market share per firm is small, firms and customers have perfect knowledge about the industry, and no barriers to entry or exit exist. If any of these conditions are not met, a market is not perfectly competitive. Perfect competition is an abstract concept that occurs in economics textbooks, but not in the real world. Imperfect competition, in which a competitive market does not meet the above conditions, is very common. Examples of imperfect competition include oligopoly, monopolistic competition, monophony and oligopoly. In an oligopoly, there are many buyers for a product or service. but only a few sellers. The cable television industry in most areas of the United States is a prototypical oligopoly.

While an Oligopolisticic market is competitive, the few active firms within an industry compete with one another, it falls well short of perfect competition in several key areas. The firms involved usually sell similar products, but they are not identical. Because of the small

number of firms, a singular firm has the power to influence market prices; in fact, collusion, an underhanded tactic in which competing firms join forces to manipulate prices, has historically been rampant in oligopolies. By its very nature, an oligopoly provides a large market share to each firm. Perfect knowledge does not exist, and the barriers to entry are typically high, ensuring the number of players remains small. Monopolistic competition describes a market that has a lot of buyers and sellers, but whose firms sell vastly different products. Therefore, the condition of perfect competition that products must be identical from firm to firm is not met. The restaurant, clothing and shoe industries all exhibit monopolistic competition; firms within those fields attempt to carve out their own sub-industries by offering products or services not duplicated by their competitors. In many ways, monopolistic competition is closer than oligopoly to perfect competition. Barriers to entry and exit are lower, individual firms have less control over market prices and consumers, for the most part, are knowledgeable about the differences between firms' products. Oligarchies and monopolies can pose dangers not only to an economic structure, but to a country itself. In June 2016, Senator Elizabeth Warren delivered an anti-monopolistic speech, stating that corporate concentration "threatens our markets, threatens our economy, and threatens our democracy." (For more, see "What Are Common Examples of Monopolistic Markets.") Monophony and oligopoly are counterpoints to monopoly and oligopoly. Instead of being made up of many buyers and few sellers, these unique markets have many sellers but few buyers. The defense industry in the U.S. constitutes a monophony; many firms create products and services and attempt to sell them to a singular buyer, the U.S. military. An example of an oligopoly is the tobacco industry. Almost all of the tobacco grown in the world is purchased by less than five companies, which use it to produce cigarettes and smokeless tobacco products. In a monophony or an oligopoly, it is the buyer, not the seller, who can manipulate market prices by playing firms against one another.

MONOPOLISTIC COMPETITION

Perfect competition and monopoly are rarely found in the real world. Therefore, professor Edward. H. Chamberlin of Harvard University brought about a synthesis of the two theories and put

forth, "Theory of Monopolistic Competition" in 1933. Monopolistic competition is more realistic than either pure competition or monopoly. It is a blending of competition and monopoly. "There is competition which is keen though not perfect, between many firms making very similar products". Thus monopolistic competition refers to competition among a large number of sellers producing close but not perfect substitutes.

FEATURES

Large number of sellers

In monopolistic competition the number of sellers is large. No one controls a major portion of the total output. Hence each firm has a very limited control over the price of the product. Each firm decides its own price-output policy without considering the reactions of rival firms. Thus there is no interdependence between firms and each seller pursues an independent course of action.

Product differentiation

One of the most important features of monopolistic competition is product differentiation. Product differentiation implies that products are different in some ways from each other. They are heterogeneous rather than homogeneous. There is slight difference between one product and others in the same category. Products are close substitutes but not perfect substitutes. Product differentiation may be due to differences in the quality of the product. Product may be differentiated in order to suit the tastes and preferences of the consumers. The products are differentiated on the basis of materials used, workmanship, durability, size, shape, design, colour, fragrance, packing etc. Products are differentiated in order to promote sales by influencing the demand for the products.

Free entry and exit of firms

Another feature of monopolistic competition is the freedom of entry and exit of firms. Firms under monopolistic competition are small in size and they are capable of producing close substitutes. Hence they are free to enter or leave the industry in the long run. Product differentiation increases entry of new firms in the group because each firm produces a different product from the others.

Selling cost

It is an important feature of monopolistic competition. As there is keen competition among the firms, they advertise their products in order to attract customers and sell more.

Thus selling cost has a bearing on price determination under monopolistic competition.

Group equilibrium

Chamberlin introduced the concept of group in the place of industry. Industry refers to a number of firms producing homogeneous products. But, firms under monopolistic competition produce similar but not identical products. Therefore, Chamberlin uses, the concept of group to include firms producing goods which are close substitutes.

Nature of demand curve

Under monopolistic competition, a single firm can control only a small portion of the total output. Though there is product differentiation, as products are close substitutes, a reduction in price leads to increase in sales and vice- versa. But it will have little effect on the price-output conditions of other firms. Hence each will lose only few customers, due to an increase in price.

Price-Output Determination under Monopolistic Competition

Since, under monopolistic competition, different firms produce different varieties of products, prices will be determined on the basis of demand and cost conditions. The firms aim at profit maximization by making adjustments in price and output, product adjustment and adjustment of selling costs.

Equilibrium of a firm under monopolistic competition is based upon the following assumptions:

The number of sellers is large and they act independently of each other.

The product is differentiated.

The firm has a demand curve which is elastic.

The supply of factor services is perfectly elastic

The short run cost curves of each firm differ from each other.

No new firms enter the industry.

Duopoly

When there are two monopolists who share the monopoly power then it is called duopoly. It may be of two types-duopoly without product differentiation and duopoly with product

differentiation. Under duopoly without product differentiation, there are two monopolists selling an identical commodity. There is no product differentiation. There is also a possibility for collusion. They may agree on price or divide the market for goods. Suppose, if there is no agreement between the two, a constant price war will emerge. In this case they will earn only normal profits. If their costs are different, the one with lower costs will squeeze out the other and a simple monopoly would result.

The best course for the duopolists will be to fix the monopoly price and share the market and profits. In the. short run, duopoly price may be lower than the competitive price. In the long run, the price may. be somewhere between the monopoly price and the competitive price. When there is product differentiation, each producer will have his own customers. There is no danger of price war. There is no agreement. Since products are differentiated the firm with better product will earn supernormal profits.

OLIGOPOLY

Oligopoly is a situation in which few large firms compete against each other and there is an element of interdependence in the decision making of these firms. A policy change on the part of one firm will have immediate effects on competitors, who react with their counter policies.

Features

Following are the features of oligopoly which distinguish it from .other market structures :

Small number of large sellers.

The number of sellers dealing in a homogeneous or differentiated product is small. The policy of one seller will have a noticeable impact on market, mainly on price and output.

Interdependence.

Unlike perfect competition and monopoly, the Oligopolistic is not independent to take decisions. The Oligopolistic has to take into account the actions and reactions of his rivals while deciding his price and output policies. As the products of the Oligopolistic are close substitutes, the cross elasticity of demand is very high.

Price rigidity.

Any change in price by one Oligopolistic invites retaliation and counter- action from others,

the Oligopolistic normally sticks to one price. If an Oligopolistic reduces his price, his rivals will also do so and therefore, it is not advantageous for the Oligopolistic to reduce the price. On the other hand, if an Oligopolistic tries to raise the price, others will not do so. As a result they capture the customers of this firm. Hence the Oligopolistic would never try to either reduce or raise the price.

Monopoly element.

As products are differentiated the firms enjoy some monopoly power. Further, when firms collude with each other, they can work together to raise the price and earn some monopoly income.

Advertising.

The only way open to the Oligopolistics to raise his sales is either by advertising or improving the quality of the product. Advertisement expenditure is used as an effective tool to shift the demand in favor of the product. Quality improvement will also shift the demand favorably. Usually, both advertisements as well as variations in designs and quality are used simultaneously to maintain and increase the market share of an Oligopolistic.

Group behavior.

The firms under oligopoly recognise their interdependence and realise the importance of mutual cooperation. Therefore, there is a tendency among them for collusion. Collusion as well as competition prevail in the Oligopolisticic market leading to uncertainty and indeterminateness.

Indeterminate demand curve.

It is not possible for an Oligopolistic to forecast the nature and position of the demand curve with certainty. The firm cannot estimate the sales when it decides to reduce the price. Hence the demand curve under oligopoly is indeterminate.

TYPES OF OLIGOPOLY.

a. Perfect and imperfect oligopoly.

On the basis of the nature of product, oligopoly may be classified into perfect (pure) and imperfect (differentiated) oligopoly. If the products are homogeneous, oligopoly is called as perfect or pure oligopoly. If the products are differentiated and are close substitutes, then it is called as imperfect or differentiated oligopoly.

b. Open or closed oligopoly.

On the basis of possibility of entry of new firms, oligopoly may be classified into open or closed oligopoly. When new firms are free to enter, it is open oligopoly. When few firms dominate the market and new firms do not have a free entry into the industry, it is called closed oligopoly.

c. Partial and full oligopoly.

Partial oligopoly refers to a situation where one firm acts as the leader and others follow it. On the other hand, full oligopoly exists where no firm is dominating as the price leader.

d. Collusive and non- collusive oligopoly.

Instead of competition with each other, if the firms follow a common price policy, it is called collusive oligopoly. If the collusion is in the form of an agreement, it is called open collusion. If it is an understanding between the firms, then it is a secret collusion. On the other hand, if there is no agreement or understanding between oligopoly firms, it is known as non-collusive oligopoly.

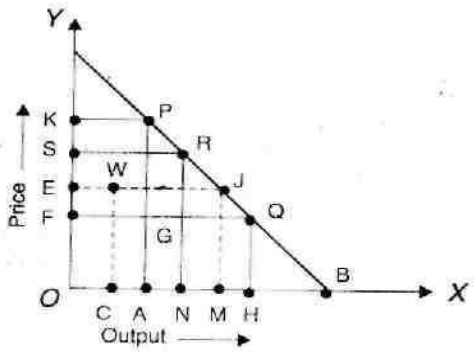
e. Syndicated and organized oligopoly.

Syndicated oligopoly is one in which the firms sell their products through a centralised syndicate. Organised oligopoly refers to the situation where the firms organise themselves into a central association for fixing prices, output, quota etc.

MODELS OF OLIGOPOLY

Cournot's model of oligopoly : Augustin Cournot, a French economist, published his theory of duopoly in 1838. Cournot dealt with a case of duopoly. He has taken the case of two identical mineral springs operated by two owners. His model is based on the following assumptions The product is homogenous.

- There is no cost of production. The average cost and marginal cost are zero.
- Output of the rival is assumed to be constant.
- The market demand for the product is linear.



DB is the market demand curve. OB is the total quantity of mineral water which can be produced and supplied by the two producers. If both the producers produce the maximum quantity of OB, the price will be zero. This is because cost of production is assumed to be zero. Cournot assumes that one producer say X starts production first. He will produce OA output and his profit will be OAPK. Suppose the second producer Y enters into the market. He assumes that the first producer will continue to produce the same. So Y considers PB as his demand curve. With this demand curve, he will produce AH amount of output. The total output will now be OA + AH = OH and the price will fall to OF. The total profits for both the producers will be OHQR. Out of this total profits, producers X will get OAGF and Y will receive AHQG. Now that the profits of producers X are reduced from OAPK to OAGF by producers Y producing AH output, producer X will reconsider the situation. But he will assume that producer Y will continue to produce AH output. Therefore, he reduces his output from OA to OT. Now the total output will be OT + AH = ON and the price will be OS and the total profits of the two will be ONRS. Out of the total profits, X will get OTLS and Y will get TNRL. Now the producer Y will reappraise his situation. Believing that producer X will continue producing OT, the producer Y will find his maximum profits by producing output equal to 1/2 TB. With this move of producer Y, producer X will find his profits reduced.

Therefore, X will reconsider his position. This process of adjustment and readjustment by each producer will continue, until the total output OM is produced and each is producing the same amount of output. In the final position, producer X produces OC amount of output and producer Y produces CM amount of output and OC = CM.

Cournot's duopoly solution can be extended to a situation with more than two sellers. If there were three producers, the total output would be 3/4 of OB, each producing 1/4 OB. If there are n producers, then under

Cournot's solutions, the total output produced will be $\frac{n}{(n+1)}$ of OB where OB is the maximum possible output. The essential conclusion is that; as the number of sellers increases from one to infinity the price is continually lowered from what it would be under monopoly conditions to what it would be under purely competitive conditions, and that for any number of sellers, it is perfectly determinate. The basic weakness of Cournot's duopoly model is that the rivals assume the output of the other to be fixed, even though they observe constant changes in output.

KAHE

Possible Questions

Part A (ONE Mark)

Multiple Choice Questions

Online Examination

Part B (2 Marks)

1. Define Market structure
2. What is price discrimination?
3. Write about perfect competition.
4. What is Long run cost?
5. Define short run cost.
6. What is monopoly?
7. Define Oligopoly.
8. What is imperfect competition?
9. Define monopolistic competition.
10. Write about short run equilibrium.

Part C (6 Marks)

1. Briefly explain different types of cost.
2. Explain the difference between perfect and imperfect competition.
3. Write short notes on short run and long run equilibrium.
4. Explain the assumptions of perfect competition
5. Explain with neat diagram about short run and long run cost.
6. Explain the price discrimination strategies.
7. Discuss about the Price Discrimination under monopoly completion.
8. Describe the Assumption of Short – Run Equilibrium.
9. Explain the Perfect Competition under the Oligopoly
10. Explain the concept of Long-run Equilibrium of Monopoly Firm.

S.NO	QUESTIONS	OPTION A	OPTION B	OPTION C	OPTION D	ANSWER
1	The monopolist can fix any price for his product, but cannot determine _____for his product.	Revenue	Cost	Supply	Demand	Demand
2	The primary objective for discriminating monopolist is	Loss minimization	Profit maximization	To cover production cost	Maximization	Profit maximization
3	A monopolistic competitive firm sells ____products	Differentiated	Homogenous	Monopoly	Oligopoly	Differentiated
4	Selling expenses includes _____	Advertisement cost	Transportation Cost	Revenue	Demand	Advertisement cost
5	Life insurance business in India is an example of _____	Perfect competition.	Monopolistic competition.	Monopoly	Oligopoly	Oligopoly
6	Under perfect competition firms do not engage in price-war because _____	Firms work in co-operation with one another under the same.	Number of firms under the same is very large	The demand for the product of a firm under the same is perfectly elastic	All the above-mentioned conditions are responsible.	Number of firms under the same is very large
7	The equilibrium of a firm occurs when _____	P = M	MC = MR.	P = MR.	AC = MC	MC = MR.
8	A firm shut-down point is reached when:	Average revenue fails to cover average total cost	Average revenue fails to cover average variable cost.	Average revenue fails to cover average fixed cost	Average fails to cover marginal cost.	Average revenue fails to cover average variable cost.
9	In a perfectly competitive market, the firm will be _____	a price maker.	Attempting to maximize profits.	Producing a product which will be different from its competitors.	A price taker	A price taker
10	The Kinked demand curve in Sweezys oligopoly model emerges due to assumption that _____	When one seller decreases or increases his price, others follow.	When on e seller decreases his price others follow him.	When one sellers decreases his price others follow but when he increases his price others do not follow	When one seller increases his price others decrease their prices.	When one sellers decreases his price others follow but when he increases his price others do not follow

11	Among the essential aspects of oligopoly is _____	Excess capacity.	Non-price competition.	A large number of firms.	Mutual recognition of interdependence	Mutual recognition of interdependence
12	In an Oligopolistic market, there are _____	A large number of sellers and few buyers.	Few sellers and few buyers.	Few sellers and a large number of buyers.	Only one seller.	Few sellers and few buyers.
13	Which one is not collusive oligopoly _____	Price leadership.	Market-sharing cartel.	Price discrimination.	Price fixing cartel	Market-sharing cartel.
14	Equilibrium implies a state of _____	Rest.	Inactivity.	Absence of motion	Movement.	Rest.
15	Uncertainty refers to _____	Insurable risks.	Uninsurable risks.	Risks due to fires and accidents.	No risks.	Uninsurable risks.
16	Willingness to pay, _____	Is the minimum valuation of each buyer of a goo	Is the price that each buyer can afford given his current income.	Is the maximum valuation of each buyer of a goo	must be greater than the price of a goo	Is the price that each buyer can afford given his current income.
17	Willingness to sell ,_____	Is the maximum valuation of each seller of a goo	Is the sellers cost of production of a goo	Is the price that each seller can charge to make a profit.	must be less than the price of a goo	Is the maximum valuation of each seller of a goo
18	A marginal buyer is the one _____	who, if the price is increased a little is the first to go out of the market.	who, if the price is decreased a little is the first to enter the market	who is indifferent about buying and not buying.	who is indifferent about buying	who, if the price is increased a little is the first to go out of the market.
19	A market is said to be efficient _____	If quantity demanded and the quantity supplied are the same	If both consumer surplus and the producer surplus are maximize	If the sum of the producer surplus and the consumer surplus is minimize	If both consumer surplus and the producer surplus	If quantity demanded and the quantity supplied are the same

20	The following industry often is a monopoly _____.	Cigarette industry.	Publishing industry.	Drug industry .	Electric power industry	Electric power industry
21	Under perfect competition, rivalry is _____.	Impersonal.	very personal and direct, advertising being important.	nonexistent since the firms cooperate.	control output.	very personal and direct, advertising being important.
22	Monopolies arise as a consequence of _____.	Patents .	Control over the supply of a basic input.	Franchise .	Capture the market	Control over the supply of a basic input.
23	A monopolistic firm will expand its output when _____.	Marginal revenue exceeds marginal cost .	Marginal cost exceeds marginal revenue.	Marginal cost equals marginal revenue.	Marginal revenue is negative	Marginal revenue exceeds marginal cost .
24	A monopolist will never produce at a point where _____.	Demand is price-inelastic	Demand is price-elastic	MC is positive.	Marginal cost is increasing	Marginal cost is increasing
25	Which of the following best defines price discrimination?	Charging Different Prices On The Basis Of Race.	Charging Different Prices For Goods With Different Costs Of Production.	Charging Different Prices Based On Cost-Of-Service Differences.	Selling A Certain Product Of Given Quality And Cost Per Unit At Different Prices To Different Buyers.	Selling A Certain Product Of Given Quality And Cost Per Unit At Different Prices To Different Buyers.
26	The shape of a frequency curve cannot be?	U-shape	V Shape	J-shape	. S-shape	V Shape
27	Dynamic Theory of profit given by	Clark	Hawley	.Schumpeter	.J.S.Mill	Clark
28	Risk theory of profit given by	J.Clark	. Hawley	Schumpeter	J.S.Mill	. Hawley
29	A recession is	A period during which aggregate output declines	A period of declining unemployment	A period of very rapidly declining prices	A period of declining prices	A period during which aggregate output declines

30	Business cycle also known as _____	Trade cycle.	Contraction.	Expansion.	Upper turning point	Trade cycle.
31	The main aim of monetary policy is _____	To regulate cost and credit	To control SEBI.	To control Indian exchange.	To control RBI.	To regulate cost and credit
32	Bank rate is also known as _____	lending rate.	Interest rate.	CRR.	SDR.	lending rate.
33	One negative aspect of a business cycle boom is _____.	An increasing rate of inflation.	A declining rate of inventory investment.	A increase in government budget deficits.	Government budget deficits	Government budget deficits
34	According to monetarists, the Great Depression in the United States largely resulted from _____	Excessive imports relative to exports.	Significant changes in technology and resource availability.	Inappropriate monetary policy.	Excessive exports relative to imports.	Excessive imports relative to exports.
35	The study of ups and downs in economics is _____	Monetary policy	Fiscal policy	Business cycle	Recovery	Business cycle
36	The phases of business cycle are _____	Boom and Recession	Depression	Recovery	Boom	Boom and Recession
37	In the _____ phase , demand, output, employment and income are at a high level.	Depression	Recession	Boom	Recovery	Boom
38	_____ Starts when there is a downward descend from the peak which is for a short duration.	Depression	Recession	Boom	Recovery	Recession
39	During _____ there is a general decline in economic activity.	Depression	Recession	Boom	Recovery	Depression
40	The measures to control business cycle are _____	Nominal policy	Policy	Direct controls	Indirect controls	Direct controls
41	The taxation and Public expenditure policy is Known as _____	Monetary Policy	Fiscal Policy	Trade Policy	Pricing policies	Fiscal Policy
42	When national income of a country is calculated in terms of constant prices, it is called as _____	Nominal GNP.	GNP at current prices.	GNP at constant prices.	GDP at constant prices	GNP at constant prices.

43	Demand pull inflation is the result of _____	Increase in production.	Increase in the supply of goods.	Increase in money supply.	Increase in the cost of production	Increase in money supply.
44	Inflation means _____	More money less value	Less money high value	More money more value	Less money less value	More money less value
45	Deflation means _____	More money less value	less money high value	more money more value	less money less value	less money high value
46	when the rise in price is very slow like that of a creeper, it is called _____	Walking Inflation	Creeping Inflation	Running Inflation	True inflation	Creeping Inflation
47	When prices rise very fast at double or triple digit rates from 20 to 100 percent, it is called ----------	Walking Inflation	Creeping Inflation	Running Inflation	Hyper inflation	Hyper inflation
48	_____ Refers to the credit control measures adopted by the central bank of a country.	Monetary policy	Fiscal policy	Direct controls	All of the above	Monetary policy
49	The instruments of monetary policy are _____	Qualitative	Quantitative	Qualitative and Quantitative	Cumulative	Qualitative and Quantitative
50	_____Refers to sale and purchase of securities in the money market.	Changes in reserve ratio	Open market operations	Consumer credit regulation	Market operations	Open market operations
51	A _____ is a quantitative expression of a plan for a defined period of time.	Budget	Open market operation	Market operations	Fiscal policy	Budget
52	_____ is a budget where receipts are equal to expenditure.	Revenue Budget	Receipts Budget	Balanced Budget	Performance Budget	Balanced Budget
53	_____ is a rigid budget.	Flexible budget	Fixed budget	Running Inflation	Hyper inflation	Fixed budget
54	_____ is a variable budget.	Flexible budget	Fixed budget	Indirect Taxes	Depreciation	Flexible budget
55	In India, the central monetary authority is the _____	Federal Bank	State Bank	Reserve Bank of India	Indian Bank	Reserve Bank of India
56	_____ is a certain percentage of bank deposits which banks are required to keep with RBI in the form of reserves or balances.	Cash Reserve Ratio	Statutory Liquidity Ratio	Bank rate	Fixed budget	Cash Reserve Ratio

57	_____Is known as Value Added Method to GDP	Product Method	Income Method	Expenditure Method	Factor cost Method	Product Method
58	GDP Factor Cost = Net value added + _____	Income	Govt. Expenditure	Indirect Taxes	Depreciation	Depreciation
59	_____ Is measure of money, in which all kinds of goods and services produced in a country during one year are measured in terms of money at current prices.	GDP	GNP	NDP	NNP	GNP
60	GNP Value Added = Gross Value Added + _____	Domestic Private Investment	Net Foreign Investment	Net Income from Abroad	Depreciation	Net Income from Abroad

UNIT-V- Income Distribution and Factor Pricing

SYLLABUS

Income Distribution and Factor Pricing: Demand for Factors. Supply of factor - Backward Bending Supply Curve for Labor Concepts of Economic Rent- Functional Distribution of Income.

NATIONAL INCOME

The term National Income is used to refer the money value of the total income of the economy in a year. In common parlance national income means the total value of goods and services produced annually in a country. In other words the total amount of income accruing to a country from economics activities in a year's time is known as national income. Firstly it measures the market value of annual product. Secondly National income is a monetary measure. Thirdly national income includes the market value of all final goods the value of intermediate products are not included. A final product is one which is available for immediate consumption.

DEFINITIONS OF NATIONAL INCOME

The definitions of National income can be grouped into two classes as the traditional definition advanced by Marshall, Pigou and Fisher and the modern definitions.

Marshallion Definition:- According to Marshall, the labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. This is the true net annual income or revenue of the country or national dividend.

Pigovian Definition:- According to Pigou "National income is that part of objective income of the community, including of course income derived from abroad which can be measured in money"

Fisher's Definition:- Fisher adopted consumption as the criterion of national certain whereas Marshall and Pigou regarded it to be production.

According to Fisher 'The national income consists solely of services as received by ultimate consumers whether from their material or from their human environment'.

From the modern point of view national income is defined as the net output of commodities and services flowing during during the year from country's productive system in the hands of ultimate consumer.

CIRCULAR FLOW OF INCOME

The total income obtained as wages, rent, interest and profits are the national income of the country. Various households get their income from the firms for the production of goods and services. The value of all the goods produced is the national product. Thus the total national product produced by firms in a year is distributed to all factors in the form of wages, interest rent and profits. The sum of all these factors income will be equal to the national income. Thus the national product is equal to the national income.

National Income = Wages + Rent + Interest + profit

National income = Domestic income + Net income from abroad.

Personal Income = Domestic income + Net income from abroad + Transfer Payments + Net interest on borrowings + Unearned income - Taxes on profit - Undistributed profit - Contribution to social security measures.

METHODS OF MEASUREMENT OF NATIONAL INCOME

1. Product or inventory method:

Under this method national income is computed by adding the net value of all commodities and services produced during a given period. Thus national income is equal to the total of final products. We first estimate the gross value of domestic output in the various sectors of production

(Agriculture, manufacturing industry, and services including government). The value of gross output is obtained by multiplying the output of each sector by their respective market prices and adding them together. Then we deduct value of depreciation from gross value of domestic output. The figure so obtained has to be adjusted with net income from abroad. This is the national income at factor cost. This method is also known as output method or value added method. This method is very complicated because of non-availability of adequate and requisite data. It is also difficult to calculate depreciation.

2. Income Method:

Under this method the national income of a country is obtained by adding the incomes accrue to factors of production within the national territory. Basic factors production used producing the national products are land, labour, capital and organization. The national income is equal to total rent plus total wages and salaries of all employees including income of self employed persons plus total interest on capital including dividends of the shareholders plus total profit of all firms including undistributed corporate profits and earnings of public enterprises. In short, the national income represents the total of rent, wages, interest and profit. It is difficult to make distinction between the earnings from ordinary labour and organizational efforts. It is also difficult to make distinction between earnings from land and capital. Therefore factors of production are grouped as labour and capital for purposes of estimating national income. Under this method, the income earned by all individuals of the country during a year is taken. Individuals earn income in the form of Rent, profit, wages, and salaries and interest. This method is called income method.

3. Expenditure method:

This method is based on the assumption that income is equal to expenditure plus savings. Under this method the personal consumption expenditure, government purchase of goods and services, gross private domestic investment and net foreign investment are added together to get the national income of a country. This method is also known as consumption- saving method. The expenditure method is not generally used because the necessary data regarding consumption expenditure are not easily available. This method includes the total expenditure of a country during a given year. The income is spent on consumer goods or on producer goods. The consumption expenditure and investment

expenditure of all the individuals in a government during a year is added. Thus National Income = Consumption Expenditure + Investment Expenditure + government expenditure + exports - imports. Y = C + I + G + X-M

4. Value Added Method

Another method of measuring national income is the value added by industries. The difference between the value of material output and input at each stage of production is the value added. If all such differences are added up for all industries in the economy we arrive at the gross domestic product.

CONCEPTS OF NATIONAL INCOME

1. Gross National Product (GNP)

Gross national product is defined as the total market value of all final goods and services produced in a year. GNP includes four types of final goods and services, (i) Consumer goods and services to satisfy the immediate wants of the people (ii) gross private domestic investment on capital goods consisting of fixed capital formation, residential constructions and inventories of finished and unfinished goods, (iii) goods and services produced by government and (ir) net export of goods and services' GNP = government production + private output

2. Net National Product (NNP)

The second concept is Net National Product. The capital goods like machinery wear out as a result of continuous use. This is called depreciation. This is also called National income at market prices. Hence NNP = GNP - depreciation.

3. National Income at factor cost

National income at factor cost denotes the sum of all incomes earner by the factors. GNP at factor cost is the sum of the money value of the income produced by and accruing to the various factors of production in one year in a country. It includes all items of GNP less indirect tax. GNP at market price is always more than GNP at factor cost as GNP at factor cost is the income which the factors of

production receive in return for their service alone. National income at factor cost = net national product - indirect taxes + subsidies.

4. Personal Income (PI)

Personal income is the sum of all incomes received by all individuals during a given year. Some incomes such as Social security contribution are not received by individuals, similarly some incomes such as transfer payments are not currently earned, for example old age pension. Therefore, Personal income = national income - social security contribution - Corporate income taxes - undistributed corporate profit + transfer payment

5. Disposable Income (DI)

Disposable income = personal income - personal taxes After a part of the income is paid to the Government in the form of taxes, the remaining income is called disposable income.

DIFFICULTIES IN THE MEASUREMENT OF NATIONAL INCOME

The National Income must be calculated in monetary terms. There are certain nonmonetary transactions which are not included in the value of product. For example the unpaid personal services of a housewife cannot be included in the national product.

The Government services such as justice .administration and defence should he treated as equivalent to any other capital formation.

The treatment of profits of foreign firms as income of the parent country is another difficulty in measurement, because the foreign firms production is taking place in India while the profits of the firm is not considered in the income calculation of the country.

In underdeveloped countries like India, the major part of the output does not come to the market due to non monitored transaction. This results in the underestimation of the National Income.

Due to illiteracy regular accounts are not kept by the producers. This also makes the national income calculation more difficult.

The agriculture and industrial sectors are unorganized and scattered in India.

Finally the lack of statistical data and unreliability of statistics is the major difficulties in measuring the National Income.

A Greatest difficulty in calculating the national income is of double counting which arises from the failure, to distinguish properly, between a final and intermediate product.

Income earned through illegal activities such as gambling or illicit extraction of wine etc is not included in national income. Such goods and services do have value and meet the needs of consumers. But by leaving them out, national income works out to less than actual.

There arises difficulty of including transfer payments in the national income. Individuals get pension, unemployment allowance and interest on public loan's but whether these should be included on the national incompe in a difficult problem.

Another difficulty in calculating national income is that of price changes which fail to keep stable the measuring rod of money for national income. When the price level in the country rises the national income also shows an increase even though production might have fallen.

SIGNIFICANCE OR IMPORTANCE OF NATIONAL INCOME ESTIMATES

The following are the main uses of national income analysis:

1. The national income estimate reveals the overall production performance of the economy. It records the level of production in each year. This enables to compare the real growth of the economy over the years.

2. The percapita income measures the average standard of living of the people. It is used to compare standards of living in different countries. National income data are used to measure economic welfare of the community. Other things being equal, economic welfare is greater if rational income is higher and vice versa.

3. The study of national income statistics is useful in diagnosing the economic ills of a country and suggesting remedies.

4. The national income figures are useful in assessing the pace of economic development of a country.

5. The national income figures are used to assess the savings and investment potential of the community. The rate of saving and investment depend on national income.

6. The comparison of rational income over the years enables to know the nature of the economy. This is important when the government of a country launches planning for economic development. In factor planning is possible without national income estimates.

7. National income estimates show the contribution made by different sectors of f he economy such as agriculture, industry, trade and commerce, service etc. On the basis of national income figures.

8. National income estimates will tell us how far different categories of income such as rent, wages, interest, and profits are contributing to national income.

9. The formulation of panning for different sectors of the economy is based on the national income figures. National income estimates are very useful in formulating plans for the development of agriculture, industry, infrastructure etc.

10. We can evaluate the achievements of the development targets laid down in the plus from the changes in national income and various components.

11. National income data are useful for forecasting future economic events.

12. National income statistics can be used to determine how an international financial burden should be apportioned between different countries.

13. In war time the study of the components of national income is of great importance because they show the maximum production possibilities of the country

LIMITATIONS OF NATIONAL INCOME ESTIMATES

1.Comparisons of income are valid only for short period, say, four or five years. But over longer periods they may be misleading. Over a longer period, a number of new products may appear in the economy and a number of old products may disappear from the consumption. Hence the real income will change and the comparison will not have much meaning.

2.It is difficult to compare the incomes of two countries of different economic systems.

3.In underdeveloped countries, most production takes place in the hones of the people. But national income estimates are limited to goods and services sold in the market. Thus, statistics would omit the largest part of the real incomes of underdeveloped countries.

4.The rational income figures measure money incomes rather than real incomes. There are some difficulties in the ascertainment of real income.

5.They are only rough approximations. On their basis we cannot say that a certain policy will produce the desired result.

Supply for factor:

Supply can be influenced by a number of factors that are termed as determinants of supply. Generally, the supply of a product depends on its price and cost of production. In simple terms, supply is the function of price and cost of production. Some of the factors that influence the supply of a product are described as follows:

i. Price:

Refers to the main factor that influences the supply of a product to a greater extent. Unlike demand, there is a direct relationship between the price of a product and its supply. If the price of a product increases, then the supply of the product also increases and vice versa. Change in supply with respect to the change in price is termed as the variation in supply of a product. Speculation about future price can also affect the supply of a product. If the price of a product is about to rise in future, the supply of the product would decrease in the present market because of the profit expected by a seller

in future. However, the fall in the price of a product in future would increase the supply of product in the present market.

ii. Cost of Production:

Implies that the supply of a product would decrease with increase in the cost of production and vice versa. The supply of a product and cost of production are inversely related to each other. For example, a seller would supply less quantity of a product in the market, when the cost of production exceeds the market price of the product. In such a case the seller would wait for the rise in price in future. The cost of production rises due to several factors, such as loss of fertility of land, high wage rates of labor, and increase in the prices of raw material, transport cost, and tax rate.

iii. Natural Conditions:

Implies that climatic conditions directly affect the supply of certain products. For example, the supply of agricultural products increases when monsoon comes on time. However, the supply of these products decreases at the time of drought. Some of the crops are climate specific and their growth purely depends on climatic conditions. For example Kharif crops are well grown at the time of summer, while Rabi crops are produce well in winter season.

iv. Technology:

Refers to one of the important determinant of supply. A better and advanced technology increases the production of a product, which results in the increase in the supply of the product. For example, the production of fertilizers and good quality seeds increases the production of crops. This further increase the supply of food grains in the market.

v. Transport Conditions:

Refer to the fact that better transport facilities increase the supply of products. Transport is always a constraint to the supply of products, as the products are not available on time due to poor transport facilities. Therefore even if the price of a product increases, the supply would not increase. In India sellers usually use road transport and the poorly maintained road makes it difficult to reach the destination on time the products that are manufactured in one part of the city need to be spread in the whole country through road transport This may result in the damage of most of the products during the journey, which can cause heavy loss for a seller. In addition the seller can also lose his/her customers because of the delay in. the delivery of products.

vi. Factor Prices and their Availability:

Act as one of the major determinant of supply. The inputs, such as raw material man, equipment, and machines, required at the time of production are termed as factors. If the factors are available in sufficient quantity and at lower price, then there would be increase in production. This would increase the supply of a product in the market. For example, availability of cheap labor and raw material nearby the manufacturing plant of an organization would help in reducing the labor and transportation costs. Consequently, the production and supply of the product would increase.

vii. Government's Policies:

Implies that the different policies of government, such as fiscal policy and industrial policy, has a greater impact on the supply of a product. For example, increase in tax on excise duties would decrease the supply of a product. On the other hand, if the tax rate is low, then the supply of a product would increase.

viii. Prices of Related Goods:

Refer to fact that the prices of substitutes and complementary goods also affect the supply of a product. For example, if the price of wheat increases, then farmers would tend to grow more wheat than nee. This would decrease the supply of rice in the market. The demand changes as a result of changes in price, other factors determining it being held constant. We shall explain below in detail how these other factors determine market demand for a commodity. These other factors determine the position or level of demand curve of a commodity. It may be noted that when there is a change in these non-price factors, the whole curve shifts rightward or leftward as the case may be. The following factors determine market demand for a commodity.

1. Tastes and Preferences of the Consumers:

An important factor which determines the demand for a good is the tastes and preferences of the consumers for it. A good for which consumers' tastes and preferences are greater, its demand would be large and its demand curve will therefore lie at a higher level. People's tastes and preferences for various goods often change and as a result there is change in demand for them. The changes in demand for various goods occur due to the changes in fashion and also due to the pressure of advertisements by the manufacturers and sellers of different products. On the contrary, when certain goods go out of fashion or people's tastes and preferences no longer remain favorable to them, the demand for them decreases.

2. Income of the People:

The demand for goods also depends upon the incomes of the people. The greater the incomes of the people, the greater will be their demand for goods. In drawing the demand schedule or the demand curve for a good we take income of the people as given and constant. When as a result of the rise in the income of the people, the demand increases, the whole of the demand curve shifts upward and vice versa. The greater income means the greater purchasing power. Therefore, when incomes of the people increase, they can afford to buy more. It is because of this reason that increase in income has a positive effect on the demand for a good. When the incomes of the people fall, they would demand less of a good and as a result the demand curve will shift downward. For instance, as a result of economic growth in India the incomes of the people have greatly increased owing to the large investment expenditure on the development schemes by the Government and the private sector. As a result of this increase in incomes, the demand for good grains and other consumer goods has greatly increased. Likewise, when because of drought in a year the agriculture production greatly falls, the incomes of the farmers decline. As a result of the decline in incomes of the farmers, they will demand less of the cotton cloth and other manufactured products.

3. Changes in Prices of the Related Goods:

The demand for a good is also affected by the prices of other goods, especially those which are related to it as substitutes or complements. When we draw the demand schedule or the demand curve for a good we take the prices of the related goods as remaining constant. Therefore, when the prices of the related goods, substitutes or complements, change, the whole demand curve would change its position; it will shift upward or downward as the case may be. When the price of a substitute for a good falls, the demand for that good will decline and when the price of the substitute rises, the demand for that good will increase. For example, when price of tea and incomes of the people remain the same but the price of coffee falls, the consumers would demand less of tea than before. Tea and coffee are very close substitutes. Therefore, when coffee becomes cheaper, the consumers substitute coffee for tea and as a result the demand for tea declines. The goods which are complementary with each other, the fall in the price of any of them would favorably affect the demand for the other. For instance, if price of milk falls, the demand for sugar would also be favorably affected. When people would take more milk, the demand for sugar will also increase.

Likewise, when the price of cars falls, the quantity demanded of them would increase which in turn will increase the demand for petrol.

4. Advertisement Expenditure:

Advertisement expenditure made by a firm to promote the sales of its product is an important factor determining demand for a product, especially of the product of the firm which gives advertisements. The purpose of advertisement is to influence the consumers in favour of a product. Advertisements are given in various media such as newspapers, radio, and television. Advertisements for goods are repeated several times so that consumers are convinced about their superior quality. When advertisements prove successful they cause an increase in the demand for the product.

5. The Number of Consumers in the Market:

The market demand for a good is obtained by adding up the individual demands of the present as well as prospective consumers of a good at various possible prices. The greater the number of consumers of a good, the greater the market demand for it. Now, the question arises on what factors the number of consumers for a good depends. If the consumers substitute one good for another, then the number of consumers for the good which has been substituted by the other will decline and for the good which has been used in place of the others, the number of consumers will increase. Besides, when the seller of a good succeeds in finding out new markets for his good and as a result the market for his good expands the number of consumers for that good will increase. Another important cause for the increase in the number of consumers is the growth in population. For instance, in India the demand for many essential goods, especially food grains, has increased because of the increase in the population of the country and the resultant increase in the number of consumers for them.

6. Consumers' Expectations with Regard to Future Prices:

Another factor which influences the demand for goods is consumers' expectations with regard to future prices of the goods. If due to some reason, consumers expect that in the near future prices of the goods would rise, then in the present they would demand greater quantities of the goods so that in the future they should not have to pay higher prices. Similarly, when the consumers expect that in the future the prices of goods will fall, then in the present they will postpone a part of the consumption of goods with the result that their present demand for goods will decrease.

Increase in Demand and Shifts in Demand Curve:

When demand changes due to the factors other than price, there is a shift in the whole demand curve. As mentioned above, apart from price, demand for a commodity is determined by incomes of the consumers, his tastes and preferences, prices of related goods. Thus, when there is any change in these factors, it will cause a shift in demand curve. For example, if incomes of the consumers increase, say due to the hike in their wages and salaries or due to the grant of dearness allowance, they will demand more of a good, say cloth, at each price. This will cause a shift in the demand curve to the right. Similarly, if preferences of the people for a commodity, say colour TV, become greater, their demand for colour TV will increase, that is, the demand curve will shift to the right and, therefore, at each price they will demand more colour TV. The other important factor which can cause an increase in demand for a commodity is the expectations about future prices. If people expect that price of a commodity is likely to go up in future, they will try to purchase the commodity, especially a durable one, in the current period which will boost the current demand for the goods and cause a shift in the demand curve to the right. As seen above, the prices of related commodities such as substitutes and complements can also change the demand for a commodity. For example, if the price of coffee rises other factors remaining the constant, this will cause the demand for tea, a substitute for coffee, to increase and its demand curve to shift to the right.

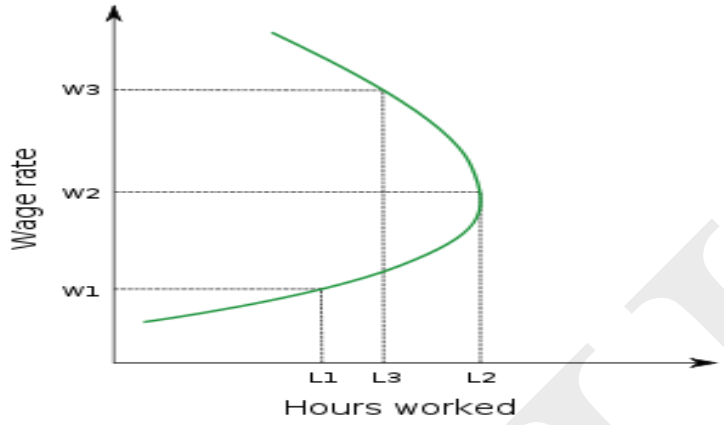
Decrease in Demand and Shift in the Demand Curve:

If there are adverse changes in the factors influencing demand, it will lead to the decrease in demand causing a shift in the demand curve. For example, if due to inadequate rainfall agricultural production in a year declines this will cause a fall in the incomes of the farmers. This fall incomes of the farmers will cause a decrease in the demand for industrial products, say cloth, and will result in a shift in the demand curve to the left. Similarly, change in preferences for commodities can also affect the demand. For example, when colour TVs came to India people's greater preference for them led to the increase in their demand. But this brought about decrease in demand for black and white TVs causing leftward shift in demand curve for these black and white TVs. The decrease in demand does not occur due to the rise in price but due to the changes in other determinants of demand. Decrease in demand for a commodity may occur due to the fall in the prices of its substitutes, rise in the prices of complements of that commodity and if the people expect that price of a good will fall in future.

BACKWARD-BENDING SUPPLY CURVE OF LABOUR

In economics, a backward-bending supply curve of labour, or backward-bending labour supply curve, is a graphical device showing a situation in which as real, or inflation-corrected, wages increase beyond a certain level, people will substitute leisure (non-paid time) for paid work time and so higher wages lead to a decrease in the labour supply and so less labour-time being offered for sale. The "labour-leisure" tradeoff is the tradeoff faced by wage-earning human beings between the amounts of time spent engaged in wage-paying work (assumed to be unpleasant) and satisfaction-generating unpaid time, which allows participation in "leisure" activities and the use of time to do necessary self-maintenance, such as sleep. The key to the tradeoff is a comparison between the wage received from each hour of working and the amount of satisfaction generated by the use of unpaid time. As wages increase above the subsistence level (discussed below), there are two considerations affecting a worker's choice of how many hours to work per unit of time (usually day, week, or month). The first is the substitution or incentive effect. With wages rising, the tradeoff between working an additional hour for pay and taking one extra hour of unpaid time changes in favor of working. Thus, more hours of labour-time will be offered at the higher wage than the lower one. The second and countervailing effect is that the hours worked at the old wage rate now all gain more income than before, creating an income effect, which encourages more leisure to be chosen because it is more affordable. Most economists assume that unpaid time (or "leisure") is a normal good and so people want more of it as their incomes (or wealth) rise. Since a rising wage rate raises incomes, all else constant, the attraction of unpaid time rises, eventually neutralizing the substitution effect and causing the backward bend. The graph shows that if real wages were to increase from W1 to W2, the substitution effect for an individual worker outweighs the income effect; therefore, the worker would be willing to increase hours worked for pay from L1 to L2. However, if the real wage increased from W2 to W3, the number of hours offered to work for pay would fall from L2 to L3 since the strength of the income effect now exceeds that of the substitution effect; the utility to be gained from an extra hour of unpaid time is now greater than the utility to be gained from extra income that could be earned by working the extra hour. The above examines only the effect of changing wage rates on workers already subject to those rates; only those individuals' labour supply response was considered. The additional labour supplied by workers working in other sectors (or unemployed), who are now more attracted to the jobs in the sector because it is paying higher wages, was not considered. Thus, for a given market, the wage at which the labour supply curve bends

backward may be higher than the wage at which a given worker's curve bends back. On the other hand, for the aggregate labour market, a labour market without "other sectors" for workers, the original story of the backward-bending labour-supply curve applies except that some workers suffer from involuntary unemployment.



Economic Rent

Economic rent is different from the everyday term of rent that is generally used to describe a payment for the use of buildings including the land that the buildings are on.

Henry George describes the concept of rent in economics as follows:

"In the economic meaning of rent, payments for the use of any of the products of human exertion are excluded, and of the lumped payments for the use of houses, farms, etc., only that part is rent which constitutes the consideration for the use of the land. The part that is paid for the use of buildings or other improvements is properly interest, as it is a consideration for the use of capital."

In short economic rent is any unearned income. Economics puts forth a model that makes generalizations about the production process. It suggests that the production of anything can be assumed to be some combination of land, labour, and capital. For example, a computer is made of various components.

Each of these components originally came from the land in some form or other, and has been extracted from the land by people, using tools constructed by other people from materials again extracted from the land. In this example, the people involved in all parts of the production process are labour and are assumed to receive a wage.

The tools that the labour employs to extract materials from the land and make the components of the computer and put the computer together are capital, these tools (or rather the owners of capital) receive payment for being employed in the production process called interest. Finally, there is the payment to the owners of land, at each part of the process from extraction of minerals to the sale of the computer; this is economic rent.

For example, a computer shop that is located near to customers will likely have a higher land value than one that is not, all else being equal. The owner of the land of greater value receives more payment despite not having to do anything to earn this higher income. The economic rent, that is the payment for the extra value of the land created by the community, public infrastructure and so on (i.e. excluding the value of buildings and other improvements), is received by the landlord due to the structure of property rights.

The concept of economic rent can be generalized as an unearned income and need not apply to physical land. The classical political economy of Adam Smith, David Ricardo, and Henry George belong to the late eighteenth and nineteenth centuries. It focused particularly on land in the physical sense due to the structure of the economy, about which they wrote. Nevertheless the concept of economic rent still holds true, as the economy continues to function on the basis of property and rights, the concept of land can be broadened to include such things as radio spectrums and so forth.

Functional Income Distribution

While there has been a secular decline in poverty, albeit at a low pace, different time periods show different trends. Can these differences be attributed to the slowing down of growth or the deterioration in income distribution has been responsible for slow reduction in poverty. Obviously even if the income distribution does not improve, the growth will reduce poverty. However, if the income distribution worsens, growth would not necessarily reduce poverty. The relative shares of labour and capital in the output, i.e. functional distribution of income, are one of the major factors in determining the levels of poverty when the incomes are rising. Three main factors governing personal income distribution are:

- Distribution of assets
- Functional income distribution
- Transfers from other households, government and the rest of the world and the tax structure.

Industrialization affects distribution of personal incomes by altering the distribution of assets and by changing the functional income distribution. If wage earners do not hold any assets, changes in personal income distribution will be fully described by the functional income distribution, but if assets are uniformly distributed over the entire population, functional distribution is totally irrelevant in determining the personal income distribution. Neither of these two extreme cases are close to reality and accordingly, functional income distribution can be a useful indicator of personal income distribution of assets. In a typically labour-surplus economy like Pakistan, the increase in investment which may also embody improved techniques of production tends to raise the share of capital in the output and hence deteriorates the functional income distribution. This is because real wages remain constant as long as supply of labour is unlimited, and as a result any increases in productivity tend to raise the rate of profit. However, trade unions, collective bargaining and labour legislation tend to raise the wage rates and thus lowering the increase in rate of profit. Since green revolution technology is scale-neutral. It can result in poverty reduction and higher demand for labour. Nevertheless, as pointed out by Hussain (1992), the impact of technology on size distribution of farms depends on the prevailing patterns of land ownership and the social organization of agricultural production and that may have led to higher poverty especially in recent years. Poverty in recent years may also have gone up because of the increase in the input cost, stagnant yield per acre and that the farmer has to sell-off his output, to pay the debt. We may note that while an increase in input prices tend to increase the cost of production the increase in the price of output hardly benefits the subsistence farmers because of their limited marketable surplus. Functional income distribution in Pakistan does indicate an improvement in the share of labour up to 1986-87; the share of wages in GDP increased from 30.2 percent in 1980-81 to 33.0 percent in 1986-87 which is in line with trends in poverty over that period. However, functional income distribution moved against labour as its share declined to 30 percent by 1990-91 [see Chaudhary (1992). A sharp growth in investment leading to higher demand for employment in the ‘60s, increase in wage rates during the ‘70s and both the increase in the demand for labour due to higher levels of output and increases in wage rates in the first half of the ‘80s have been responsible for improvement in the functional income distribution during this period. On the other hand, capital intensity has increased and growth rate of output has fallen in recent years. The increase in poverty in recent years, therefore, can at lest partly be attributed to changes in the functional distribution of income.

Possible Questions

Part A (ONE Mark)

Multiple Choice Questions

Online Examination

Part B (2 Marks)

1. What is productivity?
2. What is monopoly?
3. What is productivity?
4. Define Market structure.
5. Explain the demand for factors.
6. What is factor pricing?
7. Define long run supply.
8. What do you mean by personal distribution of income?
9. Explain the concept of national income.
10. Define pricing.

Part C (6 Marks)

1. Briefly explain the factors affecting labour supply.
2. Explain the functional distribution of income.
3. Briefly explain backward bending supply with neat diagram.
4. Describe the concept of demand for factors.
5. Explain the factor pricing concept in detail.
6. Discuss the functional distribution of income in detail.
7. Write the difference between functional and personal distribution of income?
8. Briefly explain the factors affecting labour supply.
9. Explain the factors with long run supply.
10. Describe briefly methods of measurement of national income.

S.NO	QUESTIONS	OPTION A	OPTION B	OPTION C	OPTION D	ANSWER
1	NNP at Factor cost = _____ Indirect taxes + Subsidies	Net Foreign Investment	Net Income from Abroad	Net National Product at Market Prices	GNP at Market prices	Net National Product at Market Prices
2	_____Income is the total income received by individuals of a country from all sources before payment of direct taxes in one year.	Domestic Income	Private Income	Personal Income	Real Income	Personal Income
3	The average income of the people of a country in a particular year is called _____	Private Income	Real Income	Diposable Income	Per capita Income	Per capita Income
4	When the differences between the value of materials output and inputs are added up for all industries in the economy we arrive at _____	NNP	GDP	GNP	NDP	GDP
5	Who prepares the fiscal policy?	Central Government	State Government	RBI	World Bank	RBI
6	Who prepare the Monetary Policy?	Central Government	State Government	RBI	World Bank	Central Government
7	Which is not an tool of fiscal policy?	Public Debt	Public Taxation	Bill market	Public Expenditure	Bill market
8	Which is the important instrument is used for expansion of credit?	Open market operation	Bill market scheme	Special schemes	Policy of taxation	Bill market scheme
9	_____ control is used to regulate the commercial banks	Qualitative Control	Quantitative Control	Public Debt	Fiscal Measures	Quantitative Control
10	Demand of a commodity refers to:	Need for the commodity	Desire for the commodity	Amount of the commodity demanded at a particular price and at a particular time	Quantity demanded of that commodity	Amount of the commodity demanded at a particular price and at a particular time
11	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:	Increase	Decrease	Remain the same	Become zero	Increase

12	The horizontal demand curve parallel to x-axis implies that the elasticity of demand is:	Zero	Infinite	Equal to one	Greater than zero but less than infinity	Infinite
13	An individual demand curve slopes downward to the right because of the:	Need for the commodity	Desire for the commodity	Income effect of fall in Price	Remains constant	Income effect of fall in Price
14	Income elasticity of demand is defined as the responsiveness of:	Quantity demanded to a change in income	Quantity demanded to a change in price	Price to a change in income	Income to a change in quantity demanded	Quantity demanded to a change in income
15	The supply of a good refers to:	Stock available for sale	Total stock in the warehouse	Actual Production of the good	Quantity of the good offered for sale at a particular price per unit of time	Quantity of the good offered for sale at a particular price per unit of time
16	In the short run, when the output of a firm increases, its average fixed cost:	Remains constant	Decreases	Increases	First decreases and then rises	Decreases
17	The cost of one thing in terms of the alternative given up is called:	Real cost	Production cost	Physical cost	opportunity cost	Opportunity cost
18	Assume that consumer's income and the number of sellers in the market for good X both falls. Based on this information, we can conclude with certainty that the equilibrium:	Price will decrease	Price will increase	Quantity will increase	Quantity will decrease	Quantity will decrease
19	The economist's objections to monopoly rest on which of the following grounds?	There is a transfer of income from consumers to the monopolist	There is welfare loss as resources	Total stock in the warehouse	Actual Production of the good	There is a transfer of income from consumers to the monopolist
20	In which of the following market structure is the degree of control over the price of its product by a firm very large?	Imperfect competition	Perfect competition	Monopoly	Oligapoly	Monopoly
21	The offer curves introduced by Alfred Marshall, helps us to understand how the _____ is established in international trade.	Terms of trade	Equilibrium price ratio	Exchange rate	Satisfaction level	Terms of trade
22	Demand for factors of production is	Derived demand	Joint demand	Composite demand	Equilibrium	Derived demand

23	The producer's demand for a factor of production is governed by the _____ of that factor.	Price	Marginal Productivity	Availability	Profitability	Marginal Productivity
24	Under conditions of perfect competition in the product market:	MRP=VMP	MRP > VMP	VMP > MRP	VMP > MRM	MRP=VMP
25	Which among the following statements is INCORRECT?	Coefficient of correlation can be computed directly from the data without measuring deviation.	Measures of Dispersion are also called averages of the second order.	Standard deviation can be negative.	Mean deviation can never be negative.	Standard deviation can be negative.
26	One of the methods to find out Mode is:	Mode = 3 Median + 2 Mean	Mode=3 Median – 3 Mean	Mode = 2 Median – 3 Mean	Mode=3 Median – 2 Mean	Mode=3 Median – 2 Mean
27	Which among the following statements is INCORRECT?	Index number is a relative measurement.	In fact all index numbers are weight	Theoretically the best average in construction of index numbers is Geometric mean.	It is not possible to shift the base if it is the case of fixed base index	It is not possible to shift the base if it is the case of fixed base index
28	Mean Deviation can be calculated from:	Mean	chi sqare test	Annova	Two way ANOVAs	Mean
29	Scatter diagram is used to study ___ in economic statistics.	Variability in the series	Nature of Correlation in the two series	Regression	Secular trend	Nature of Correlation in the two series
30	Which among the following is NOT a correct statement?	Welfare economics is based on value judgments.	Welfare economics is also called 'economics with a heart'.	Welfare economics focuses on questions about equity as well as efficiency.	The founder of Welfare economics was Alfred Marshall.	The founder of Welfare economics was Alfred Marshall.
31	Who is the 'lender of the last resort' in the banking structure of India?	State Bank of India	Reserve Bank of India	EXIM Bank of India	Union Bank of India	Reserve Bank of India

32	____ is the official minimum rate at which the Central Bank of a country is prepared to rediscount approved bills held by the commercial banks.	Repo rate	Bank rate	Prime lending rate	Reverse repo rate	Bank rate
33	In order to control credit, Reserve Bank of India should:	Increase CRR and decrease Bank rate	Decrease CRR and reduce Bank rate	Increase CRR and increase Bank rate	Reduce CRR and increase Bank rate	Increase CRR and increase Bank rate
34	Which among the following is a function of the Reserve Bank of India?	Bank issues the letters of credit to their customers certifying their creditability	Collecting and compilation of statistical information relating to banking & other financial sectors	Banks under write the securities issued by public or private organizations	Accepting deposits from the public	Collecting and compilation of statistical information relating to banking & other financial sectors
35	Credit creation power of the commercial banks gets limited by which of the following?	Purchasing power of money	Capital deficit	Credit policy of the central bank	Rise in external loans	Credit policy of the central bank
36	Number of times a unit of money changes hands in the course of a year is called_____	Supply of money	Purchasing power of money	Velocity of money	Value of money	Velocity of money
37	_____ is the difference between total receipts and total expenditure.	Capital deficit	Budget deficit	Fiscal deficit	Revenue deficit	Budget deficit
38	What is meant by Autarky in international trade?	Monopoly in international trade	Imposition of restrictions in international trade	Removal of all restrictions from international trade	The idea of self sufficiency and no international trade by a country	The idea of self sufficiency and no international trade by a country
39	The following is the direct tax among:	House tax	Entertainment tax	Service tax	Value Added tax	House tax
40	Which among the following is a cause of inflation?	Deficit financing	Rise in external loans	Unfavorable balance of payment	A hike in the CRR by the central bank of the country	Deficit financing
41	Cost push inflation occurs because of:	Wage push	Profit tax	Profit	Ineffective policies of the government	Wage push

42	The capital that is consumed by an economy or a firm in the production process is known as:	Capital loss	Production cost	Dead-weight loss	Depreciation	Depreciation
43	Who propounded the opportunity cost Theory of international trade?	Ricardo	Marshall	Heckscher & Ohlin	Haberler	Haberler
44	Which among the following is NOT correct?	Floating exchange rate system works on the market mechanism	Floating exchange rate breeds uncertainties and speculation	Economic and political factors and value judgments influence the choice of the exchange rate system	The system of floating exchange rate requires comprehensive government intervention	The system of floating exchange rate requires comprehensive government intervention
45	Which among below is NOT a correct statement?	Bretton Woods conference gave birth to two international organizations-	Theory of Absolute Advantage in international trade is given by Adam Smith'	Pure and perfect competition is the same market structures.	Mint par theory of exchange rate determination is applicable in countries under gold standard	Pure and perfect competition is the same market structures.
46	Terms of trade that relate to the Real Ratio of international exchange between commodities is called:	Real cost terms of trade	Commodity terms of trade	Income terms of trade	Utility terms of trade	Income terms of trade
47	Who among the following enunciated the concept of single factoral terms of trade?	Jacob Viner	G.S.Donens	Taussig	J.S.Mill	Jacob Viner
48	Infant industry argument' in international trade is given in support of:	Granting Protection	Free trade	Encouragement to export oriented small and tiny industries	Floating exchange rate breeds uncertainties and speculation	Granting Protection
49	Which of the following is also known as International Bank for Reconstruction and Development?	Asian Development Bank	World Bank	Reserve Bank of India	International Monetary Fund	World Bank

50	Which among the following is not a function of International Monetary Fund?	It serves a medium term and long term credit institution'	It provides a mechanism for improving short term balance of payments position'	It provides machinery for international consultations'	It provides reservoir of the currencies of the member countries and enables members to borrow one another's currency'	It serves a medium term and long term credit institution'
51	The new world Trade organization (WTO), which replaced the GATT came into effect from____	1ST January 1991	1st January 1995	1st April 1994	1st May 1995	1st January 1995
52	A change in fiscal policy affects the balance of payments through:	The current account only	The capital account only	Both, the current account and capital account	Neither current account nor capital account	Both, the current account and capital account
53	Who is called as father of Economics?	Adam smith	Marshall	Robinson	George Bernard	Adam smith
54	Economics is derived from the greek word oikonomikus which means	Business Management	Business Economics	House Management	Wealth Management	House Management
55	Who expressed the view that Economics is neutral between ends.	Robbins	Marshall	Pigou	Adamsmith	Robbins
56	Economics is the science of wealth who gave this definition?	J.K.Mehta	Marshall	Adam Smith	Robbins	Adam Smith
57	Which of the following is related with controlling economic problems ?	What to produce	Capitalist economy	Socialist economy	When to produce	All of the above
58	Positive science concern with economics analysis _____	cause relationship	Effect relationship	cause and effect relationship	None of the above	cause and effect relationship
59	The existence of both public and private sector enterprises constitutes	Capitalist economy	Socialist economy	Mixed economy	None of the Above	Mixed economy
60	The subject matter of economics is _____	To ensure economic progress of the people	To run business	To satisfy unlimited wants with limited means	To mobilize resources and to use them.	To satisfy unlimited wants with limited means