



Business Economics

Theory of Demand and Supply



CHAPTER-2

THEORY OF DEMAND AND SUPPLY

UNIT 1

LAW OF DEMAND AND ELASTICITY OF DEMAND

INTRODUCTION

Demand and supply are the two main pillars of micro economic theory. A good understanding of the concepts of demand and supply would help in understanding how the price of a particular product is determined in the market. Some of the sub-topics covered under the topic of demand are demand function, law of demand, expansion & contraction in demand, increase & decrease in demand, and elasticity of demand.

- ➔ **MEANING OF DEMAND** : The concept 'demand' refers to the quantity of a good or service that consumers are willing and able to purchase at various prices during a period of time. It is to be noted that demand in economics is something more than desire to purchase though desire is one element of it. A beggar, for instance, may desire food, but due to lack of means to purchase it, his demand is not effective. **Thus effective demand for a thing depends on (i) desire (ii) means to purchase and (iii) on willingness to use those means for that purchase.** Unless demand is backed by purchasing power or ability to pay, it does not constitute demand.

Two things are to be noted about quantity demanded. **One is that** quantity demanded is always expressed at a given price. At different prices different quantities of a commodity are generally demanded.

The second thing is that quantity demanded is a flow. We are concerned not with a single isolated purchase, but with a continuous flow of purchases at various prices and per unit of time.

- ➔ **WHAT DETERMINES DEMAND ?**

There are a number of factors which influence household demand for a commodity. Important among these are

- (i) **Price of the commodity** : Ceteris paribus i.e. other things being equal, the demand of a commodity is inversely related to its price. It implies that a rise in price of a commodity brings about a fall in its purchase and vice-versa.
- (ii) **Price of related commodities** : Related commodities are of two types (a) complementary goods and (ii) competing goods or substitutes. **Complementary goods are those goods which are consumed together or simultaneously. For example, tea and sugar, automobiles and petrol, pen and ink are used together.** When commodities are complements, a fall in the price of one (other things being equal) will cause the demand of the other to rise. For example, a fall in the price of cars would lead to a rise in the demand for petrol. Similarly, a fall in the price of pens, will cause

a rise in the demand for ink. The reverse will be the case when the price of a complement rises.

Competing goods or substitutes are those goods which can be used with ease in place of one another. For example, tea and coffee, ink pen and ball pen, are substitutes for each other and can be used in place of one another easily. When goods are substitutes, a fall in the price of one (ceteris paribus) leads to a fall in the quantity demanded of its substitutes. For example, if the price of tea falls, people will substitute it for coffee and demand more of it and less of coffee i.e. the demand for tea will rise and that of coffee will fall.

- (iii) **Level of income of the household** : Other things being equal, the demand for a commodity depends upon the money income of the household. In most cases, the larger the average money income of the household, the larger is the quantity demanded of a particular good. Thus, generally there is a direct relationship between income and demand for goods.

However, there are certain commodities for which quantities demanded decrease with an increase in money income. These goods are called inferior goods.

- (iv) **Tastes and preferences of consumers** : The demand for a commodity also depends upon tastes and preferences of consumers and changes in them over a period of time. Goods which are more in fashion have higher demand than goods which are out of fashion. Consumers may even discard a good even before it is fully utilised and choose another good which is in fashion. For example, there is a greater demand for coloured television than more and more people will discard their black and white television even though they could have still used it for some more years.
- (v) **'Demonstration effect'** plays an important role in affecting the demand for a product. An individual's demand for colour television may be affected by his seeing a T.V. in neighbour's or friend's house. A person may develop a taste or preference for wine after tasting some, but he may also develop it after discovering that serving it raises his prestige. In any case, people have tastes and preferences and they change, due to various external and sometimes due to internal causes.
- (vi) **Other factors** : Apart from the above factors, the demand for a commodity depends upon the following factors.
- (a) **Size of population** : Generally, larger the size of population of a country or a region, greater is the demand for commodities in general .
- (b) **Composition of population** : If there are more old people in a region, the demand for spectacles, walking sticks, etc. will be high, Similarly, if the population consists of more of children, demand for toys, baby foods, toffees, will be more.
- (c) **Distribution of income** : The wealth of a country may be so distributed that there are a few very rich people while the majority are very poor. Under such conditions the propensity to consume of the country will be relatively less as the propensity to consume of the rich people is less than that of poor people . Consequently the demand for consumer goods will be comparatively less. If the distribution of income is more equal then the propensity to consume of the country as a whole will be relatively high indicating higher demand for goods.

- ⇒ **LAW OF DEMAND** : The law of demand is one of the most important laws of economic theory. According to law of demand other things beings equal, if the price of a commodity falls, the quantity demanded of it will rise and if the price of a commodity rises, its quantity demanded will decline, **The law of demand is a qualitative statement because it shows the quality of demand to change with the changes in prices. There is an inverse relationship between price and quantity demanded, other things being same.** These other things are known as assumptions of the law of demand they are as under :

Assumptions of The Law :

This law will hold valid only when certain assumptions are made. The law will hold good only when the following conditions are satisfied.

1. Prices of all other goods, except the price of the product under discussion are constant.
2. The no. of the consumers remains constant.
3. The income of the buyers is constant.
4. Their tastes and preferences are constant.
5. The product is a normal product.
6. The future prices of the product do not change.
7. Buyers behave rationally.

Depending upon these assumptions, we can explain the law of demand as follows. Here we will prepare a demand schedule to understand the law.

Demand Schedule : To illustrate the relation between the quantity of a commodity demanded and its price, we may take hypothetical data for prices and quantities of commodity X

Table 1: Demand schedule of an individual consumer

	Price	Quantity demanded
A	5	10
B	4	15
C	3	20
D	2	35
E	1	60

When price of commodity X is ₹ 5 per unit, a consumer purchases 10 units of the commodity. When the price falls to ₹ 4, he purchases 15 units of the commodity. Similarly, when the price further falls, quantity demanded by him goes on rising until at price Re. 1, the quantity demanded by him rises to 60 units. The above table depicts an inverse relationship between price and quantity demanded as the price of the commodity X goes on rising, its demand goes on falling.

Demand curve : We can now plot the data from Table 1 on a graph with price on the vertical axis and quantity on the horizontal axis. In Fig. 1, we have shown such a graph and plotted the five points corresponding to each price-quantity combination shown in Table 1. Point A, shows the same information as the first row of Table 1, that at ₹ 5 per unit, only 10 units of X will be demanded. Point E shows the same information as does the last row of the table, when the price is Re. 1, the quantity demanded will be 60 units.

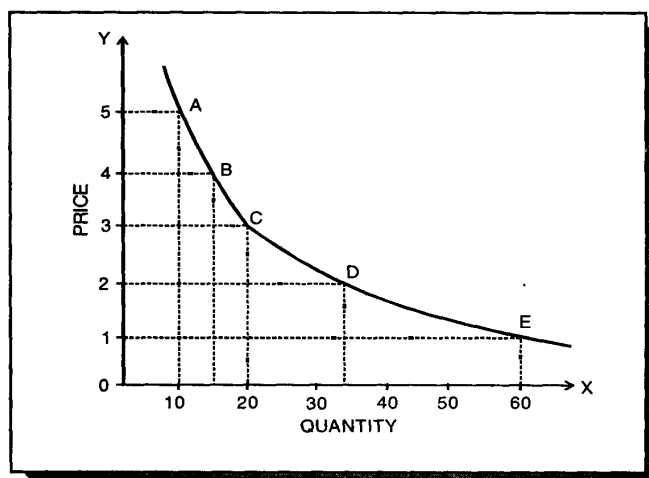


Fig 1

We now draw a smooth curve through these points. The curve is called the demand curve for commodity 'X'. The curve shows the quantity of 'X' that a consumer would be willing to buy at a each price; its downward slope indicates that the quantity of 'X' demanded increases as its a price falls. Thus the downward sloping demand curve is in accordance with the law of demand which as stated above, describes an inverse price-demand relationship.

Market Demand Schedule When we add up the various quantities demanded by the number of consumers in the market we can obtain the market demand schedule. Suppose there are three individual buyers of a commodity goods in the market. The Table shows their individual demands at various prices.

Market Demand Schedule

Quantity demanded by

Price (₹)	P	Q	R	Total market demand
5	10	8	12	30
4	15	12	18	45
3	20	17	23	60
2	35	25	40	100
1	60	35	45	140

When we add quantities demanded at each price by consumers P, Q, R we get total market demand. Thus when price is ₹ 5 per unit, the demand for commodity 'X' in the market is 30 units (i.e. 10+8+12). When price falls to ₹ 4, market demand is 45 units. At Re. 1, 140 units are demanded in the market. The market demand schedule also indicates inverse relationship between price and quantity demanded of 'X'.

Market Demand Curve : If we plot market demand schedule on a graph we get market demand curve. Figure 2 shows market demand curve for commodity 'X'. The market demand curve, like individual demand curve, slopes downwards to the right because it is nothing but lateral summation of individual demand curves. Besides, as the price of the good falls, it is very likely that new buyers will enter the market which will further raise the quantity demanded of the goods.

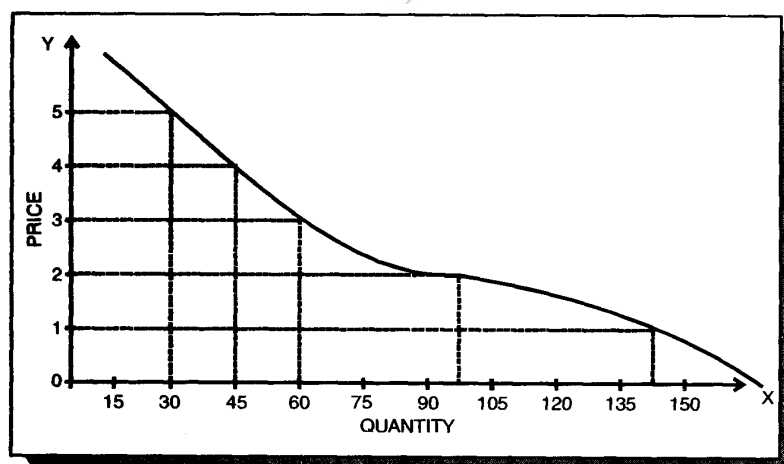


Fig. 2

Rationale for the Law of Demand or Why does demand curve slope downwards'?

- (1) **Law of diminishing marginal utility** : According to Marshall people will buy more quantity at lower price because they want to equalize the marginal utility of the commodity and its price. So a rational consumer will not pay more for lesser satisfaction. He is induced to buy additional units in order to maximize his satisfaction or utility. The diminishing marginal utility and equalizing it with the price is the cause for the downward sloping demand curve.
- (2) **Income Effect** : When the price of a commodity falls, the consumer can buy the same quantity of the commodity with lesser money or he can buy more of the same commodity with the same money. In other words, as a result of fall in the price of the commodity, consumer's real income or purchasing power increases. 'This increase in the real income induces him to buy more of that commodity. Thus, demand for that commodity (whose price has fallen) increases. **This is called income effect.**
- (3) **Substitution effect** : Hicks and Allen have explained the law in terms of substitution effect and income effect. When the price of a commodity falls, it becomes relatively cheaper than other commodities. It induces consumers to substitute the commodity whose price has fallen for other commodities which have now become relatively expensive. The result is that the total demand for the commodity whose price has fallen increases. This is called substitution effect.

According to Prof. Hicks when the price of a commodity decreases the quantity demanded of the commodity increases. This is known as price effect. Thus, What is law of demand according to Marshall is the price effect according to Hicks. This price effect is the combination of the substitution effect and the income effect described above.

- (4) **Arrival of new consumers** : When the price of a commodity falls, more consumers start buying it because some of those who could not afford to buy it previously may now afford to buy it. This raises the number of consumers of a commodity at a lower price and hence the demand for the commodity in question.
- (5) **Different uses** : Certain commodities have multiple uses. If their prices fall they will be used for varied purposes and demand for such commodities will increase. When the price of such commodities are high, rises they will be put to limited uses only. Thus, different uses of a commodity make the demand curve slope downwards reacting to changes in price.

Exceptions to the Law of Demand : According to the law of demand other things being equal more of a commodity will be demanded at lower prices than at higher prices . The law of demand is valid in most of the cases. However there are certain cases where this law does not hold good. The following are the important exceptions to the law of demand.

- (i) **Conspicuous goods** : Some consumers measure the utility of a commodity by its price i.e., if the commodity is expensive they think that it has got more utility. As such, they buy less of this commodity at low price and more of it at high price. Diamonds are often given as example of this case. Higher the price of diamonds, higher is the prestige value attached to them and so higher is the demand for them. The law of demand does not apply to the prestige goods.
- (ii) **Giffen goods** : Sir Robert Giffen, an economist, was surprised to find out that as the price of bread increased, the British workers purchased more bread and not less of it. This was something against the law of demand. The reason given for this is that when the price of bread went up it caused such a large decline in the purchasing power of the poor people that they were forced to cut down the consumption of meat and other more expensive foods. Since bread even when its price was higher than before was still the cheapest food article, people consumed more of it and not less when its price went up.

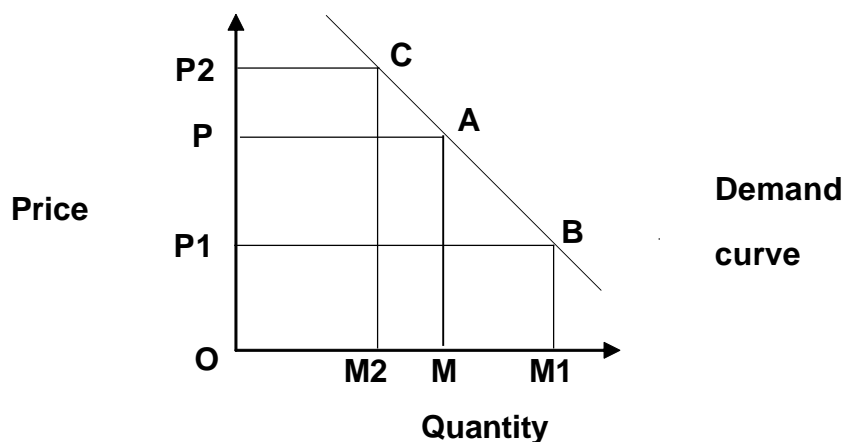
Such goods which show direct price-demand relationship are called 'Giffen goods'. Generally those goods which are considered inferior by the consumers and which occupy a substantial place in consumer's budget are called 'Giffen goods'. Examples of such goods are coarse grains like bajra, low quality rice and wheat etc.

- (iii) **Conspicuous necessities** : The demand for certain goods is affected by the demonstration effect of the consumption pattern of a social group to which an individual belongs. These goods, due to their wide use, have become necessities of life. For example in spite of the fact that the prices of television sets, refrigerators, coolers, cooking gas etc. have been continuously rising, their demand does not show any tendency to fall.
- (iv) **Irrationality of buyers** : The law has been derived assuming consumers to be rational and knowledgeable about market-conditions. However, at times consumers behave in an irrational manner and make impulsive purchases without any cool calculations about price and usefulness of the product. So in such cases the law of demand fails.
- (v) **Habit forming products** : Even when the price of habit forming products like cigarettes, tobacco, and alcohol increases, those who are addicted are not in a position to reduce the demand.
- (vi) **Misconceptions in the minds of the consumers** : Some times consumers believe that high price means good quality and low price means inferior quality. As a result they buy more at a higher price and less at a lower price. This is contrary to the law of demand.
- (vii) **Speculative goods** : In the speculative market, particularly in the market for stocks and shares, more will be demanded when the prices are rising and less will be demanded when prices decline.

⇒ Expansion and Contraction of demand

There is a difference between the expansion or extension and contraction **and** increase and decrease in demand.

According to the law of demand when the price of a commodity decreases its quantity demanded increases. This result is known as expansion of demand. On the other hand, when the price of the commodity goes up its quantity demanded decreases. This is known as contraction of demand. These are shown in the following diagram.



Here we can see that when the price of the product falls from OP to OP_1 the quantity demanded increases from OM to OM_1 . This is extension of demand. The movement from A to B shows the expansion of demand. Likewise when the price rises from OP to OP_2 the quantity demanded falls from OM to OM_2 . This is known as contraction of demand. Thus, the movement from A to C is known as contraction of demand.

Two important points may be noted in this context.

1. The extension and contraction are related to price changes.
2. They are the movements of buyers on the same demand curve.

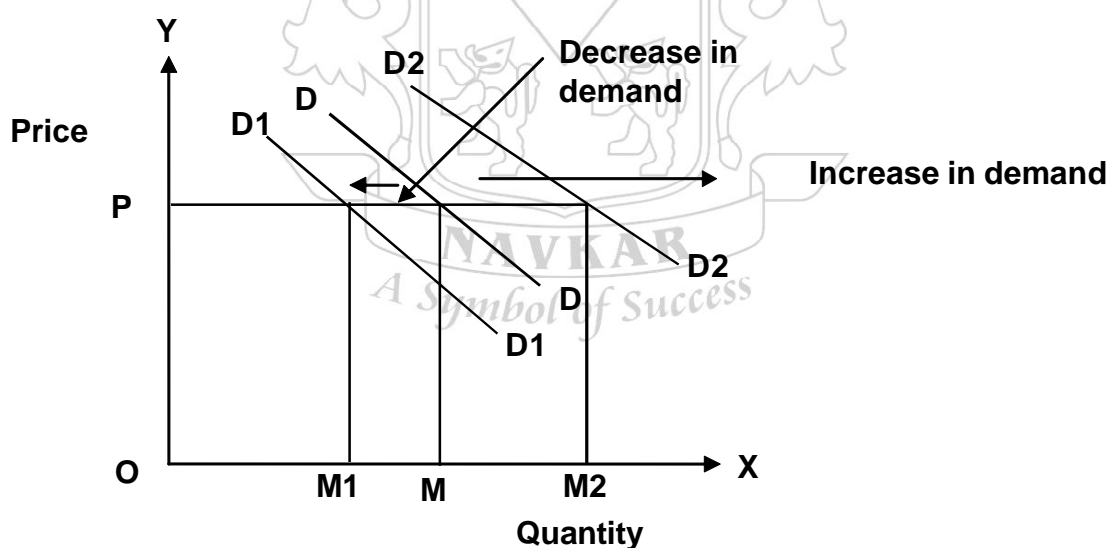
Increase and Decrease In Demand : Now let us see the meaning of an increase and decrease in demand.

The increase in demand can be said to have taken place when the price of the product remaining constant, its quantity demanded increases due to other various factors, e.g. increase in the no. of the buyers, favourable changes in the tastes and preferences of buyers, increase in the prices of substitutes and decrease in the prices of the complementary goods or due to an increase in exports or in the future prices etc.

When the increase in the demand takes place, the entire demand curve shifts to the right hand side.

On the other hand decrease in demand can be said to have taken place when the quantity demanded of the product decreases at the same price due to the factors like decrease in population, a decrease in the income of the buyers, an unfavourable change in the tastes and preferences of buyers of the product, decrease in exports, decrease in the prices of substitutes, increase in the prices of complementary goods etc.

When decrease in the demand takes place, the entire demand curve shifts to the left hand side.



In the above diagram, we can see that the price is constant at the level OP . Now, when the demand curve shifts to the right hand side and becomes D_2 the demand for the product increases from OM to OM_2 . This is known as increase in demand, On the other hand when the demand becomes OM_1 from OM it is known as decrease in demand. Here the demand curve for the product shifts to the left hand side.

Thus two points are to be noted in connection with the increase and decrease in demand.

1. They are related to the factors other than the changes in price of the product.
2. When increase in demand takes place, the entire demand curve shifts to the right hand side and when there is a decrease in demand the entire demand curve shifts to the left hand side.

The following table would help you to understand the factors affecting changes in demand.

When would an increase in demand take place ?

1. When number of buyers increases.
2. When income of the buyers increases.
3. When the buyers develop a preference for the product
4. When exports increase
5. When prices of substitutes go up
6. When prices of complements fall
7. When future prices are expected to rise

When would a decrease in demand take place ?

1. When number of buyers decreases.
2. When income of the buyers decreases.
3. When an unfavourable change in buyer's preferences takes place.
4. When exports decrease
5. When prices of substitutes fall
6. When prices of complements rise.
7. When future prices are expected to fall.

Thus, expansion and contraction are the changes in quantity demanded and they are movements along a demand curve. On the other hand the increase and decrease in demand are the changes in demand and they show either a right hand side or a left hand side movement of the demand curve itself.

➔ Price elasticity of demand and its types

According to the law of demand there is an inverse relationship between price and quantity demanded. However the law does not tell us anything about the proportion in which the demand would change as a result of a given change in price. This idea is given by the concept of Elasticity of Demand. The **elasticity of demand is a quantitative statement.**

Elasticity Of Demand Or Price Elasticity Of Demand.

According to Marshall, the elasticity of demand measures the responsiveness of demand to price changes. Greater the responsiveness of demand to price changes, greater is said to be elasticity of demand.

Definition :

Elasticity of demand or price elasticity of demand for a commodity can be defined as the number or numerical coefficient which shows that by how many times the percentage change in quantity demanded is greater than the percentage change in price, or it is the measure of the ratio of percentage change in quantity demanded of a commodity and the percentage change in the price of the commodity.

E.g. If the price of a commodity falls by 10% and its quantity demanded rises by 30%, then the elasticity of demand for the commodity can be said to 3 : **(Ed is always negative because price and quantity demanded are inversely related but the sign of minus (-) is ignored in the real practice.)**

According to Marshall,

$$Ed = \frac{\% \text{ change in quantity demanded}}{\% \text{ Change in price}}$$

$$\begin{aligned} \text{Here Ed} &= \frac{30\%}{10\%} \\ &= 3 \end{aligned}$$

Types of Ed :

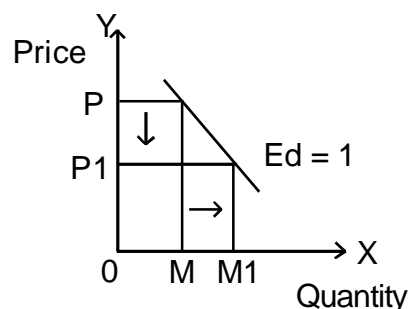
On the basis of differences in the elasticities the Ed can be divided in to five categories.

A. Ed = 1 = Unity or Unit elasticity of demand. OR Unitary Elastic Demand.

When the % change in quantity demanded is equal to % change in price, the demand is said to be unitary elastic see the following case.

Example :

Price	Qd
10	100
<u>8</u>	<u>120</u>
20%	20%
decrease	increase
in price	in quantity demanded

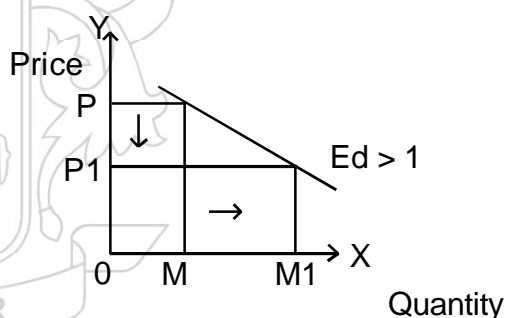


B. ED > 1 or elastic demand :

When the % change in quantity demanded is greater than the % change in price, the elasticity of demand, can be said to be greater than one or the demand is said to be elastic.

Example :

Price	Qd
10	100
<u>8</u>	<u>140</u>
20%	40%
decrease	increase
in price	in quantity demanded

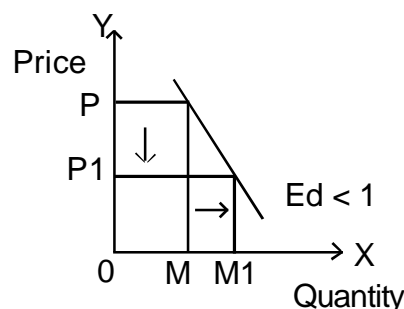


C. ED < 1 or inelastic demand :

When % change in the quantity demanded is smaller than the % change in price, the demand is said to be inelastic.

Example :

Price	Qd
10	100
<u>8</u>	<u>110</u>
20%	10%
decrease	increase
in price	in quantity demanded

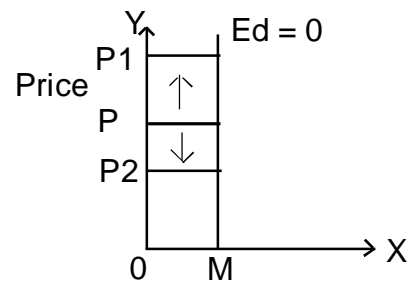


D. Ed = 0 or Perfectly Inelastic Demand :

When the quantity demanded remains constant irrespective of the price change, the demand is said to be perfectly inelastic.

Example :

Price	Qd
10	100
8	100
12	100



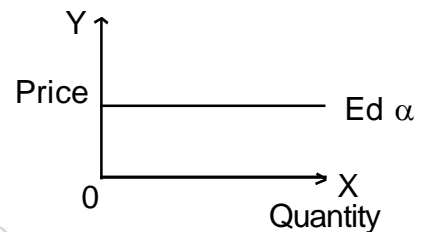
E. Infinitely or Perfectly Elastic Demand :

When even a minor change in price brings about an unlimited change in quantity demanded, the demand is said to be perfectly elastic.

Example

The following diagram gives an idea about this type of elasticity.

Price	Qd
10	0
9	a (infinity)



In real practice the unitary elastic demand, and the perfectly elastic and the perfectly inelastic demand are rarely found. We come across either an elastic demand or an inelastic demand. **The demand is said to be elastic when even a minor change in price brings about a substantial change in quantity demanded. Conversely the demand is said to be inelastic when even a major change in price brings about very little changes in quantity demanded.**

➔ **Measurement of price elasticity of demand**

Price Elasticity : Price elasticity of demand expresses the response of quantity demanded of a good to a change in its price, given the consumer's income, his tastes and prices of all other goods. There are four methods of measuring the elasticity of demand. The most popular is what is known as Marshallian method or percentage method. Here,

1. Percentage method of Marshall

$$\text{Price Elasticity} = E_p = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in Price}}$$

Or

$$E_p = \frac{\text{Change in Quantity}}{\text{Original Quantity}} \times \frac{\text{Original Price}}{\text{Change in Price}}$$

Or in symbolic terms

$$E_p = \frac{-\Delta q}{q} \times \frac{P}{\Delta P} = \frac{-\Delta q}{\Delta p} \times \frac{P}{q}$$

Where E_p stands for price elasticity

q stands for quantity

p stands for price

Δ stands for a very small change.

Strictly speaking the value of price elasticity varies from minus infinity to approach zero from the negative sign, because $\frac{-\Delta q}{\Delta p}$ has a negative sign. In other words, since price and quantity are inversely related (with a few exceptions) price elasticity is negative. But for the sake of convenience, we ignore the negative sign and consider only the numerical value of the elasticity.

2. Point elasticity: In point elasticity, we measure elasticity at a given point on a demand curve.

Point elasticity makes use of derivative rather than finite changes in price and quantity. It may be defined as :

$$\frac{-dq}{dp} \times \frac{p}{q}$$

is the derivative of quantity with respect to price at a point on the demand curve, and p and q are the price and quantity at that point.

It is to be noted that elasticity is different at different points on the same demand curve. Given a straight line demand curve tT, point elasticity at any point say R can be found by using the formula

$$\text{Elasticity of demand} = \frac{\text{RT lower segment}}{\text{Rt upper segment}}$$

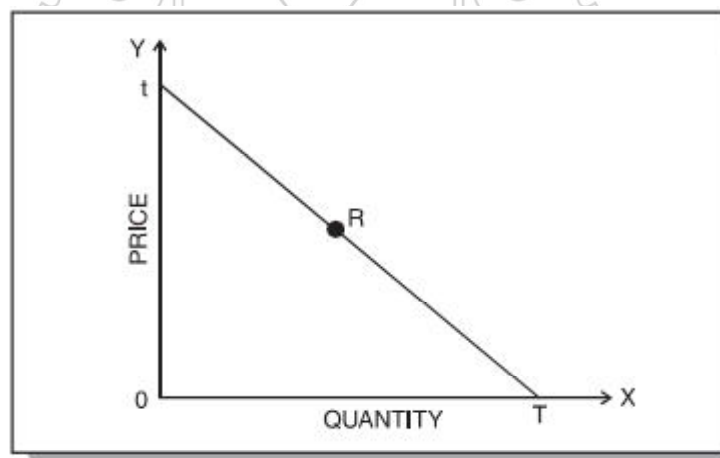


Fig. 6 : Elasticity at a point on the demand curve

Using the above formula we can get elasticity at various points on the demand curve.

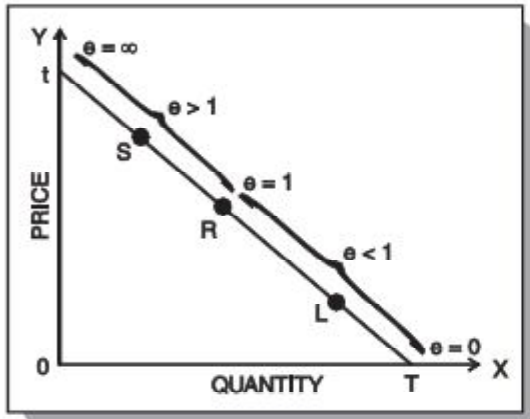


Fig.: 6(a) : Elasticity at different points on the demand curve

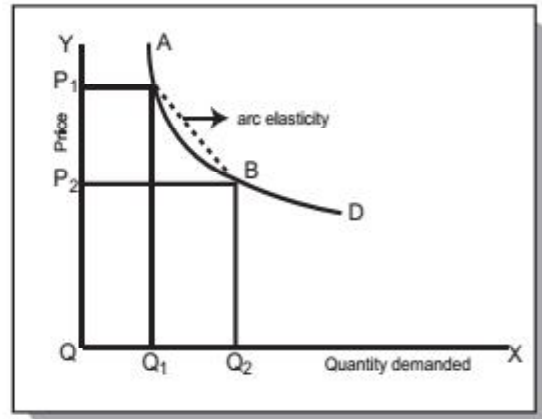
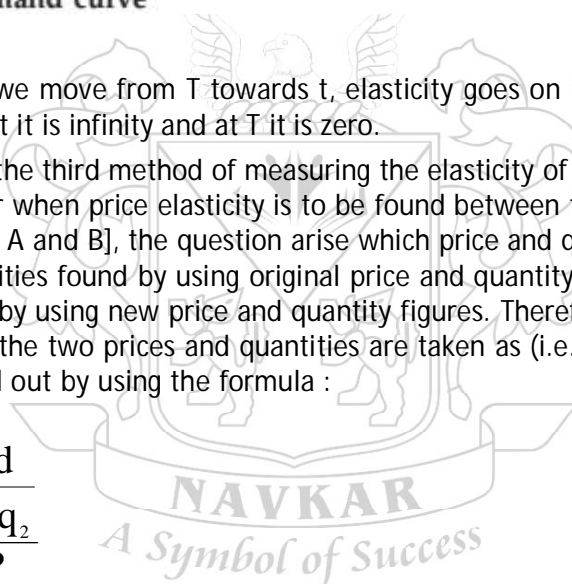


Fig. 7 : Arc Elasticity

Thus, we see that as we move from T towards t, elasticity goes on increasing. At the mid-point it is equal to one, at point t it is infinity and at T it is zero.

Arc-elasticity : This is the third method of measuring the elasticity of demand. When the price change is some what larger or when price elasticity is to be found between the two 'prices [or two points on the demand curve say A and B], the question arise which price and quantity should he taken as base. This is because elasticities found by using original price and quantity figures as base will be different from the one derived by using new price and quantity figures. Therefore, in order to avoid confusion, generally averages of the two prices and quantities are taken as (i.e. original and new) base. The arc elasticity can he found out by using the formula :

$$Ed = \frac{\Delta qd}{\frac{q_1 + q_2}{P_1 + P_2}}$$



where p1, q1 are the original price and quantity and p2. q2 are the new ones. Thus if we have to find elasticity of radios between

p1 = ` 500	q1 = 100
p2 = ` 400	q2 = 150

We will use the formula

$$\text{or } Ep = \frac{50}{250} \times \frac{900}{100} \quad \text{Or } Ep = 1.8$$

4. **Total outlay or Total expenditure method** : This is the fourth method of measuring the elasticity of demand.

A. According to this method the demand is said to be inelastic when total expenditure on a product increases with increase in price and decreases with a decrease in price. See the following case.

Price	Quantity demanded	Total outlay
10	100	1000
15	80	1200
6	150	900

B. According to this method, the demand is said to be elastic when total expenditure on a product increases with a decrease in price and decreases with an increase in price. See the following case.

Price	Quantity demanded	Total outlay
10	100	1000
15	60	900
6	200	1200

C. According to this method, the demand is said to be unitary elastic when the total expenditure on a product remains constant irrespective of price change.

Price	Quantity demanded	Total outlay
10	120	1200
8	150	1200
15	80	1200

However method does not give exact measurement of elasticity of demand.

The following table would help you to understand the various concepts of price elasticity more clearly.

Elasticity measures, meaning and nomenclature

Numerical measure of elasticity	Verbal description	Terminology
Zero inelastic elastic	Quantity demanded does not changes as price changes	Perfectly (or completely) Inelastic
Greater than zero, but less than one	Quantity demanded changes by a smaller percentage than does price	Inelastic
One	Quantity demanded changes by exactly the same percentage as does price	Unit elasticity
Greater than one but less than infinity Infinity	Quantity demanded changes by a larger percentage than does price Purchasers are prepared to buy all they can obtain at some price and none at all at an even slightly higher price	Elastic Perfectly (or infinitely) elastic

Factors affecting elasticity the price elasticity of demand

Price elasticity of demand for a commodity can be defined as the measure of the ratio of percentage change in quantity demanded and percentage change in price of a commodity. There are many factors which affect the price elasticity. They are known as determinants of elasticity of demand.

Determinants of Price Elasticity of Demand :

- (1) **Nature of commodity** : For all basic needs such as milk, food, electricity, telephone, medicines etc. the demand is inelastic. While for various comforts such as Washing machine, Refrigerators, etc. the demand is elastic.
- (2) **Availability of substitutes** : One of the most important determinants of elasticity is the degree of availability of close substitutes. Some commodities like butter, cabbage, Maruti, Coca Cola, have close substitutes — margarine, other green vegetables, Santro or other cars, Pepsi or any other cold drink. A change in price of these commodities, the prices of the substitutes remaining constant, can be expected to cause quite substantial substitution— a fall in price leading consumers to buy more of the commodity in question and a rise in price leading consumers to buy more of the substitutes.
- (3) **Position of a commodity in a consumer's budget** : The greater the proportion of income spent on a commodity, generally the greater will be its elasticity of demand and vice-versa. The demand for goods like common salt, matches, buttons, etc. tend to be highly inelastic because a household spends only a fraction of its income on each of them. On the other hand, demand for goods like clothing, tends to be elastic as households generally spend a good part of their income on clothing.
- (4) **Storable or Perishable** : If product is storable e.g. soaps then the demand for it would be elastic. The buyers would buy more of them and stock them at a low price. On the other hand the demand for perishable goods like green vegetables, milk, curd etc. would be inelastic because they can not be stored for a long period.
- (5) **Number of uses to which a commodity can be put** : The more the possible uses of a commodity the greater will be its price elasticity and vice versa. To illustrate, milk has several uses. If its price falls, it can be used for a variety of purposes like preparation of curd, cream, ghee and sweets. But if its price increases, its use will be restricted only to essential purposes like feeding the children and sick persons.
- (6) **The duration of time period** : The longer the time period one has, the more completely one can adjust. A homely example of the effect can be seen in motoring habits. In response to a higher petrol price, one can, in the short run, make fewer trips by car. In the longer run not only can one make fewer trips but he can purchase a car with a smaller engine capacity when the time comes for replacing the existing one. Hence one's demand for cars falls by a larger amount when one has made long term adjustment to higher prices.
- (7) **Consumer habits** : If a consumer is a habitual consumer of a commodity no matter how much its price change, the demand for the commodity will be inelastic.
- (8) **Tied demand** : The demand for those goods which are tied to others is normally inelastic as against those whose demand is of autonomous nature. For example, the demand for car batteries. Even if the price of the batteries goes up, the car-owners will have to buy them to run their cars.
- (9) **Price range** : Goods which are in very high range or in very low price range have inelastic demand but those in the middle range have elastic demand.
- (10) **Unavoidability of consumption** : There are many goods whose consumptions can not be postponed to some future date even when their prices are high. For example life-saving medicines. They are to be purchased compulsorily even at high prices. Naturally the demand for them is found to be inelastic.

Income Elasticity of Demand : Income elasticity of demand is the degree of responsiveness of quantity demanded of a goods to a small change in the income of consumers. In symbolic form,

$$E_1 = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$$

There is a useful relationship between income elasticity for a goods and proportion of income spent on it. The relationship between the two is described in the following propositions:

1. **If the percentage change in quantity demanded is smaller than the percentage change in income then income elasticity for the goods is less than one. Such goods are known as necessities.**
2. **If the percentage change in quantity demanded is greater than the percentage change in income then the income elasticity for the goods is greater than one. Such goods are known as luxury goods.**
3. **If there is inverse relationship between the percentage changes in income and the percentage change in the quantity demanded of a commodity the income elasticity of demand is said to be negative.**
4. **If the percentage change in quantity demanded is the same as the percentage change in income then income elasticity for the goods is equal to one.**
5. **If there is no change in quantity demanded in response to the changes in income then the income elasticity of demand is said to be zero.**

Important points in relation to income elasticity of demand :

The following examples will make the above concepts clear :

- (a) The income of a household rises by 10%, the demand for wheat rises by 5%.
- (b) The income of a household rises by 10%, the demand for T.V. rises by 20%.
- (c) The incomes of a household rises by 5%, the demand for bajra falls by 2%.
- (d) The income of a household rises by 7%, the demand for commodity X rises by 7%.
- (e) The income of a household rises by 5%, the demand for buttons does not change at all.

Using formula for income elasticity,

$$\text{i.e. } E_1 = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$$

we will find income-elasticity for various goods. The results are as follows

Sr. No.	Commodity	Income-elasticity for the	Remarks
a	Wheat	$\frac{5\%}{10\%} = .5$	since $0 < .5 < 1$, wheat is a normal good and fulfills a necessity.
b	T.V	$\frac{20\%}{10\%} = 2$	since $2 > 1$, T.V is a luxurious commodity
c	Bajra	$\frac{(-)2\%}{5\%} = (-).4$	since $-4 < 0$, Bajra is an inferior commodity in the eyes of household.
d	X	$\frac{7\%}{7\%} = 1$	since income elasticity is 1, X has unitary income elasticity.
e	Buttons	$\frac{0\%}{5\%} = 0$	Buttons have zero income-elasticity.

It is to be noted that the words luxury, necessity, inferior goods do not signify strict dictionary meanings here. In economic theory we distinguish them in the manner shown above.

Cross elasticity of demand & its types

The cross elasticity of demand shows the relationship between the percentage change in quantity demanded of a commodity X with reference to the percentage change in price of some other commodity Y. The formula for finding out the cross elasticity of demand is as follows :

$$EC = \frac{\Delta q_x}{\Delta p_y} \times \frac{P_y}{q_x}$$

Where E_c stands for cross elasticity.

q_x stands for original quantity demanded of X

Δq_x stands for change in quantity demanded of X

P_y stands for the original price of good Y.

Δp_y stands for a small change in the price of Y.

The following are various types of cross elasticity of demand.

1. **When two goods are ordinary substitutes then the cross elasticity of demand would be positive.** For example, Tea and Coffee are substitutes. When there is an increase in the price of tea the consumers would buy less of tea and more of coffee. Conversely when the price of tea falls people would buy more of tea and less of coffee. Thus there is a direct relationship between the changes in the price of tea and the quantity demanded of coffee.

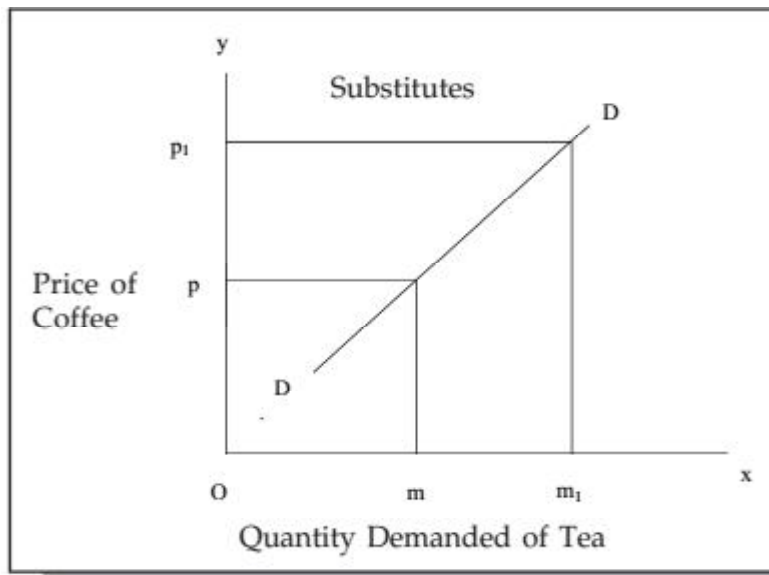


Fig. 9 : Substitutes

- When two goods are complements then the cross elasticity of demand would be negative.** For example, Car and Petrol. When the price of car increases the demand for the cars would decrease and there would also be a decrease in the quantity demanded of petrol. Likewise when there is decrease in the price of the car the demand for cars would increase and also there would be an increase in the quantity demanded of petrol. Thus there is an inverse relationship between the changes in the price of the car and the quantity demanded of the petrol.

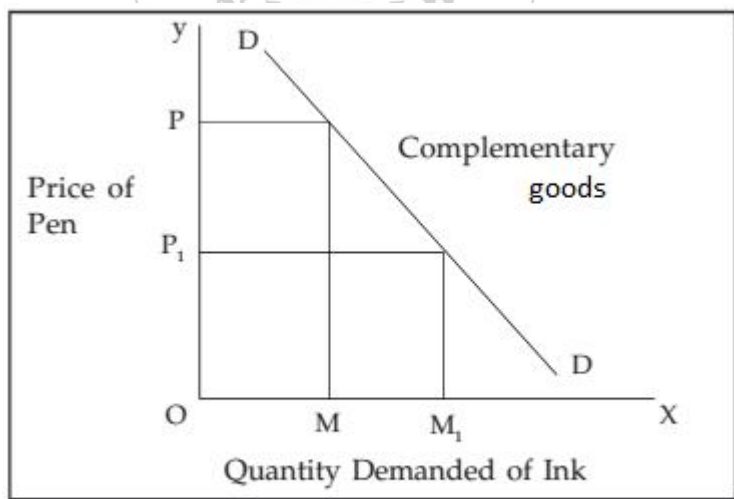


Fig. 10 : Complementary Goods

3. **When two goods are independent goods the cross elasticity of demand would be zero.** For example, Scooter and Television. The changes in the price of any one commodity does not produce any change in the quantity demanded of the other commodity.
4. **When two goods are perfect substitutes then the cross elasticity of demand would be positive infinity.** For example, Petrol of Reliance and Petrol of Hindustan petroleum. Even a minor increase in the price of any one petrol would render the demand for that petrol to zero and would bring about an infinite increase in the demand for other petrol and even a minor decrease in the price of any one petrol would bring about an infinite increase in the demand for that petrol and would render the demand for the other petrol to zero.
5. One special point should be remembered. Suppose that X and Y are substitutes but X is an inferior commodity (Giffin good) and Y is a normal commodity, then if the price of X decreases people would buy less of X and more of Y. Conversely when the price of X rises the demand for X would go up and that for Y would decrease. **Here the cross elasticity of demand would be negative even though the two goods are substitutes.**

➔ Advertisement Elasticity

Meaning: Advertisement elasticity of demand (sales) or promotional elasticity of demand is the responsiveness of a good's demand to changes in firm's spending on advertising.

The advertising elasticity of demand measures the percentage change in demand that occurs given a one percent change in advertising expenditure. Advertising elasticity measures the effectiveness of an advertisement campaign in bringing about new sales.

Advertising elasticity of demand is generally positive.

Higher the value of advertising elasticity greater will be the responsiveness of demand to change in advertisement. Advertisement elasticity varies between zero and infinity.

Formula of Aed:

It is measured by using the formula;

$$E_a = \frac{\% \text{ Change in demand}}{\% \text{ change in spending on advertising}}$$

$$E_a = \frac{A_{qd} / Q_a}{AA / A}$$

Where

- "Qd denotes change in demand.
- "A denotes change in expenditure on advertisement.
- Qd denotes initial demand.
- A denotes initial expenditure on advertisement

Advertisement Elasticity Interpretation

- | | |
|----------------|---|
| Ea = 0 | Demand does not respond to increase in advertisement expenditure |
| Ea > 0 but < 1 | Change in demand is less than proportionate to the change in advertisement expenditure. |
| Ea = 1 | Demand changes in the same proportion in which advertisement expenditure changes. |
| Ea > 1 | Demand changes at a higher rate than change in advertisement expenditure. |

As far as a business firm is concerned, the measure of advertisement elasticity is useful in understanding the effectiveness of advertising and in determining the optimum level of advertisement expenditure

➔ DEMAND DISTINCTIONS

Certain important demand distinctions are as follows:

- a. Producers' goods and Consumer's goods
- b. Durable goods and Non-durable goods
- c. Derived demand and Autonomous demand
- d. Industry demand and Company demand
- e. Short-run demand and Long-run demand

a. **Producer's goods and Consumer's goods:**

Producer's goods are those which are used for the production of other goods- either consumer goods or producer goods themselves. Examples of such goods are machines, locomotives, ships etc. Consumer's goods are those which are used for final consumption. Examples of consumer's goods can be readymade clothes, prepared food, residential houses, etc.

b. **Durable goods and Non-durable goods:**

Consumer's goods may be further sub-divided into durable and non-durable goods. The non-durable consumer goods are those which cannot be consumed more than once; for example bread, milk etc. These will meet only the current demand. On the other hand, durable consumer goods are those which can be consumed more than once over a period of time, example, a car, a refrigerator, a ready-made shirt, and umbrella. The demand for durable goods is likely to be a derived demand.

c. **Derived demand and Autonomous demand :**

When a product is demanded consequent on the purchase, of a parent product, its demand is called derived demand. For example, the demand for cement is derived demand, being directly related to building activity. If the demand for a product is independent of demand for other goods, then it is called autonomous demand. But this distinction is purely arbitrary and it is very difficult to find out which product is entirely independent of other products.

d. **Industry demand and Company demand :**

The term industry demand is used to denote the total demand for the products of a particular industry, e.g. the total demand for steel in the country. On the other hand, the term company demand denotes the demand for the products of a particular company, e.g. demand for steel produced by the Tata Iron and Steel Company.

e. **Short —run demand and Long-run demand :**

Short run demand refers to demand with its immediate reaction to price changes, income fluctuations, etc., whereas long-run demand is that which will ultimately exist as a result of the changes in pricing, promotion or product improvement, after enough time is allowed to let the market adjust to the new situation. For example, if electricity rates are reduced, in the short run, the existing users will make greater use of electric appliances. In the long run more and more people will be induced to use electric appliances.

➔ **Factors affecting demand for non-durable consumer goods:** There are three basic factors which influence the demand for these goods:

- (i) **Consumer's disposable income:** Other things being equal, the demand for a commodity depends upon the disposable income of the household. Disposable income is found out by deducting personal taxes from personal income. There is a positive relation between disposable income and demand for non-durable products.

- (ii) **Prices:** Other things being equal, the demand for a commodity depends upon its own price and the prices of related goods (its substitutes and complements). While the demand for a good is inversely related to its own price and the price of its complements, it is positively related to the price of its substitutes.
- (iii) **Demographic factors:** This involves the characteristics of the population, human as well as non-human, using the product concerned. For example, it may pertain to the **number and characteristics of children in a study of demand for toys** and **characteristics of automobiles** in a study of the **demand for tyres or petrol**.

Non-durables are purchased for current consumption only. From a business firm's point of view, demand for non-durable goods gets repeated depending on the nature of the non durable goods. Usually, non durable goods come in wide varieties and there is competition among the sellers to acquire and retain customer loyalty.

Factors affecting the demand for durable-consumer goods:

Demand for durable goods has certain special characteristics. Following are the important factors that affect the demand for durable goods.

- (i) A consumer can postpone the replacement of durable goods. Whether a consumer will go on using the good for a long time or will replace it depends upon factors like his **social status, prestige, level of money income, rate of obsolescence** etc.
- (ii) These goods require **special facilities** for their use e.g. **roads for automobiles**. The existence and growth of such factors is an important variable that determines the demand for durable goods
- (iii) As consumer durables are used by more than one person, the decision to purchase may be influenced by **family characteristics** like income of the family, size, age distribution and sex composition. Likely changes in the number of households should be considered while determining the market size of durable goods.
- (iv) Replacement demand is an important component of **the total demand for durables. Greater the current holdings of durable goods, greater will be the replacement demand.**
- (v) Demand for consumer durables is very much influenced by their **prices and credit facilities available to buy them.**

Factors affecting the demand for producer goods: Since producers' goods or capital goods help in further production, the demand for them is derived demand, derived from the **demand of consumer goods they produce**. The demand for them depends upon **the rate of profitability** of user industry and **the size of the market of the user industries**. Hence data required for estimating demand for producer goods (capital goods) are:

- (i) Growth prospects of the user industries;
- (ii) Norms of consumption of capital goods per unit of installed capacity.
- (iii) An increase in the price of a substitutable factor of production, say labour, is likely to increase the demand for capital goods. On the contrary, an increase in the price of a factor which is complementary may cause a decrease in the demand for capital.
- (iv) Higher the profit making prospects, greater will be the inducement to demand capital goods. If firms are optimistic about selling a higher output in future, they will have greater incentive to invest in producer goods.
- (v) Advances in technology enabling higher efficiency at reduced cost on account of higher productivity of capital will have a positive impact on investment in capital goods.
- (vi) Investments in producer goods will be greater when lower interest rates prevail as firms will have lower opportunity cost of investments and lower cost of borrowing.

➤ DEMAND FORECASTING

Meaning : Forecasting of demand is the art and science of predicting the probable demand for a product or a service at some future date on the basis of certain past behaviour patterns of some related events and the prevailing trends in the present. It should be kept in mind that demand forecasting is no simple guessing, but it refers to estimating demand scientifically and objectively on the basis of certain facts and events relevant to forecasting.

Usefulness

- i. Good forecasts help in efficient production planning, process selection, capacity planning, facility layout and inventory management.
- ii. A firm can plan production scheduling well in advance and obtain all necessary resources for production such as inputs, and finances.
- iii. Capital investments can be aligned to demand expectations and this will check the possibility of overproduction and underproduction, excess of unused capacity and idle resources.
- iv. Marketing relies on sales forecasting in making key decisions. Demand forecasts also provide the necessary information for formulation of suitable pricing and advertisement strategies.

Scope of Forecasting

- i. Demand forecasting can be at the international level depending upon the area of operation of the given economic institution.
- ii. It can also be confined to a given product or service supplied by a small firm in a local area.
- iii. The scope of the forecasting task will depend upon the area of operation of the firm in the present as well as what is proposed in future.
- iv. Much would depend upon the cost and time involved in relation to the benefits of the information acquired through the study of demand. The necessary trade-off has to be struck between the cost of forecasting and the benefits owing from such forecasting.

➤ Types of forecasts

1. Macro, Industry and Firm Level:

- i. Macro-level forecasting deals with the general economic environment prevailing in the economy as measured by the Index of Industrial Production (IIP), national income and general level of employment etc.
 - ii. Industry- level forecasting is concerned with the demand for the industry's products as a whole. For example, demand for cement in India.
 - iii. Firm- level forecasting refers to forecasting the demand for a particular firm's product, say, the demand for ACC cement.
2. Based on time period, demand forecasts may be short-term demand forecasting and long-term demand forecasting.
- (i) Short-term demand forecasting covers a short span of time, depending of the nature of industry. It is done usually for **six months or less than one year** and is generally useful in tactical decisions.
 - (ii) Long-term forecasts are for longer periods of time, **say two to five years and more**. It provides information for major strategic decisions of the firm such as expansion of plant capacity.

Methods of demand Forecasting

There is no easy method or simple formula which enables an individual or a business to predict the future with certainty or to escape the hard process of thinking. The firm has to apply a proper mix of

judgment and scientific formulae in order to correctly predict the future demand for a product. The following are the commonly available techniques of demand forecasting:

- i. **Survey of Buyers' Intentions:** The most direct method of estimating demand in the short run is to ask customers what they are planning to buy during the forthcoming time period, usually a year. This method involves direct interview of potential customers. Depending on the purpose, time available and costs to be incurred, the survey may be conducted by any of the following methods:
 - a) Complete enumeration method where nearly all potential customers are interviewed about their future purchase plans
 - b) Sample survey method under which only a scientifically chosen sample of potential customers are interviewed
 - c) End-use method, especially used in forecasting demand for inputs, involves identification of all final users, fixing suitable technical norms of consumption of the product under study, application of the norms to the desired or targeted levels of output and aggregation.

Thus, under this method the burden of forecasting is put on the customers. However, it would not be wise to depend wholly on the buyers' estimates and they should be used cautiously in the light of the seller's own judgment. A number of biases may creep into the surveys.

The customers may themselves misjudge their requirements, may mislead the surveyors or their plans may alter due to various factors which are not identified or visualized at the time of the survey.

This method is useful when bulk of sale is made to industrial producers who generally have definite future plans.

In the case of household customers, this method may not prove very helpful for several reasons viz. irregularity in customers' buying intentions, their inability to foresee their choice when faced with multiple alternatives, and the possibility that the buyers' plans may not be real, but only wishful thinking.

- ii. **Collective opinion method:** This method is also known as sales-force opinion method or grass roots approach. Firms having a wide network of sales personnel can use the knowledge, experience and skills of the sales-force to forecast future demand. Under this method, salesmen are required to estimate expected sales in their respective territories. The rationale of this method is that salesmen being closest to the customers are likely to have the most intimate feel of the reactions of customers to changes in the market. These estimates of salesmen are consolidated to find out the total estimated sales. These estimates are reviewed to eliminate the bias of optimism on the part of some salesmen and pessimism on the part of others. These revised estimates are further examined in the light of factors like proposed changes in selling prices, product designs and advertisement programmes, expected changes in competition and changes in secular forces like purchasing power, income distribution, employment, population, etc. The final sales forecast would emerge after these factors have been taken into account.

Although this method is simple and based on first hand information of those who are directly connected with sales, it is subjective as personal opinions can possibly influence the forecast. Moreover salesmen may be unaware of the broader economic changes which may have profound impact on future demand. Therefore, forecasting could be useful in the short run, for long run analysis however, a better technique is to be applied.

- iii. **Expert Opinion method:** In general, professional market experts and consultants have specialized knowledge about the numerous variables that affect demand. This, coupled with their varied experience, enables them to provide reasonably reliable estimates of probable demand in future. Information is extracted from them through appropriately structured unbiased tools of data collection such as interviews and questionnaires.

The Delphi technique, developed by Olaf Helmer at the Rand Corporation of the USA, provides a useful way to obtain informed judgments from diverse experts by avoiding the disadvantages of conventional panel meetings. Under this method, instead of depending upon the opinions of buyers and salesmen, firms solicit the opinion of specialists or experts through a series of carefully designed questionnaires. 'Experts are asked to provide forecasts and reasons for their forecasts. Experts are provided with information and opinion feedbacks of others at different rounds without revealing the identity of the opinion provider. These opinions are then exchanged among the various experts and the process goes on until convergence of opinions is arrived at. This method is best suited in circumstances where difficult changes are occurring and the relevant knowledge is distributed among experts.' Delphi technique is widely accepted due to its broader applicability and ability to address complex questions. It also has the advantages of speed and cheapness.

iv. Statistical methods: Statistical methods have proved to be very useful in forecasting demand. Forecasts using statistical methods are considered as superior methods because they are more scientific, reliable and free from subjectivity. The important statistical methods of demand forecasting are:

(a) **Trend Projection method:** This method, also known as classical method, is considered as a 'naive' approach to demand forecasting. A firm which has been in existence for a reasonably long time would have accumulated considerable data on sales pertaining to different time periods. Such data, when arranged chronologically, yield a 'time series'. The time series relating to sales represent the past pattern of effective demand for a particular product. Such data can be used to project the trend of the time series. The trend projection method assumes that factors responsible for the past trend in demand will continue to operate in the same manner and to the same extent as they did in the past in determining the magnitude and direction of demand in future. The popular techniques of trend projection based on time series data are; i) graphical method and ii) Fitting trend equation or least square method.

i. Graphical Method: This method, also known as 'free hand projection method' is the simplest and least expensive. This involves plotting of the time series data on a graph paper and fitting a freehand curve to it passing through as many points as possible. The direction of the curve shows the trend. This curve is extended into the future for deriving the forecasts. The direction of this free hand curve shows the trend. The main draw-back of this method is that it may show the trend but the projections made through this method are not very reliable.

ii. Fitting trend equation: Least Square Method: It is a mathematical procedure for fitting a line to a set of observed data points in such a manner that the sum of the squared differences between the calculated and observed value is minimized. This technique is used to find a trend line which best fits the available data. This trend is then used to project the dependant variable in the future. This method is very popular because it is simple and inexpensive. Moreover, the trend method provides fairly reliable estimates of future demand. The least square method is based on the assumption that the past rate of change of the variable under study will continue in the future. The forecast based on this method may be considered reliable only for the period during which this assumption holds. The major limitation of this method is that it cannot be used where trend is cyclical with sharp turning points of troughs and peaks. Also, this method cannot be used for short term forecasts.

(b) **Regression analysis:** This is the most popular method of forecasting demand. Under this method, a relationship is established between the quantity demanded (dependent variable) and the independent variables (explanatory variables) such as income, price of the good, prices of related goods etc. Once the relationship is established, we derive regression equation assuming the relationship to be linear. The equation will be of the form $Y = a + bX$. There could also be a curvilinear relationship between the dependent and independent variables. Once the regression equation is derived, the value of Y i.e. quantity demanded can be estimated for any given value of X.

- (v) **Controlled Experiments:** Under this method, future demand is estimated by conducting market studies and experiments on consumer behaviour under actual, though controlled, market conditions. This method is also known as market experiment method. An effort is made to vary separately certain determinants of demand which can be manipulated, for example, price, advertising, etc., and conduct the experiments assuming that the other factors would remain constant. Thus, the effect of demand determinants like price, advertisement, packaging, etc., on sales can be assessed by either varying them over different markets or by varying them over different time periods in the same market. The responses of demand to such changes over a period of time are recorded and are used for assessing the future demand for the product. For example, different prices would be associated with different sales and on that basis the price-quantity relationship is estimated in the form of regression equation and used for forecasting purposes. It should be noted however, that the market divisions here must be homogeneous with regard to income, tastes, etc. The method of controlled experiments is used relatively less because this method of demand forecasting is expensive as well as time consuming. Moreover, controlled experiments are risky too because they may lead to unfavorable reactions from dealers, consumers and competitors. It is also difficult to determine what conditions should be taken as constant and what factors should be regarded as variable so as to segregate and measure their influence on demand. Besides, it is practically difficult to satisfy the condition of homogeneity of markets. Market experiments can also be replaced by 'controlled laboratory experiments' or 'consumer clinics' under which consumers are given a specified sum of money and asked to spend in a store on goods with varying prices, packages, displays etc. The responses of the consumers are studied and used for demand forecasting.
- (vi) **Barometric Method of Forecasting:** The various methods suggested till now are related with the product concerned. These methods are based on past experience and try to project the past into the future. Such projection is not effective where there are economic ups and downs. As mentioned above, the projection of trend cannot indicate the turning point from slump to recovery or from boom to recession. Therefore, in order to find out these turning points, it is necessary to find out the general behaviour of the economy. 'Just as meteorologists use the barometer to forecast weather, the economists use economic indicators to forecast trends in business activities'. This information is then used to forecast demand prospects of a product, though not the actual quantity demanded. For this purpose, 'an index of relevant economic indicators is constructed'. Movements in these indicators are used as basis for forecasting the likely economic environment in the near future. There are leading indicators, coincidental indicators and lagging indicators. The **leading** indicators move up or down ahead of some other series. For example, the heavy advance orders for capital goods give an advance indication of economic prosperity. The **lagging** indicators follow a change after some time lag. The heavy household electrical connections confirm the fact that heavy construction work was undertaken during the past with a lag of some time. The **coincidental** indicators, however, move up and down simultaneously with the level of economic activities. For example, rate of unemployment.



REMEMBER THE FOLLOWING POINTS :**Meaning and types of demand**

- The law of demand is a qualitative statement because it describes the quality of demand to change in response to change in price.
- Demand is an economic concept. It means the quantity purchased of a commodity at a given price per unit of time.
- If a given want can be satisfied using two alternative goods then the goods are known as substitutes for example tea and coffee, petrol and diesel.
- If the satisfaction of a given want requires two or more than two goods then they are known as complements. For example, Milk, Tea powder and Sugar.
- If a commodity is demanded for satisfying more than one want then the demand for the commodity is known as composite demand. For Example, plastic is demanded for producing furniture, domestic kitchenware etc.

Law of Demand :

- The law of demand describes the relationship between changes in the price of a commodity and changes in the quantity demanded of the commodity.
- Market demand is the sum total of the demand of all the individual consumers in the market at a given price and at a given point of time.
- When the quantity demanded decreases due to an increase in the price of commodity then it is known as contraction of demand and when the quantity demanded increases due to a decrease in the price of the commodity it is known as extension or expansion of demand. They are movements on the same demand curve and are the result of changes in the price of the commodity only.
- When the quantity demanded increases at the same price it is known as increase in demand and when the quantity demanded decreases at the same price it is known as decrease in demand. They are related to the factors other than the price of the commodity.
- When there is an increase in demand the demand curve shifts on the right hand side and when there is a decrease in demand the demand curve shifts to the left hand side. Thus the increase and the decrease in demand show the changes in the position of the demand curve.
- According to Marshall, the law of diminishing marginal utility is the basis of the law of demand.
- According to Hicks, law of demand can be given the name of price effect.
- Price effect is the combination is income effect and substitution effect.
- When prices of substitutes of a product X increase the demand for X increases and when the prices of the substitutes fall the demand for X decreases.
- When prices of complements of a product X increase the demand for X decreases and when the prices of the complements fall the demand for X increases.
- If incomes are unequally distributed the demand is generally less and when incomes are equally distributed the demand is more.
- When price of a commodity falls people purchase more of the commodity in place of the other substitutes. This is known as substitution effect.

- When price of a commodity falls the consumers can buy more of the commodity with the same income. This is known as income effect.
- When there are changes in the price of a commodity the quantity demanded of the commodity also changes. According to Hicks this is known as price effect.
 - ⇒ The price effect is the combination of the income effect and the substitution effect.
 - ⇒ Conspicuous goods are those goods where people think that they have more utility because they are more expensive.
 - ⇒ Giffen goods are those goods in whose case the quantity demanded increases when their price increases and the quantity demanded decreases when the price decreases. This is known as Giffen paradox. Here there is a direct relationship between price and quantity demanded. The demand curve for such goods is an upward sloping curve.
 - ⇒ Demonstration effect is the desire to copy the consumption pattern of the social group to which an individual belongs.

Elasticities of Demand

- Price elasticity of demand is the measure of the ratio of percentage change in quantity demanded of a commodity and percentage change in the price of the commodity.
- Price elasticity of demand is generally negative as there is an inverse relationship between price of a commodity and its quantity demanded.
- Greater the number of substitutes for a product greater is the elasticity of demand for the product.
- Greater the proportion of income of a consumer spent on a commodity greater is the elasticity of demand for the product.
- Greater the number of uses of a product greater is the elasticity of demand for the product.
- The elasticities of demand are different at different points on a downward sloping straight line demand curve.
- The elasticity of demand at the middle point of a downward sloping straight line demand curve is equal to one.
- When elasticity of demand is equal to one throughout the length of a demand curve it is known as rectangular hyperbola. Such a curve is a curvilinear curve.
- When any two demand curves are downward sloping straight lines then at a given price the demand curve near to the origin is more elastic than the demand curve away from the point of origin.
- If the two demand curves start from the same point on the Y axis then at a given price the elasticity of demand is the same on both the demand curve.
- When the demand curve is a vertical straight line parallel to the Y axis it is perfectly inelastic demand curve.
- When the demand curve is a horizontal straight line parallel to the X axis it is perfectly elastic demand curve.
- The arc-elasticity method is useful when the changes in the price and the quantity demand are very large.
- **According to the total outlay method of measuring the elasticity of demand**
 - a. the demand is unitary elastic if the total outlay or the expenditure on the product remains constant irrespective of changes in price of the commodity.

- b. demand is elastic if the total outlay on the commodity increases with a decrease in price and decreases with an increase in price.
- c. demand is inelastic if the total outlay on the commodity increases with an increase in price and decreases with a decrease in price.
- Income elasticity of demand is the measure of the ratio of percentage change in quantity demanded and percentage change in price.
- Income elasticity of demand is generally positive but in case of inferior goods it is negative.
- **The income elasticity of demand**
 - a. is greater than zero but less than one when the commodity is a normal good and is a necessity.
 - b. is greater than one when the commodity is a luxury commodity.
 - c. is negative when the commodity is an inferior commodity.
 - d. is zero when changes in income do not produce any effect on the quantity demanded.
 - e. is equal to one when the quantity demanded changes by the same percentage for a given percentage in income.

Cross elasticity of demand is the measure of the ratio of percentage change in quantity demanded of commodity X and percentage change in price of Y.

- **When two goods are ordinary substitutes then the cross elasticity of demand would be positive.**
- **When two goods are complements then the cross elasticity of demand would be negative.**
- **When two goods are independent goods the cross elasticity of demand would be zero.**
- **When two goods are perfect substitutes then the cross elasticity of demand would be positive infinity.**
- One special point should be remembered. Suppose that X and Y are substitutes but X is an inferior commodity (Giffin good) and Y is a normal commodity, then if the price of X decreases people would buy less of X and more of Y. Conversely when the price of X rises the demand for X would go up and that for Y would decrease. Here the cross elasticity of demand would be negative even though the two goods are substitutes.

NAV KAR
A Symbol of Success

UNIT 2

THEORY OF CONSUMER BEHAVIOUR

INTRODUCTION

Theory of consumer behaviour: Theory of consumer behaviour is a part of demand theory. The topic is divided between two main parts. Marshall's utility analysis and Hicks and Allan Indifference curve analysis. The main focus would be on understanding the law of diminishing marginal utility, consumer's surplus, and consumer's equilibrium. The second section focuses on characteristics of indifference curves and budget lines.

➔ WHAT IS UTILITY ?

Utility is the want satisfying power of a commodity. It is a subjective entity (concept) and differs from person to person. It should be noted that utility is not the same thing as usefulness. Even harmful things like liquor, may be said to be having utility from the economic stand point because people want them for satisfying some of their wants. **Thus in Economics, the concept of utility is ethically neutral.**

All desires, tastes and motives of human beings are called wants in Economics. Wants may arise due to elementary and psychological causes. Since, the resources are limited; he has to choose between urgent wants and not so urgent wants.

All wants of human beings exhibit some characteristic features.

1. Wants are unlimited
2. Every want is satiable
3. Wants are competitive
4. Wants are complementary
5. Wants are alternative
6. Wants vary with time, place, and person
7. Some wants recur again
8. Wants are influenced by advertisement
9. Wants become habits and customs

In Economics wants are classified into three categories, viz., necessities, comforts and luxuries.

Necessaries:

Necessaries are those which are essential for living. Man cannot do well with bare necessities of life alone. He requires some more necessities to keep him fit for taking up productive activities. These are called necessities of efficiency. There is another type of necessities are called conventional necessities. By custom and tradition, people require some wants to be satisfied

Comforts:

Comforts refer to those goods and services which are not essential for living but which are required for a happy living. It lies between the 'necessaries' and 'luxuries'.

Luxuries:

Luxuries are those wants which are superfluous and expensive. They are not essential for living, however, they may add efficiency to the consumer.

Utility hypothesis forms the basis for the theory of consumer's behaviour. From time to time different theories have been advanced to explain consumer's behaviour and thus to explain his demand for the product. Two important theories are **(i) Marginal Utility Analysis propounded by Marshall, and (ii) Indifference Curve Analysis propounded by Hicks and Allen.**

MARGINAL UTILITY ANALYSIS

This theory which is formulated by Alfred Marshall, a British economist, explains how a consumer spends his income on different goods and services so as to attain maximum satisfaction. This theory is based on certain assumptions. But before stating the assumptions, let us understand the meaning of total utility and marginal utility.

Total utility : It is the sum of the utility derived from an different units of a commodity consumed by a consumer.

Marginal utility It is the additional utility derived from additional unit of a commodity.

Assumptions of Marginal Utility Analysis

(1) The Cardinal Measurability of Utility : According to this theory, utility is a cardinal concept i.e., utility is a measurable and quantifiable concept. Thus a person can say that he derives utility equal to 10 units from the consumption of 1 unit of commodity A and 5 from the consumption of 1 unit of commodity B. Since, he can express his satisfaction quantitatively, he can easily compare different commodities and express which commodity gives him more utility or satisfaction and by how much compared to some other commodity.

According to this theory, money is the measuring rod of utility. The amount of money which a person is prepared to pay for a unit of a good rather than go without it is a measure of the utility which he derives from the good. For example, if a person is ready to pay ₹ 10 for a Ballpen rather than going without it then the marginal utility of the Ballpen to him can be said to be equal to ₹ 10.

(2) Constancy of the Marginal Utility of Money : The marginal utility of money remains constant throughout when the individual is spending money on a good. This assumption although not realistic, has been made in order to facilitate the measurement of utility of commodities in terms of money.

(3) The hypothesis of Independent Utility : The total utility which a person gets from the whole collection of goods purchased by him is simply the sum total of the separate utilities of the goods. The theory ignores complementarities between goods.

According to Marshall the utility of a commodity depends upon the quantity of that commodity only and is not affected by the presence or the absence of the substitutes and the complements.

The Law of Diminishing Marginal Utility

One of the important laws under Marginal Utility analysis is the Law of Diminishing Marginal Utility:

The law of diminishing marginal utility is based on an important fact that while total wants of a person are virtually unlimited, each single want is satiable i.e., each want is capable of being satisfied.

Since each want is satiable, as a consumer consumes more and more units of a good, the intensity of his want for the good goes on decreasing and ultimately a point is reached where the consumer no longer wants it. His marginal utility from the product becomes zero.

Statement of the law : In simple words according to this law as a consumer consumes more and more of homogeneous units of a commodity, the extra or additional or marginal utility or the extra satisfaction that he derives from each of the successive units goes on decreasing.

Explanation : The following table would be useful to understand the law :

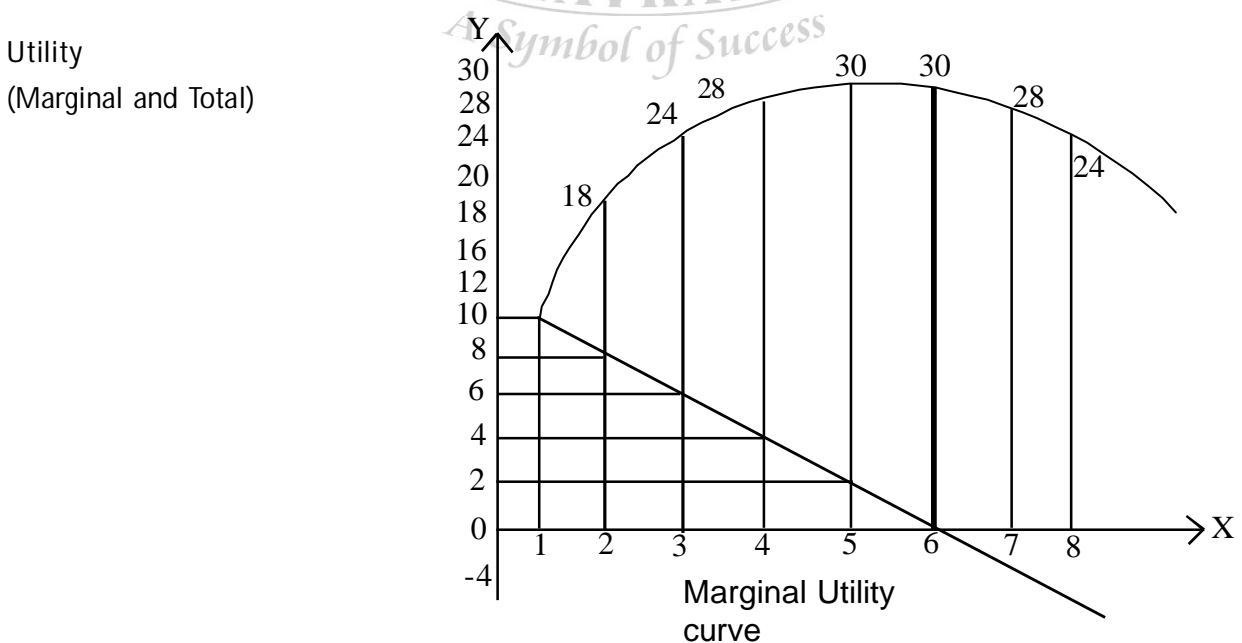
Units of x	Marginal Utility = MU	Total Utility = TU
1	10	10
2	8	18
3	6	24
4	4	28
5	2	30
6	0	30
7	-2	28
8	-4	24

From the above schedule we can derive following conclusions:

- ▶▶ The marginal utility is the utility that the consumer gets from each extra unit. It shows the additional benefit of a consumer from each extra unit.
- ▶▶ The total utility is the sum total of marginal utilities. With the increase in the consumption the marginal utility keeps on falling and the total utility increases at a diminishing rate.
- ▶▶ When the consumer consumes the 6th unit, the marginal utility becomes zero and the total utility becomes the maximum. Now there is no any possibility of a further increase in the total utility.
- ▶▶ Beyond the 6th unit, when the consumption increases the MU becomes negative and the total utility starts falling.

Diagram :

The argument of the law of DMU can be represented graphically also. In the diagram given here the units of X are taken on the X-axis and the total and the marginal utilities are taken on the Y-axis. The MU curve is downward sloping curve. The total utility curve first rises and starts moving downwards when the MU becomes negative. The slope of the MU curve is negative because there is an inverse relationship between the quantity consumed and its marginal utility.



Limitations of the Law

The law of diminishing marginal utility is applicable only under certain assumptions.

- (i) **Homogenous units** :The different units consumed should be identical in all respects. The habit, taste, temperament and income of the consumer also should remain unchanged.
- (ii) **Standard units of Consumption** :The different units consumed should consist of standard units. If a thirsty man is given water by successive spoonfuls, the utility of the second spoonful of water may conceivably be greater than the utility of the first.
- (iii) **Continuous Consumption** :There should be no time gap or interval between the consumption of one unit and another unit i.e. there should be continuous consumption.
- (iv) **The Law fails in the case of prestigious goods** : The law may not apply to articles like gold, cash where a greater quantity may increase the lust for it.
- (v) **Case of related goods** : The shape of the utility curve may be affected by the presence or absence of articles which are substitutes or complements. The utility obtained from tea may be seriously affected if no sugar is available.

Principle of Equi-Marginal utilities. (This question is not in the study material but its understanding is necessary for understanding consumer equilibrium in indifference curves analysis.)

OR

Principle of substitution.

OR

Principle of Maximum Satisfaction.

Introduction : There are two laws pertaining to utility. One is the law of diminishing marginal utilities and the other is the law of equi-marginal utilities. It is also known by the names of the principle of maximum satisfaction or principle of substitution or principle of consumer's equilibrium. This second law is the extension of the first law. It tells us about the conditions under which the consumer would derive the maximum possible satisfaction out of his income. This law can be stated as follows :

Statement of The Law : **According to this law, a consumer would maximize his satisfaction when a rupee spent on various commodities gives him an equal amount of marginal utilities. The law is based upon the following assumptions :**

Assumptions of The Law :

1. The consumer has a given amount of income and it remains constant.
2. He purchases two goods. However the law would equally apply when there are more than two goods.
3. He behaves rationally.
4. He is fully aware of his utility schedules.
5. The goods are divisible and substitutable.
6. The prices of the goods do not change.

Explanation of the Law : According to this law there are two conditions for a consumer to maximise his satisfaction out of his given income and at given prices of commodities.

1. If the prices of the commodities are equal then the equilibrium condition would be Marginal utility of X = Marginal utility of Y = Marginal utility of Z.
2. When prices of the commodities are different then the equilibrium condition would be Marginal utility of X = Price of X
Marginal utility of Y = Price of Y
Marginal utility of Z = Price of Z

OR

$$MUX = PX$$

$$MU_Y = P_Y \quad \text{or} \quad \frac{MUX}{PX} = \frac{MU_Y}{P_Y} = \frac{MU_Z}{P_Z} = \dots\dots\dots K$$

$MUZ = PZ$ Where K is constant which means that Marginal Utility of every rupee spent on the commodities is equal. This is why this principle has been given the name of Equi Marginal Utilities.

Two rules :

- (1) If prices of the goods consumed are identical their marginal utilities must also be identical.**
- (2) When prices of the goods consumed are different their respective marginal utilities must be proportionate to their prices.**

Criticisms:

The criticisms of the law are based upon its unrealistic assumptions.

1. The behaviour of the consumer is not always rational. Many things he has to buy according to social traditions and conventions.
2. Many things are there which the buyer buys on an impulse without any logic.
3. The goods are not always divisible and substitutable e.g. Car and Mangoes.
4. The law will hold good only when prices, buyers' utility schedules etc. are constant.

Consumer's Surplus : The concept of consumer's surplus was developed by Alfred Marshall. This concept occupies an important place not only in economic theory but also in economic policies of government and decision-making of monopolists.

It has been seen that consumers generally are ready to pay more for some goods than they actually pay for them. This extra satisfaction which consumers get from their purchase of goods is called as consumer's surplus by Marshall.

Marshall's definition of the concept : Marshall defined the concept of consumer's surplus as "excess of the price which a consumer would be willing to pay rather than go without a thing over that which he actually does pay, is the economic measure of this surplus satisfaction may be called consumer's surplus".

Thus consumer's surplus = What a consumer is ready to pay for a commodity rather than going without it - What he actually pays.

Or

= Marginal utility of the product - Price of the product.

OR

= Use value of the product - Exchange value of the product

Explanation of the concept :

The concept of consumer's surplus is derived from the law of diminishing marginal utility. As we know from the law of diminishing marginal utility, the more of a thing we have, the lesser marginal utility it has. In other words, as we purchase more of a good, its marginal utility goes on diminishing. The consumer is in equilibrium when marginal utility is equal to given price i.e., he purchases that many number of units of a good at which marginal utility is equal to price. The consumer gets extra satisfaction from all the units compared to the price previous to the unit at which he reaches equilibrium. This extra satisfaction is known as consumer's surplus.

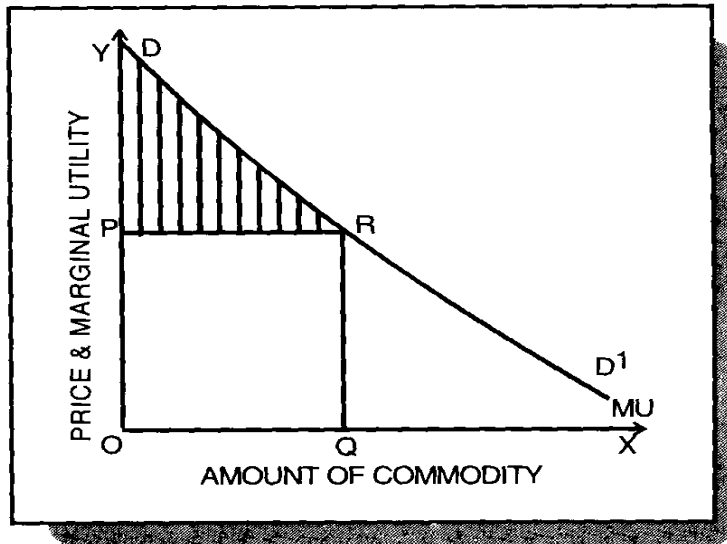
Table : Consider the Table given here in which we have illustrated the measurement of consumer's surplus in case of commodity X. The price of X is assumed to be ₹ 20. In case of the first unit the marginal utility (willingness to pay by the buyer) is ₹ 30 and the actual price is ₹ 20. So the consumer surplus is ₹ 10.

No. of units	Measurement of Consumer's Surplus		Consumer's Surplus
	Marginal Utility	Price (₹)	
1	30	20	10
2	28	20	8
3	26	20	6
4	24	20	4
5	22	20	2
6	20	20	0

In the same manner we can calculate consumer surplus for all units.

In the above table we can see that the total utility from the six units of the commodity is 150 and the total price that he pays for the six units is ₹ 120 and therefore, his surplus is ₹ 30 as shown by the last column.

The concept of consumer's surplus can also be illustrated graphically. Consider figure given here. On the X-axis is measured the amount of the commodity and on the Y-axis the marginal utility and the price of the commodity. MU is the marginal utility curve which slopes downwards, indicating that as the consumer buys more units of the commodity, its marginal utility falls. Marginal utility shows the price which a person is willing to pay for the different units rather than go without them. If OP is the price that prevails in the market, then consumer will be in equilibrium when he buys OQ units of the commodity, since at OQ units, marginal utility is equal to the given price OP. The last unit, i.e., Qth unit does not yield any consumer's surplus because here price paid is equal to the marginal utility of the Qth unit. But for units before Qth unit, marginal utility is greater than the price and thus these units fetch consumer's surplus to the consumer.



Marshall's Measure of Consumer's Surplus

In Figure given here, the total utility is equal to the area under the marginal utility curve up to point Q i.e. ODRQ. But given the price equal to OP, the consumer actually pays OPRQ. The consumer derives extra utility equal to DPR which is nothing but consumer's surplus.

Limitations

- (1) Consumer's surplus cannot be measured precisely - because it is difficult to measure the marginal utilities of different units of a commodity consumed by a person.

- (2) In the case of necessities, the marginal utilities of the earlier units are infinitely large. In such case the consumer's surplus is always infinite.
- (3) The consumer's surplus derived from a commodity is affected by the availability of substitutes.
- (4) There is no simple rule for deriving the utility scale of articles which are used for their prestige value (e.g., diamonds).
- (5) Consumer's surplus cannot be measured in terms of money because the marginal utility of money changes as purchases are made and the consumer's stock of money diminishes. (Marshall assumed that the marginal utility of money remains constant. But this assumption is unrealistic).
- (6) The concept can be accepted only if it is assumed that utility can be measured in terms of money or otherwise. Many modern economists believe that this cannot be done.

INDIFFERENCE CURVE ANALYSIS Marshall has given marginal utility analysis of demand. A very popular alternative and more realistic method of explaining consumer's demand is the Indifference Curve Analysis. This approach to consumer behaviour is based on consumer preferences. It believes that human satisfaction being a psychological phenomenon cannot be measured quantitatively in monetary terms as it was done by Marshall's utility analysis. In this approach it is felt that it is much easier and scientifically more sound to order preferences than to measure them in terms of money.

The consumer's preference approach, is, therefore an ordinal concept based on ordering of preferences compared with Marshall's approach of cardinality.

Assumptions Underlying Indifference Curve Approach

- (i) The consumer is rational and possesses full information about all the relevant aspects of economic environment in which he lives.
- (ii) The consumer is capable of ranking all possible combinations of goods according to the satisfaction they yield. Thus if he is given various combinations say A, B, C, D, U he can rank them as first preference, second preference and so on. If a consumer happens to prefer A to B he can not tell quantitatively how much he prefers A to B.
- (iii) If the consumer prefers combination A to B, and B to C, then he must prefer combination A to C. In other words, he has a consistent consumption pattern behaviour.
- (iv) If combination A has more commodities than combination B, then A must be preferred to B.

Indifference schedule and indifference curves :

Ordinal analysis of demand given by Hicks and Allen is based on indifference curves. An indifference curve is a curve which represents all those combinations of goods which give same satisfaction to the consumer. Since all the combinations on an indifference curve give equal satisfaction to the consumer, the consumer is indifferent among them. In other words, since all the combinations provide same level of satisfaction the consumer prefers them equally and does not mind which combination he gets.

To understand indifference curves let us consider the example of a consumer who has one unit of food and 12 units of clothing. Now we ask the consumer how many units of clothing he is prepared to give up to get an additional unit of food, so that his level of satisfaction does not change. Suppose the consumer says that he is ready to give up 6 units of clothing to get an additional unit of food. We will have then two combinations of food and clothing giving equal satisfaction to consumer Combination A has 1 unit of food and 12 units of clothing combination.

B has 2 units of food and 6 units of clothing. Similarly, by asking the consumer further how much of clothing he will be prepared to forgo for successive increments in his stock of food so that his level of satisfaction remains unaltered, we get various combinations as given below.

Indifference Schedule			
Combination	Food	Clothing	MRS
A	1	12	-
B	2	6	6
C	3	4	2
D	4	3	1

Now if we draw the above schedule we will get the following figure.

Indifference curve : In Figure , an indifference curve IC is drawn by plotting the various combinations of the indifference schedule. The quantity of food is measured on the X axis and the quantity of clothing on the Y axis. As in indifference schedule, combinations lying on an indifference curve will give the consumer same level of satisfaction.

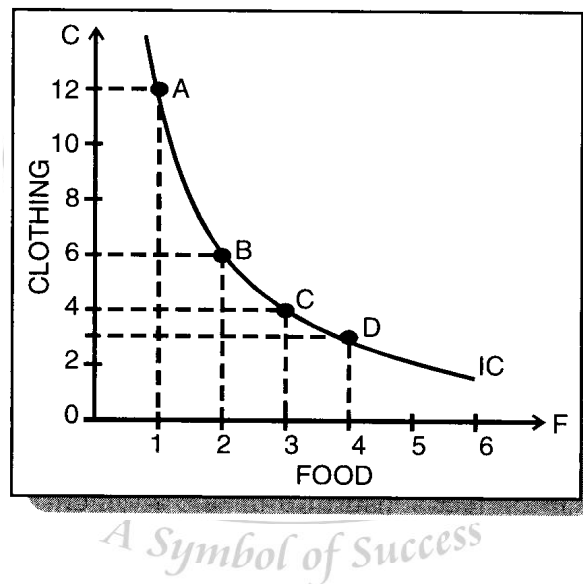


Fig. A Consumer's Indifference Curve

Indifference Map : A set of indifference curves is called indifference map.

An indifference map depicts (shows) a complete picture of consumer's tastes and preferences. In Figure , an indifference map of a consumer is shown which consists of three indifference curves.

We have taken good X on X-axis and good Y on Y-axis. It should be noted that while the consumer is indifferent among the combinations lying on the same indifference curve, he certainly prefers the combinations on the higher indifference curve to the combinations lying on a lower indifference curve because a higher indifference curve signifies a higher level of satisfaction. Thus while all combinations of IC1 give same satisfaction, all combinations lying on IC2 give greater satisfaction than those lying on IC1.

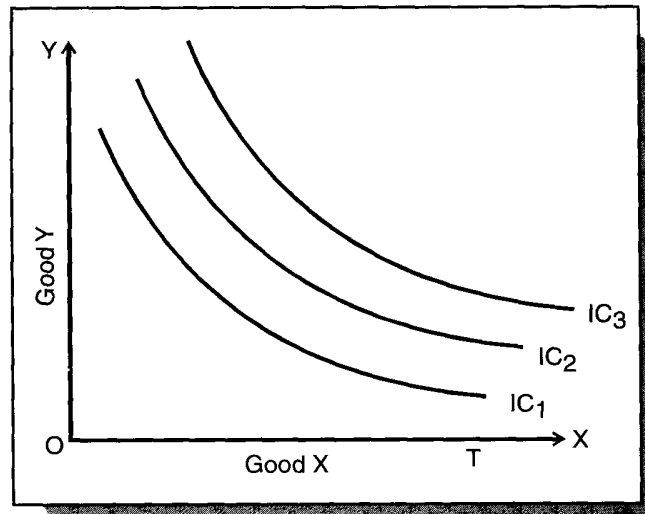


Fig. Indifference Map

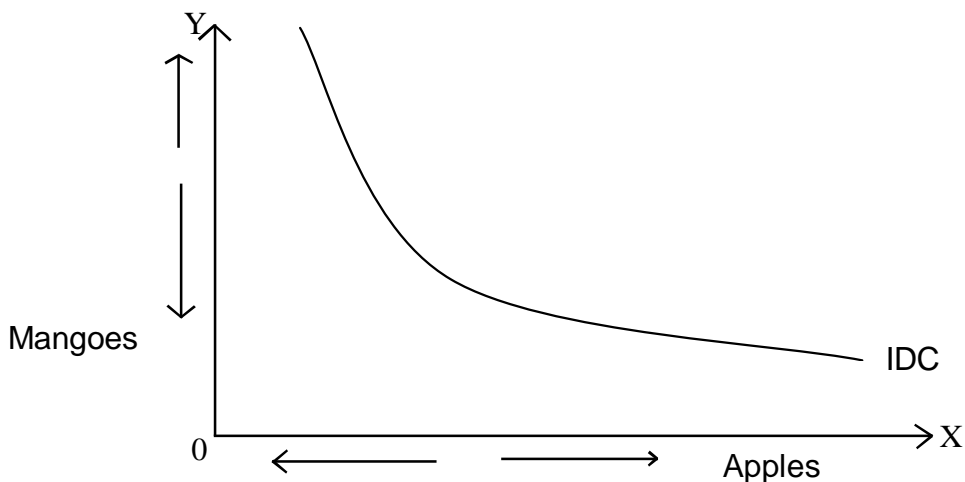
Marginal Rate of Substitution : Marginal Rate of Substitution (MRS) is the rate at which the consumer is prepared to exchange goods X and Y. Consider Table. In the beginning the consumer is consuming 1 unit of food and 12 units of clothing. Subsequently, he gives up 6 units of clothing to get an extra unit of food, his level of satisfaction remaining the same. The MRS here is 6. Likewise when he moves from B to C and from C to D in his indifference schedule, the MRS are 2 and 1 respectively. Thus, we can define MRS of X for Y as the amount of Y whose loss can just be compensated by a unit gain of X in such a manner that the level of satisfaction remains the same. We notice that MRS is falling i.e., as the consumer has more and more units of food, he is prepared to give up less and less units of cloths. There are two reasons for this.

1. The want for a particular good is satiable so that when a consumer has its more quantity, his intensity of want for it decreases. Thus, when consumer in our example, has more units of food, his intensity of desire for additional units of food decreases. In the same manner when he gives up more and more clothing for food, the quantity of clothing with him goes on decreasing and so he wants to give up less and less of clothing for each marginal unit of food.
2. Most of the goods are imperfect substitutes of one another. If they could substitute one another perfectly. MRS would remain constant.

➔ **Features of Indifference curves** : An indifference curve is a curve showing various combinations of any two goods which give an equal amount of satisfaction to the buyer, and so the consumer is indifferent between any two of these combinations. The following features or properties of indifference curves would give a better idea about the nature of indifference curves.

1. An indifference curve slopes downwards from the left to the right or it has a negative slope.

An IDC slopes downwards from the left to the right as shown in the diagram given here. We can see that on the X –axis there are apples and on the Y-axis there are mangoes. By definition, an IDC is the one which shows the same level of satisfaction and therefore when the consumer has more of apples with him, he must give up some of mangoes with him. Otherwise his satisfaction would not remain constant. Conversely when he has more mangoes with him, he must have less of the apples. Thus mangoes and apples are inversely related and therefore the IDC must have a negative slope.



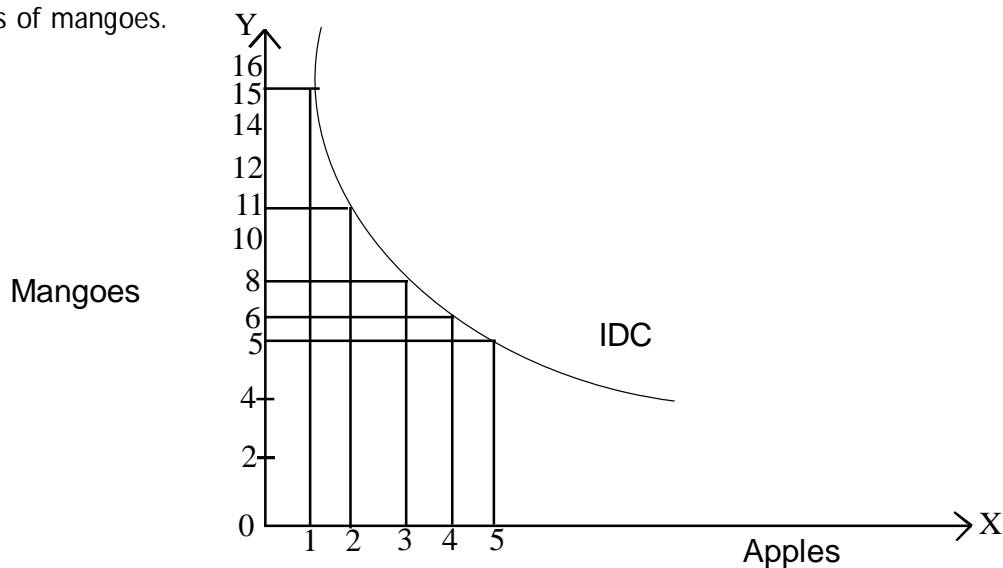
2. **Indifference curve is Convex to the origin** : An IDC is a curve showing those combinations of any two goods, which give an equal amount of satisfaction to the buyer. There are many properties of the IDCs. One of them is that the IDC is convex to the origin. It is explained here.

Indifference Schedule			
Combinations	Mangoes	Apples	MRS
1	15	1	-
2	11	2	4:1
3	08	3	3:1
4	06	4	2:1
5	05	5	1:1

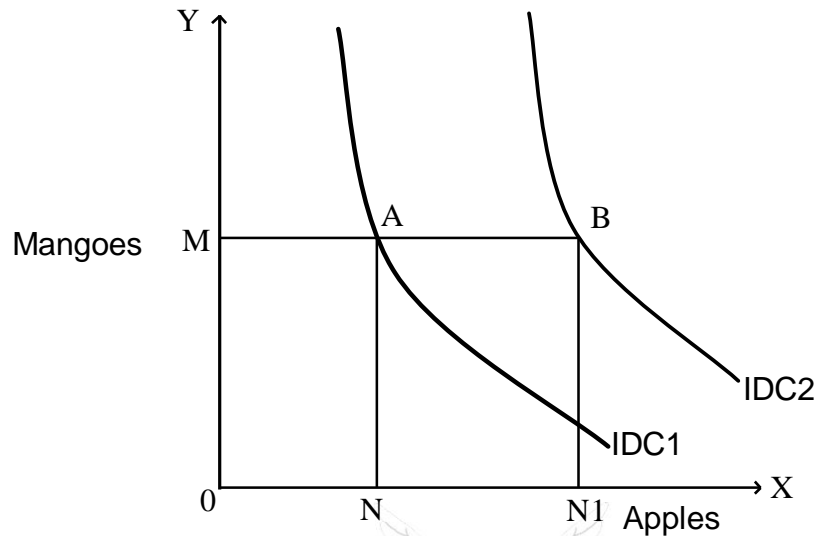
Here we can see a schedule. The last column of the schedule shows the marginal rate of substitution. It is the rate at which the consumer is willing to give up mangoes for each of the marginal apple.

For the 1st marginal apple, he is willing to give up 4 mangoes. For the next apple, he wants to give up 3 mangoes and so on. Thus the MRS goes on falling.

This is because as the consumer has more and more of apples, its MU goes on falling. On the other hand as he has less and less of mangoes, their MU goes on increasing and so for each extra apple, he wants to sacrifice less and less of mangoes.



3. Higher the IDC higher is the level of satisfaction :



One more feature of the IDC is that the higher an IDC, the higher will be the level of satisfaction represented by it. A right hand IDC shows more satisfaction than a left hand side IDC. Here we can see two IDCs. The point A is on IDC1 and the point B is on IDC2.

A = OM Mangoes + ON apples

B = OM Mangoes + ON1 apples

Thus $B > A$

Now the rule is that all the points on any one IDC give an equal amount of satisfaction; and so the satisfaction of IDC2 is greater than the satisfaction represented by IDC1. Thus higher the IDC higher is the level of satisfaction.

4. Two Indifference Curves cannot intersect each other.

Two IDC represent two different levels of satisfaction and therefore two IDCs cannot intersect each other. In the diagram here we can see that the two IDCs intersect each other.

Now we can see that the points A and C fall on the same IDC. Therefore $A=C$

The points B and C also fall on the same IDC. Therefore $B=C$. Now if $A=C$ and $B=C$ then A must be equal to B, But $B > A$. By some chance if the two indifference curves of a buyer do intersect each other then it means that the buyer is an irrational person. He does not know the difference between the two given levels of satisfaction. He is not able to distinguish between a higher and a lower level of satisfaction.

However the assumption of rationality is a basic assumption of the IDC analysis and therefore it is safe to conclude that the two IDCs of a (rational) consumer do not intersect each other.

5. Indifference curve will not touch either axes :

Another characteristic feature of indifference curve is that it will not touch the X axis or Y axis. This is born out of our assumption that the consumer is considering different combination of two commodities. If an indifference curve touches the Y axis at a point P as shown in the figure 16, it means that the consumer is satisfied with OP units of y commodity and zero units of x commodity. This is contrary to our assumption that the consumer wants both commodities although in smaller or larger quantities. Therefore an indifference curve will not touch either the X axis or Y axis.

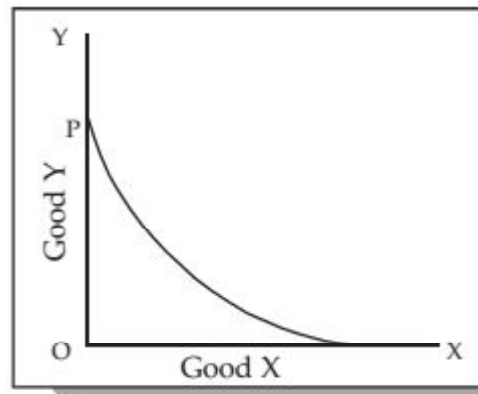


Fig. 16 : Indifference Curve

Budget line and its properties :

Budget Line : A higher indifference curve shows a higher level of satisfaction than a lower one. Therefore, a consumer in his attempt to maximise satisfaction will try to reach the highest possible indifference curve. But in his pursuit of buying more and more goods and thus obtaining more and more satisfaction he has to work under two constraints firstly, he has to pay the prices for the goods and, secondly, he has a limited money income with which to purchase the goods.

These constraints are explained by budget line or price line. In simple words a budget line shows all those combinations of two goods which the consumer can buy spending his given money income on the two goods at their given prices. All those combinations which are within the reach of the consumer (assuming that he spends all his money income) will lie on the budget line.

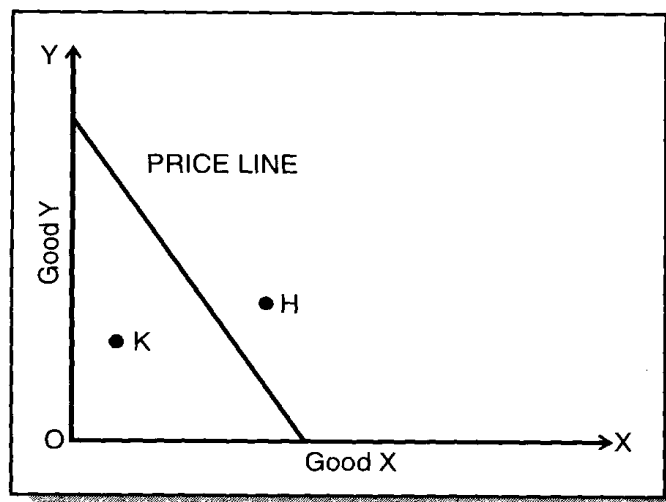


Fig. : Price Line

It should be noted that any point outside the given price line, like H, will be beyond the reach of the consumer and any combination lying within the line, like K, shows under spending by the consumer.

Important points about the budget line :

1. A budget line is also known as price line, price-income line, or opportunity line.
2. The consumer concerned can buy any of the combinations on the price line.
3. In order to buy more of any one commodity he will have to buy the less of the other commodity.
4. In a given price income situation he cannot buy any of the combinations outside the price line.
5. The slope of the price line shows the ratio of commodity prices. i.e P_X / P_Y .
6. While the indifference map is a psychological phenomenon, the price line is a reality.

Consumer's Equilibrium with the help of IDC analysis.

Consumer's income is limited in relation to the wants that he has to satisfy and therefore every consumer tries to maximize his satisfaction out of his income.

Consumer's equilibrium position is that position where he maximizes his satisfaction out of his given income and once he reaches that position he does not like to change it. He can change his position only at the cost of reducing his satisfaction.

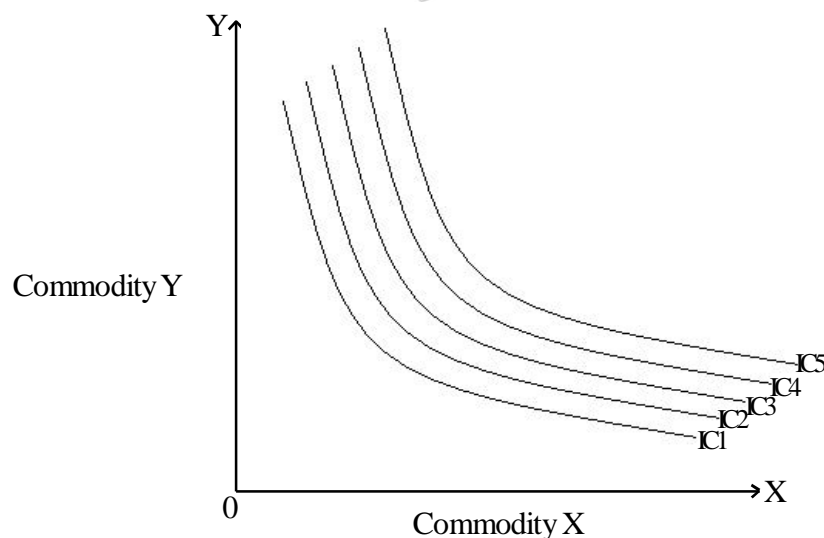
According to the IDC analysis, the consumer's equilibrium position is the one where he reaches the highest level of satisfaction – i.e. the highest indifference curve.

Assumptions : The equilibrium analysis is based upon the following assumptions.

1. The income of the consumer is given and constant.
2. The prices of the goods purchased by the buyer are also given and constant.
3. The consumer is a rational person.
4. He has a full knowledge of market prices and his scale of preferences.

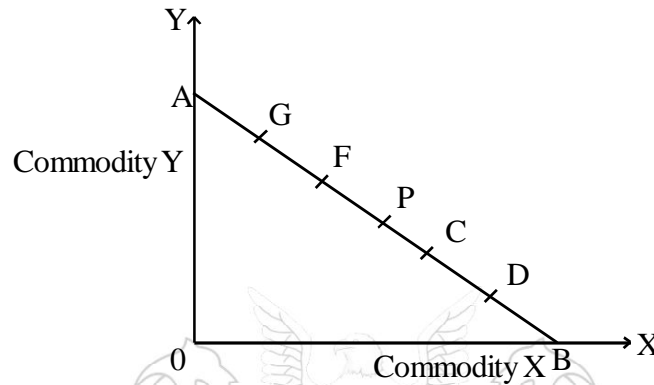
Two Tools : In order to explain the equilibrium position of a consumer, the IDC analysis uses two tools. They are (1) consumer's Indifference map (2) Price Line.

The following is the Indifference map of the consumer.



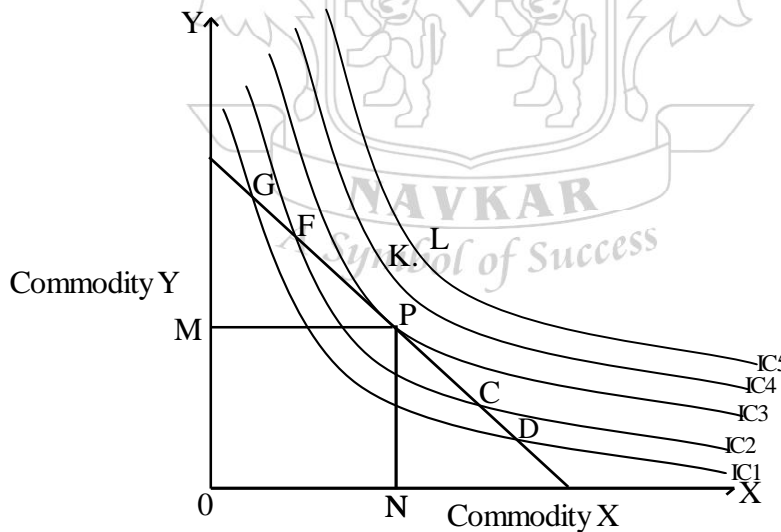
The above diagram shows the ID Map of the buyer. It is a psychological phenomenon. It is independent of the market prices of the goods. It shows the mental conditions of the buyer in the sense that it shows the various levels of satisfaction that the consumer wants to reach.

Price Line : Now let us see the price line of the consumer. In the following diagram A B is the price line of the buyer. It shows that consumer can either purchase OA quantity of the commodity Y or OB quantity of the commodity X at the given prices of the two goods and at his given income. He can as well purchase anyone of the combinations G.F.P.C.D.



However, he cannot purchase any of the combinations falling outside the price line. The price line is objective as against the IDC which is subjective. It shows the actual conditions prevailing in the market.

Consumer's equilibrium : The following diagram shows the equilibrium position of the consumer.



In the above diagram P is the equilibrium point. It is known as the tangency point. It is the highest point that the consumer can attain with his income. The consumer can also buy the combinations represented by G & F as well as the combinations shown by C and D but as compared with P, they represent a relatively lower level of satisfaction.

At P point the subjective conditions as shown by the IDC and the objective conditions as shown by the price line both coincide. So P is the equilibrium point of the buyer.

P is the tangency point. Here the ratio of prices becomes equal to MRS. Thus P is the equilibrium point of the buyer.

Here MRS = Ratio of prices

$$\text{or } \frac{MUX}{PX} = \frac{MUY}{PY}$$

The Utilities of goods are proportionate to their prices.

The consumer wants to buy the combinations represented by the points K and L but as they fall outside his price line, he cannot buy them.

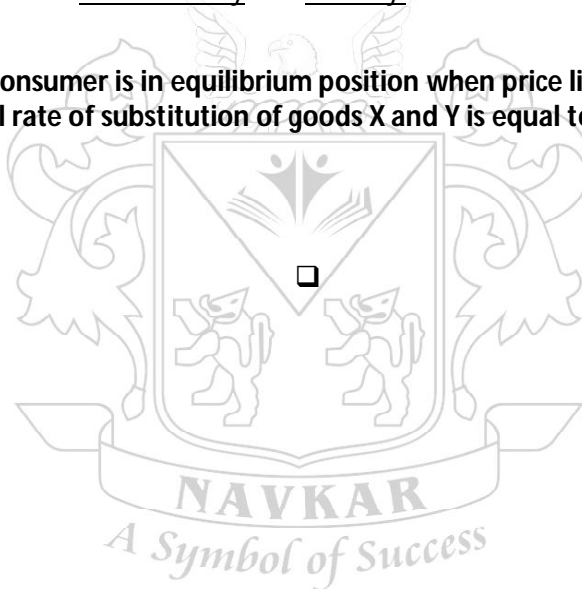
Thus,

The buyer can buy the combinations, G,C,D & F but he does not want to buy them as they represent a lower level of satisfaction. He wants to buy combinations K and L but he cannot buy them as they fall outside his price line.

Thus P is the only point that he wants to buy and can buy.

Equilibrium condition :

Thus, we can say that the consumer is in equilibrium position when price line is tangent to the indifference curve or when the marginal rate of substitution of goods X and Y is equal to the ratio between the prices of the two goods.



REMEMBER THE FOLLOWING POINTS**Marshall's utility analysis of demand**

- Marshall's explanation of the law of demand is known as utility analysis.
- Utility means want satisfying capacity of a commodity. It is a subjective, psychological and a relative concept.
- The term utility does not mean usefulness, pleasure, goodness etc. The concept is ethically and morally neutral.
- There are two alternative explanations of the law of demand. (a) Marginal Utility Analysis propounded by Marshall, and (b) indifference curve analysis propounded by Hicks and Allen.
- Total utility is the sum of the utility derived from different units of a commodity consumed by a consumer.
- Marginal utility is the utility derived from additional unit of a commodity.
- According to Engel's law when the income of an individual increases the proportion of income spent on food decreases.
- The law of diminishing marginal utility is also known as "Gossen's First law".
- The law of equimarginal utility is also known as "Gossen's second law".
- According to Marshall, money is the measuring rod of utility.
- According to Marshall, utility is cardinal. This means that utility is measurable in exact numbers. (However, according to Prof. Hicks who has given Indifference curve analysis of demand the utility is ordinal).
- The price of diamond is more than that of water. This is known as paradox of value. This is because the marginal utility of diamond is more than that of water.
- Consumer's equilibrium is that position where he gets the maximum possible satisfaction out of his given income.

Consumer's surplus :

- The idea of Consumer's surplus is given by Prof. Marshall.
- Consumer's surplus is the difference between the price of a commodity a consumer is willing to pay for commodity rather than going without it and the price that he actually pays.
- The idea of Consumer's surplus is based upon the law of Diminishing Marginal Utility given by Prof. Marshall.
- The idea of Consumer's surplus does not apply to primary necessity and highly luxurious goods.
- The Consumer's surplus is the highest in case of necessities.

Indifference curve analysis of demand

- ⇒ Prof. Hicks and Prof. Allen have given the indifference curve analysis of demand.
- ⇒ According to Marshall utility is cardinal while according to Hicks utility is ordinal. **Cardinality means utilities can be added, while ordinality means utilities can be ranked.**
- ⇒ According to Marshall utility of a good is independent while according to Hicks utility of a good is interdependent.
- ⇒ An indifference curve is a curve showing those combinations of two commodities which give an equal amount of satisfaction to the consumer.
An indifference curve for normal substitutes is a downwards sloping curve.
- ⇒ Marginal rate of substitution is the rate at which consumer is prepared to exchange commodity X and commodity Y.
- ⇒ The place of the law of diminishing marginal utility in Prof. Marshall's analysis is taken by the law of diminishing marginal rate of substitution in Prof. Hicks' analysis.
- ⇒ A concave indifference curve is possible only in case of an irrational consumer.
- ⇒ When two goods X and Y are perfect substitutes then the indifference curve would be a downward sloping straight line.
- ⇒ When two goods X and Y are perfect complements then the indifference curve would be a right angle.
- ⇒ The demand curve for luxury goods drawn in relation to the income is a curve rising upwards first slowly and then rapidly.
- ⇒ The demand curve for inferior goods drawn in relation to the income is a backward bending curve.
- ⇒ **The indifference curves need not be parallel.**
- ⇒ **The indifference curves do not touch the X or the Y-axis.**
- ⇒ An indifference curve can not be a horizontal line, a vertical line or a line with a positive slope in case of normal substitutes.
- ⇒ The slope of an indifference curve shows the marginal rate of substitution.
The price line shows the maximum quantities of any two goods that a consumer can buy at given prices and given income. It is also known as budget line or opportunity line.
- ⇒ The slope of the price line shows the ratio of prices of commodities.
- ⇒ According to indifference curve analysis a consumer would be in equilibrium when his price line is tangent to an indifference curve in his indifference map.
- ⇒ When the consumer is in equilibrium the marginal rate of substitution must be decreasing.

□

UNIT 3

SUPPLY

INTRODUCTION

Supply is one of the fundamental topics in microeconomics. It is the second blade of the scissors which explains the determination of price and output. The topic covers concepts of supply function, law of supply, expansion & contraction in supply, increase & decrease in supply, and elasticity of supply.

⇒ Supply and law of supply

Introduction :

Supply and demand both play a more or less equal role in the process of price determination. Therefore the study of law of Supply is as important as that of the law of Demand.

The supply of any commodity can be defined as the quantity of the product brought to the market for sale at a given price and given point of time. It is but natural that at different prices the quantities supplied are different. **Therefore, supply is a flow concept.**

Thus we can make a distinction between stock and supply of a product. The stock of a product can be defined as the total quantity that the producers have for offering in the market. **The supply is that part of stock which is actually brought to the market for sale at a given price.** Thus stock is independent of price while the supply is a function of price.

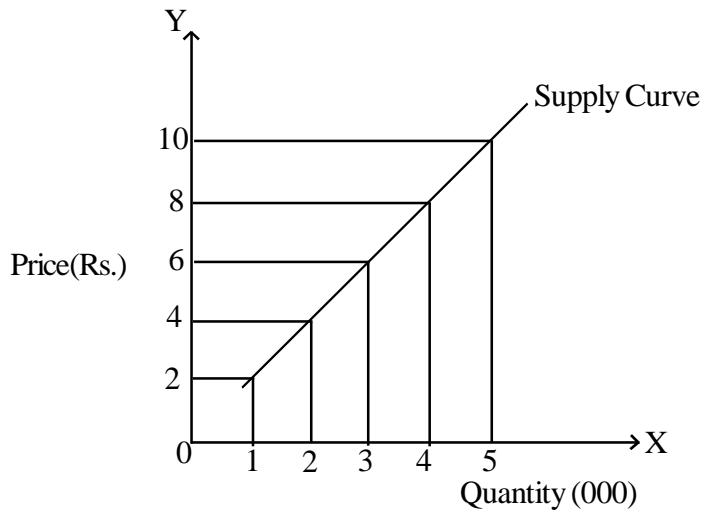
Statement of Law of Supply : According to law of supply, other things remaining constant, when the price of a commodity rises, its quantity supplied increases and when the price falls, its quantity supplied decreases.

Explanation of law of Supply : A Schedule known as supply schedule can be prepared to explain the law. It is a hypothetical table showing various quantities supplied at different prices. Here such a schedule is given :

Price (₹)	Quantity Supplied
2	1000
4	2000
6	3000
8	4000
10	5000

This is indeed a very simple schedule. It simply points out to the fact that higher the price, larger would be the quantity supplied.

Supply Curve : When the same information is presented in the form of a diagram, it becomes a curve known as the supply curve. In the diagram given here, we can see that the price of the product is taken on the Y-axis and its quantity supplied is taken on the X-axis. At various prices, there are various quantities supplied. Each point on the supply curve represents a unique price- quantity situation. When we join all these points we get the supply curve for the product.



In the diagram, we can see that the supply curve has a positive slope. It rises upwards from the left to the right. It means that larger and larger quantities would be offered in the market for sale only when the price goes up. It is necessary to understand the rationale of the supply curve.

Rationale (Logic) Of The Supply Curve : **One has to understand the reason for direct relationship between price and quantity supplied. In other words, we want to understand why the slope of the supply curve is positive.**

1. **More Profit :** **Given the stock of the product with the producers, higher the price of the product, higher will be the margin of profit for producers and so greater will be their willingness to sell their product.**
2. **Rising Average Cost :** If more output is to be produced, beyond a certain limit, the extra output can be obtained only at a higher average cost due to the operation of the law of diminishing returns and so unless price goes up, the supply would not increase.
3. **Different Firms :** With the rising price, even those firms which are relatively inefficient and have a higher average cost of production, would be able to put their supply in the market. So also the quantity supplied increases.

Assumptions : However, like the other laws of economics, the law of supply is also based upon certain assumptions. These are as under :

1. The prices of other goods should not change.
2. The future prices of the product itself should not change.
3. The technology of production should not change so as to bring about a decrease in the average cost of production.
4. The factor prices should remain constant.
5. There should not be changes in the objectives of the firm.
6. The natural factors governing supply should not change.
7. There should not be any change in transport and communication.
8. The government policies must not change.

Exceptions to the Law : While discussing, the law of supply, it would be useful to mention some exceptions also to the law.

1. **Rare Articles** : The supply of rare articles e.g. original manuscripts of books, paintings of deceased artists etc. are exception to the law. An increase in their price does not bring about an increase in their quantity supplied.
 2. **Supply of Food** : The farmers bring a smaller quantity of food to the market when the food prices go up because now they can get the desired income by selling a smaller amount of food. Moreover they are afraid that if they dispose off the food at rising prices, they will have to buy the same food at a higher price later on for their own use.
 3. **Supply of Labour** : People want to earn income as well as they want to enjoy leisure. So when the price of labour i.e. wages go up significantly the workers stop working for extra hours or some family members are told not to work. So over all supply of labour decreases.
- ⇒ **Factors affecting supply** : Supply is that part of the stock, which the dealers bring to market for sale at a particular price. There are many factors which influence supply. These are as under :
1. **Price Of The Product** : This is the most important factor affecting supply. Other things given, higher the price, greater is the quantity supplied. Given the stock of the product, higher the price, higher would be the profit of the dealers and so greater is the willingness of the dealers to sell.
 2. **Prices Of Other Goods** : The supply of any product X is affected by the price of other products, Y, Z also e.g. if price of wheat rises, the wheat production becomes more profitable and so, the farmers would start producing more wheat resulting into a decreased supply of other food articles like rice, bajri, etc.
 3. **Future Prices Of The Product** : If the price of the product is rising and the dealers think that it is going to rise further then they would hold back the stock in anticipation of better price. As a result the supply would actually decrease in the market.
 4. **Technology** : Technology makes it possible to increase supply. Innovative technology helps the producers to produce more output from a given quantity of resources, and as a result, the supply increases in the market. **The production under capital intensive technology is always more than under labour intensive technology.**
 5. **Factor Prices** : Other things given, when the factor prices fall, there is a decrease in the cost of production and increase in the profits of the producers. This encourages them to bring a larger quantity of product to the market.
 6. **Changes In Objectives Of Firm** : Generally the objective of a firm is to maximize profit. However some times the firms operate with other objectives. E.g. The firm might be willing to increase its market share and so may actually sell more even at a decreased price, or a dealer may be willing to dispose off his stocks which would induce him to supply more even at a low price.
 7. **Government Policy** : If the government raises taxes like excise duty, sales tax etc. the price of the product will go up and it is possible that the demand for it may fall. This will force the firm to reduce its supply to accommodate it to demand. On the other hand, if the government offers subsidy on the product, it becomes cheaper and the demand for it increases. This will encourage the producers to produce a greater quantity of output.
 8. **Time period** : In the long run supply can be increased through existing firms and by entry of new firms.
 9. **Other Factors** : We may also mention some other factors affecting supply. These are natural factors, development of transport and communication, nature of competition in the market, infrastructure, foreign trade policy of the govt. etc. However as compared with the above, these factors are of minor importance.

Extension and contraction of supply AND increase and decrease in supply.

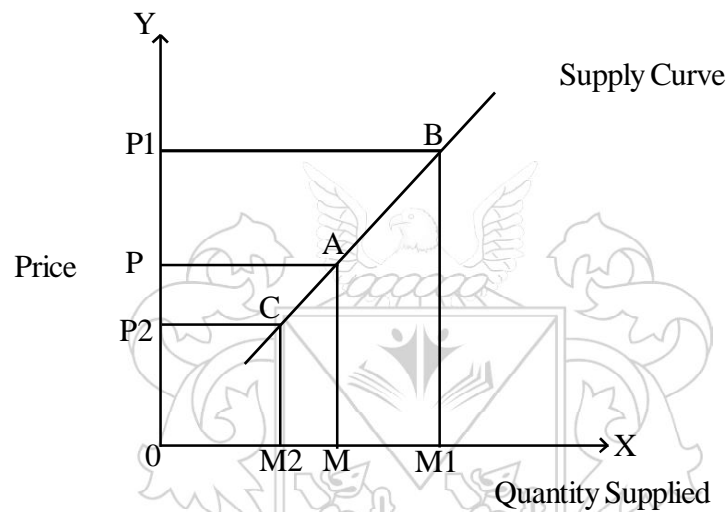
According to law of supply, other things given, when price of a commodity increases, its quantity supplied increases and when the price falls, the quantity supplied also falls.

In this context, it would be useful to have an idea regarding the meanings of the terms extension (or expansion) & contraction **and** increase and decrease in supply.

Extension and contraction of supply

When price of a commodity rises and its quantity supplied increases, it is known as extension of supply and conversely when the price falls, and the quantity supplied decreases, it is known as contraction of supply.

The idea regarding these is given in the following diagram.

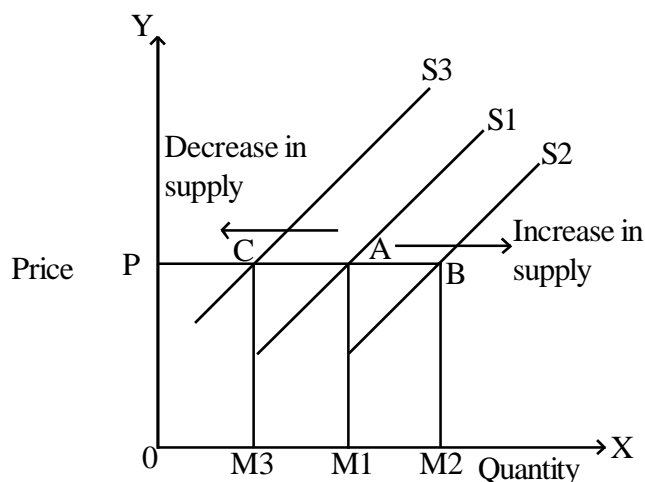


In the above diagram when the price rises from OP to OP_1 , the quantity supplied increases from OM to OM_1 . The movement from A to B is the expansion of supply. Likewise when the price falls from OP to OP_2 , the quantity supplied falls from OM to OM_2 . This is known as contraction of supply. The movement from A to C is the contraction of supply.

1. **Extension and contraction are due to price changes.**
2. **They are the movements on the same supply curve.**

Now let us see the meaning of increase and decrease in supply.

Increase in supply takes place, when a larger quantity is supplied even when the price is constant due to changes in the factors such as changes in government policies, technology etc. and likewise the decrease in the supply takes place when the price remaining constant, the supply decreases due to the factors, such as the changes in government policies, factor prices, transportation etc. See the following diagram.



Here movement of the supply curve on the right hand side, is known as increase in supply. In the same manner, when the supply curve moves to the left hand side. It is known as decrease in supply.

Thus :

1. Increase and decrease in supply are due to changes in the factors other than the price of the product. These are the factors affecting supply.
2. They are the movement of the entire supply curve.
3. When increase in supply takes place, the supply curve moves in the right hand direction and when decrease in supply takes place, the supply curve moves in the left-hand direction.

Note : The following points are only for your understanding. They do not constitute a part of the answer.

When does supply increase ?

1. When factor prices fall
2. When technological efficiency improves
3. When future prices are likely to fall
4. when production of substitutes becomes less profitable.
5. When firm deliberately sells more at low price to increase market share.
6. When transport and communication improve.
7. When imports increase

When does supply decrease ?

1. When factor prices rise.
2. When exports increase
3. When future prices are likely to rise.
4. When production of substitutes becomes more profitable
5. When government introduces price controls.

Elasticity of supply & factors affecting elasticity of supply

According to the law of supply there is a direct relationship between price of a product and its quantity supplied. However the law does not tell us anything about the changes that would take place in the quantity supplied of a product when there is a given change in the price. This idea is given by the concept of elasticity of supply.

Meaning :

Elasticity of supply can be defined as the measure of the ratio of percentage change in the quantity supplied of a product and percentage change in its price.

Measurement : There are two popular methods for measuring the elasticity of supply. One is the percentage formula given by Prof. Marshall. The percentage formula can be used to estimate the elasticity of supply as follows :

$$E_s = \frac{\% \text{ change in } q_s}{\% \text{ change in price}}$$

OR

$$E_s = \frac{\text{change in quantity supplied} / \text{original quantity supplied}}{\text{Change in price} / \text{original price}}$$

Measurement of supply-elasticity : The elasticity of supply can be considered with reference to a given point on the supply curve or between two points on the supply curve.

When elasticity is measured at a given point on the supply curve, it is called point elasticity.

Just as in demand, point-elasticity of supply can be measured with the help of the following formula :

$$E_s = \frac{dq}{dp} \times \frac{p}{q}$$

Es: The Supply function is given as $q = -100 + 10p$. Find the elasticity of supply using point method, when price is ' 15.

$$E_s = \frac{dq}{dp} \times \frac{p}{q}$$

$$\text{Since } \frac{dq}{dp} = 10, p = ₹ 15, q = -100 + 10(15)$$

$$q = 50$$

$$\therefore E_s = 10 \times \frac{15}{50}$$

$$\text{or } E_s = 3$$

Where $\frac{dq}{dp}$ is differentiation of the supply function with respect to price and p and q refer to price and quantity respectively.

The other method is known as Arc-elasticity method which is used when price and quantity changes are of a relatively bigger magnitude. This method is as follows :

Arc – Elasticity Method is also used for measuring the elasticity of supply. According to this method;

$$ES = \frac{\frac{\Delta Q_s}{Q_1 + Q_2}}{\frac{\Delta P}{P_1 + P_2}}$$

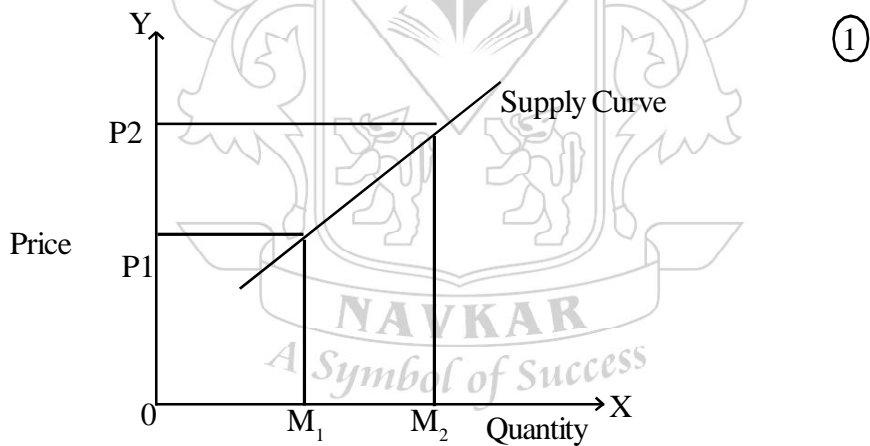
Δ = change
 Q1 = Old quantity
 Q2 = New quantity
 P1 = Old Price
 P2 = New Price.

Thus in other words the elasticity of supply is the measure of the responsiveness of the supply to price changes.

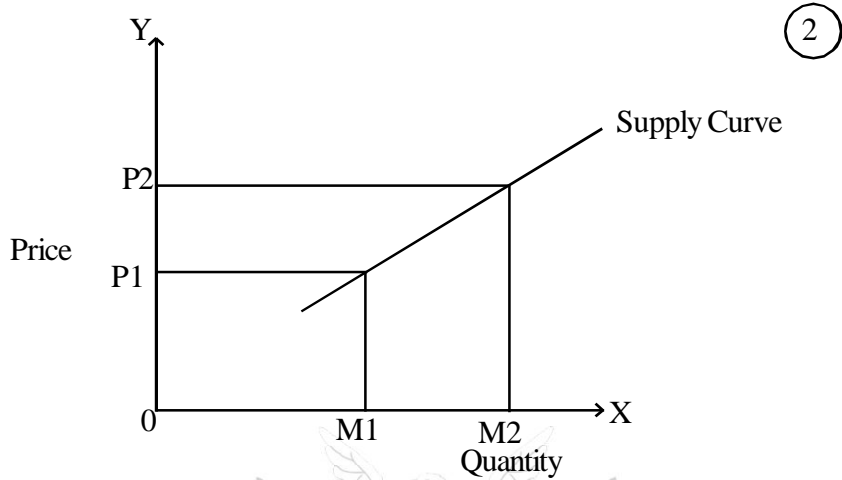
Greater the change in the quantity supplied of a product for a given change in price, greater is said to be the elasticity of supply and smaller the change in the quantity supplied of the product for a given change in price, smaller is said to be the elasticity of supply.

Types Of Elasticity Of Supply :

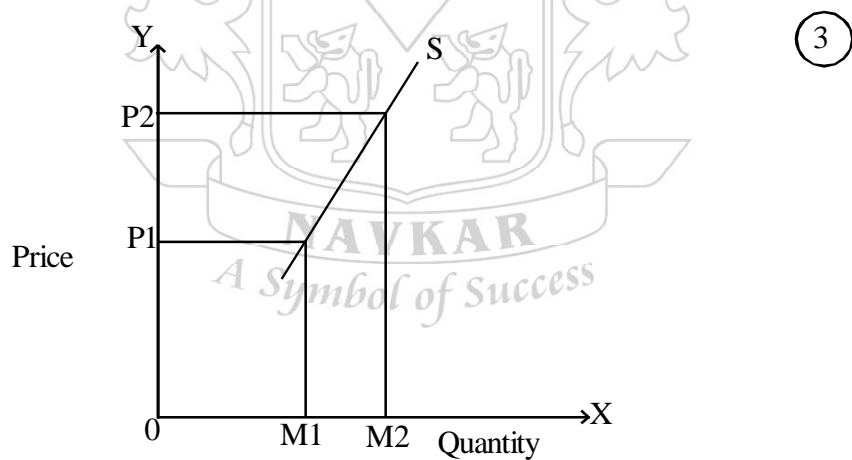
- 1. Unitary Elastic Supply :** This is a situation where percentage change in quantity supplied is equal to percentage change in price. The diagram given here represents this type of elasticity of supply. Here change in supply M_1M_2 is equal to change in the price $= P_1P_2$.



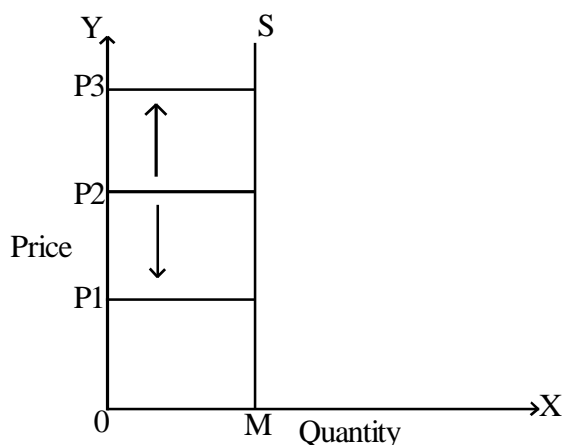
2. **Elastic Supply Or Elasticity Of Supply > 1** : This is a situation where the percentage change in quantity supplied is greater than percentage change in price. The diagram given here shows this type of situation. Here the change in supply $M_1M_2 > P_1P_2$.



3. **Inelastic Supply Or Elasticity Of Supply < 1** : This can be described as a situation where the percentage change in quantity supplied is less than the percentage change in price. The diagram given here shows this type of situation. The change in the quantity supplied M_1M_2 is smaller than the change the price P_1P_2 .

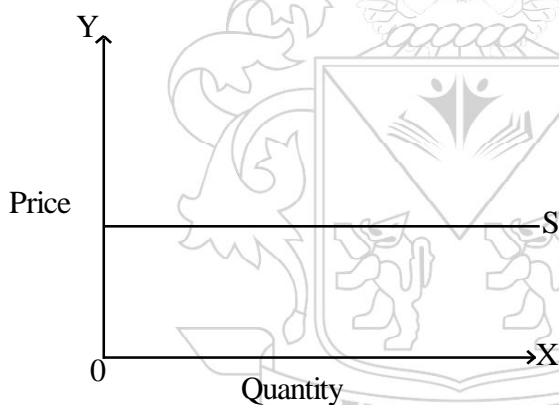


4. **Perfectly Inelastic Supply** : This is a rare situation where the quantity supplied remains constant irrespective of the price changes. The diagram given here shows that the supply is constant at OM whatever may be the change its price. Here the supply curve is a vertical straight line parallel to Y-axis, Here $ES = 0$



4

5. **Perfectly Elastic Supply** : This is also a rare situation where the supply is highly sensitive to price changes. The quantity supplied changes in an unlimited proportion even with a minor change in price. Here the supply curve is a horizontal straight line parallel to the X-axis. Here ES is infinity.



5

⇒ Factors Affecting Elasticity Of Supply :

The following factors determine the elasticity of supply.

1. **Natural Factors** : The supply of certain products depends upon natural factors e.g. apples, rice, etc. Here the supply is inelastic. E.g. Even if the price of apples goes up, its supply cannot be increased. On the other hand the supply of product the supply of which depends upon human efforts. E.g. pencils, furniture, etc. is highly elastic. The production of these goods can be immediately and significantly increased in response to price change.
2. **Availability of Complementary Factors** : The supply of goods will also be inelastic if complementary factors are not available e.g. even if the price of cotton textiles increases, their supply cannot be increased if complementary factors like electricity, transport etc. are not available in enough quantity.
3. **Unused Production Capacity** : If the industries in the country operate with excess unused capacities, their supply would be highly elastic because as soon as prices of the goods of these industries go up producers would start producing more by using unused capacities.
4. **Nature of Products** : Certain products require a great degree of skill and training which cannot be immediately acquired e.g. marble statues, carpets, hand-woven silk sarees etc. Their supply cannot be immediately increased because the workers to produce these goods are not easily available and also they cannot be easily trained.

5. **Time Period** : Generally the supply of various products is inelastic during a short period and highly elastic in the long run. This is because the supply can be easily increased in the long run by expanding production capacities of the existing units and setting up new units in various industries.
6. **Rare Articles** : The supply of rare articles is perfectly inelastic e.g. the supply of the things like Gandhiji's handwriting or paintings of deceased (dead) painters cannot be increased whatever may be the increase in their price. The supply of such goods is fixed and so can not respond to price changes.
7. **Additional Cost** : Sometimes due to the operation of the law of Diminishing returns, the additional cost of production is high, then the supply of the product would not increase even if the price of the product goes up, e.g. if the additional cost of bringing out coal from the coal mines is very high compared to the increase in price, the supply would not increase even if the price goes up.
8. **Technology** : The firms employing capital intensive technology can easily increase the production with the increase in demand and so the supply of such firms is highly elastic. The supply of goods in whose production labour intensive technology is used is relatively inelastic.

REMEMBER THE FOLLOWING POINTS

Law of supply

- Supply refers to the amount of a good or a service that the producers are willing and able to offer to the market at various prices during a given time period.
- Supply is a flow. Different quantities are supplied at different prices.
- The law of supply shows the direct relationship between price of a commodity and its quantity supplied.
- Normally the supply curve has a positive slope.
- The supply curve of labour is backward bending curve.
- The law of supply does not apply to the commodities like food, labour etc.
- The extension and contraction of supply are the result of the changes in the price of a commodity. They are movements along a supply curve.
- The increase and decrease in supply are due to the changes in the factors other than the price of the commodity. They show either a right ward or left ward shift of the supply curve.

Elasticity of supply

- The elasticity of supply is the responsiveness of the quantity supplied of a commodity to changes in its price.
- When supply is perfectly inelastic the supply curve is a vertical straight line parallel to the Y axis.
- When supply is perfectly elastic the supply curve is a horizontal straight line parallel to the X axis.
- The supply of labour intensive products is inelastic and that of the capital intensive products is elastic.
- The supply of storeable commodities is elastic and the supply of perishable commodities is inelastic.

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CLASS WORK

1. Demand for a commodity refers to :
 - (a) desire for the commodity.
 - (b) need for the commodity.
 - (c) quantity demanded of that commodity.
 - (d) quantity of the commodity demanded at a certain price during any particular period of time.
2. Contraction of demand is the result of :
 - (a) decrease in the number of consumers.
 - (b) increase in the price of the good concerned.
 - (c) increase in the prices of other goods.
 - (d) decrease in the income of purchasers.
3. All but one of the following are assumed to remain the same while drawing an individual's demand curve for a commodity. Which one is it?
 - (a) The preference of the individual.
 - (b) His monetary income.
 - (c) Price.
 - (d) Price of related goods.
4. Which of the following pairs of goods is an example of substitutes?
 - (a) Tea and sugar.
 - (b) Tea and coffee.
 - (c) Pen and ink.
 - (d) Shirt and trousers.
5. In the case of a straight line demand curve meeting the two axes, the price-elasticity of demand at the mid-point of the line would be
 - (a) 0
 - (b) 1
 - (c) 1.5
 - (d) 2
6. The Law of Demand, assuming other things to remain constant, establishes the relationship between :
 - (a) income of the consumer and the quantity of a good demanded by him.
 - (b) price of a good and the quantity demanded.
 - (c) price of a good and the demand for its substitute.
 - (d) quantity demanded of a good and the relative prices of its complementary goods.
7. Identify the factor which generally keeps the price-elasticity of demand for a good low :
 - (a) Variety of uses for that good.
 - (b) Its low price.
 - (c) Close substitutes for that good.
 - (d) High proportion of the consumer's income spent on it.
8. Identify the coefficient of price-elasticity of demand when the percentage increase in the quantity of a good demanded is smaller than the percentage fall in its price :
 - (a) Equal to one.
 - (b) Greater than one.
 - (c) Smaller than one.
 - (d) Zero.
9. In the case of an inferior good, the income elasticity of demand is :
 - (a) positive.
 - (b) zero.
 - (c) negative.
 - (d) infinite.
10. 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 :
 - (a) remain the same.
 - (b) increase.
 - (c) decrease.
 - (d) any of these.
11. If regardless of changes in its price, the quantity demanded of a good remains unchanged, then the demand curve for the good will be :
 - (a) horizontal.
 - (b) vertical.
 - (c) positively sloped.
 - (d) negatively sloped.
12. The law of demand is :
 - (a) a quantitative statement.
 - (b) a qualitative statement.
 - (c) both a quantitative and a qualitative statement.

- (d) neither a quantitative nor a qualitative statement.
- 13.** All of the following are determinants of demand except :
- tastes and preferences.
 - quantity supplied.
 - income.
 - price of related goods.
- 14.** A movement along the demand curve for soft drinks is best described as :
- An increase in demand.
 - A decrease in demand.
 - A change in quantity demanded.
 - A change in demand.
- 15.** If the price of Pepsi decreases relative to the price of Coke and 7-UP, the demand for :
- coke will decrease.
 - 7-UP will decrease.
 - coke and 7-UP will increase.
 - coke and 7-UP will decrease.
- 16.** If a good is a luxury, its income elasticity of demand is :
- positive and less than 1.
 - negative but greater than -1.
 - positive and greater than 1.
 - zero.
- 17.** The price of hot dogs increases by 22% and the quantity of hot dogs demanded falls by 25%. This indicates that demand for hot dogs is :
- elastic. (b) inelastic.
 - unitarily elastic.
 - perfectly elastic.
- 18.** If the quantity demanded of beef increases by 5% when the price of chicken increases by 20%, the cross-price elasticity of demand between beef and chicken is
- 0.25 (b) 0.25
 - 4 (d) 4
- 19.** Given the following four possibilities, which one results in an increase in total consumer expenditures?
- demand is unitary elastic and price falls.
 - demand is elastic and price rises.
 - demand is inelastic and price falls.
 - demand is inelastic and prices rises.
- 20.** The price elasticity of demand for hamburger is
- the change in the quantity demanded of hamburger when hamburger increases by 30 paise per rupee.
 - the percentage increase in the quantity demanded of hamburger when the price of hamburger falls by 1 per cent per rupee.
 - the increase in the demand for hamburger when the price of hamburger falls by 10 per cent per rupee.
 - the decrease in the quantity demanded of hamburger when the price of hamburger falls by 1 per cent per rupee.
- 21.** The price elasticity of demand is defined as the responsiveness of :
- price to a change in quantity demanded.
 - quantity demanded to a change in price.
 - price to a change in income.
 - quantity demanded to a change in income.
- 22.** Suppose the price of movies seen at a theater rises from Rs. 120 per person to Rs. 200 per person. The theater manager observes that the rise in price causes attendance at a given movie to fall from 300 persons to 200 persons. What is the price elasticity of demand for movies?
- .5 (b) .8
 - 1.0 (d) 1.2
- 23.** Suppose a department store has a sale on its silverware. If the price of a plate-setting is reduced from Rs. 300 to Rs. 200 and the quantity demanded increases from 3,000 platesettings to 5,000 plate-settings, what is the price elasticity of demand for silverware?
- .8 (b) 1.0
 - 1.25 (d) 1.50
- 24.** A discount store has a special offer on CDs. It reduces their price from Rs. 150 to Rs. 100. Suppose the store manager observes that the quantity demanded increases from 700 CDs to 1,300 CDs. What is the price elasticity of demand for CDs?

- (a) .8 (b) 1.0
(c) 1.25 (d) 1.50
- 25.** If the local pizzeria raises the price of a medium pizza from Rs. 60 to Rs. 100 and quantity demanded falls from 700 pizzas a night to 100 pizzas a night, the price elasticity of demand for pizzas is :
- (a) .67 (b) 1.5
(c) 2.0 (d) 3.0
- 26.** If electricity demand is inelastic, and electric rates increase, which of the following is likely to occur?
- (a) Quantity demanded will fall by a relatively large amount.
(b) Quantity demanded will fall by a relatively small amount.
(c) Quantity demanded will rise in the short run, but fall in the long run.
(d) Quantity demanded will fall in the short run, but rise in the long run.
- 27.** Suppose the demand for meals at a medium-priced restaurant is elastic. If the management of the restaurant is considering raising prices, it can expect a relatively :
- (a) large fall in quantity demanded.
(b) large fall in demand.
(c) small fall in quantity demanded.
(d) small fall in demand.
- 28.** Point elasticity is useful for which of the following situations?
- (a) The bookstore is considering doubling the price of notebooks.
(b) A restaurant is considering lowering the price of its most expensive dishes by 50 percent.
(c) An auto producer is interested in determining the response of consumers to the price of cars being lowered by Rs. 100.
(d) None of the above.
- 29.** A decrease in price will result in an increase in total revenue if :
- (a) the percentage change in quantity demanded is less than the percentage change in price.
(b) the percentage change in quantity demanded is greater than the percentage change in price.
(c) demand is inelastic.
(d) the consumer is operating along a linear demand curve at a point at which the price is very low and the quantity demanded is very high.
- 30.** An increase in price will result in an increase in total revenue if :
- (a) the percentage change in quantity demanded is less than the percentage change in price.
(b) the percentage change in quantity demanded is greater than the percentage change in price.
(c) demand is elastic.
(d) the consumer is operating along a linear demand curve at a point at which the price is very high and the quantity demanded is very low.
- 31.** Demand for a good will tend to be more elastic if it exhibits which of the following characteristics?
- (a) It represents a small part of the consumer's income.
(b) The good has many substitutes available.
(c) It is a necessity (as opposed to a luxury).
(d) There is little time for the consumer to adjust to the price change.
- 32.** Demand for a good will tend to be more inelastic if it exhibits which of the following characteristics?
- (a) The good has many substitutes.
(b) The good is a luxury (as opposed to a necessity).
(c) The good is a small part of the consumer's income.
(d) There is a great deal of time for the consumer to adjust to the change in prices.
- 33.** Suppose a consumer's income increases from Rs. 30,000 to Rs. 36,000. As a result, the consumer increases her purchases of compact discs (CDs) from 25 CDs to 30 CDs. What is the consumer's income elasticity of demand for

- CDs?
 (a) 0.5 (b) 1.0
 (c) 1.5 (d) 2.0
- 34.** Total utility is maximum when :
 (a) marginal utility is zero.
 (b) marginal utility is at its highest point.
 (c) marginal utility is equal to average utility.
 (d) average utility is maximum.
- 35.** Which one is not an assumption of the theory of demand based on analysis of indifference curves?
 (a) Given scale of preferences as between different combinations of two goods.
 (b) Diminishing marginal rate of substitution.
 (c) Constant marginal utility of money.
 (d) Consumers would always prefer more of a particular good to less of it, other things remaining the same.
- 36.** The consumer is in equilibrium at a point where the budget line :
 (a) is above an indifference curve.
 (b) is below an indifference curve.
 (c) is tangent to an indifference curve.
 (d) cuts an indifference curve.
- 37.** An indifference curve slopes down towards right since more of one commodity and less of another result in :
 (a) same satisfaction.
 (b) greater satisfaction.
 (c) maximum satisfaction.
 (d) decreasing expenditure.
- 38.** Which of the following statements is incorrect?
 (a) An indifference curve must be downward-sloping to the right.
 (b) convexity of a curve implies that the slope of the curve diminishes as one moves from left to right .
 (c) The elasticity of substitution between two goods to a consumer is zero.
 (d) The total effect of a change in the price of a good on its quantity demanded is called the price effect.
- 39.** The second glass of lemonade gives lesser satisfaction to a thirsty boy. This is a clear case of
 (a) Law of demand.
 (b) Law of diminishing returns.
 (c) Law of diminishing utility.
 (d) Law of supply.
- 40.** The consumer is in equilibrium when the following condition is satisfied :
 (a) $\frac{MU_x}{MU_y} > \frac{p_x}{p_y}$. (b) $\frac{MU_x}{MU_y} < \frac{p_x}{p_y}$.
 (c) $\frac{MU_x}{MU_y} = \frac{p_x}{p_y}$. (d) None
- 41.** In the case of a Giffen good, the demand curve will be :
 (a) horizontal.
 (b) downward-sloping to the right.
 (c) vertical.
 (d) upward-sloping to the right.
- 42.** By consumer surplus economists mean
 (a) the area inside the budget line.
 (b) the area between the average revenue and marginal revenue curves.
 (c) the different between the maximum amount a person is willing to pay for a good and its market price.
 (d) none of the above.
- 43.** Which of the following is a property of an indifference curve?
 (a) it is convex to the origin.
 (b) the marginal rate of substitution is constant as you move along an indifference curve.
 (c) marginal utility is constant as you move along an indifference curve.
 (d) total utility is greatest where the 45 degree line cuts the indifference curve.
- 44.** When economists speak of the utility of a certain good, they are referring to
 (a) the demand for the good.
 (b) the usefulness of the good in consumption.
 (c) the satisfaction gained from consuming the good.

- (d) the rate at which consumers are willing to exchange one good for another.
45. A vertical supply curve parallel to Y axis implies that the elasticity of supply is :
- Zero
 - Infinity
 - Equal to one
 - Greater than zero but less than infinity.
46. The supply of a good refers to :
- actual production of the good.
 - total existing stock of the good.
 - stock available for sale.
 - amount of the good offered for sale at a particular price per unit of time.
47. An increase in the supply of a good is caused by :
- improvements in its technology.
 - fall in the prices of other goods.
 - fall in the prices of factors of production.
 - all of the above.
48. Elasticity of supply refers to the degree of responsiveness of supply of a good to changes in its :
- demand.
 - price.
 - cost of production.
 - state of technology.
49. A horizontal supply curve parallel to the quantity axis implies that the elasticity of supply is :
- zero.
 - infinite.
 - equal to one.
 - greater than zero but less than one.
50. Contraction of supply is the result of :
- decrease in the number of producers.
 - decrease in the price of the good concern.
 - increase in the prices of other goods.
 - decrease in the outlay of sellers.
51. Conspicuous goods are also known as
- prestige goods
 - snob goods
 - veblen goods
 - all of the above
52. The quantity purchased will remain constant irrespective of the change in income. This is known as
- negative income elasticity of demand
 - income elasticity of demand less than one
 - zero income elasticity of demand
 - income elasticity of demand is greater than one
53. As income increases, the consumer will go in for superior goods and consequently the demand for inferior goods will fall. This means:
- income elasticity of demand less than one
 - negative income elasticity of demand
 - zero income elasticity of demand
 - unitary income elasticity of demand
54. When income increases the money spent on necessities of life may not increase in the same proportion, This means
- income elasticity of demand is zero
 - income elasticity of demand is one
 - income elasticity of demand is greater than one
 - income elasticity of demand is less than one
55. The luxury goods like jewellery and fancy articles will have
- low income elasticity of demand
 - high income elasticity of demand
 - zero income elasticity of demand
 - none of the above
56. The good which cannot be consumed more than once is known as
- durable good
 - non-durable good
 - producer good
 - none of the above
57. A relative price is
- price expressed in terms of money
 - what you get paid for babysitting your cousin
 - the ratio of one money price to another
 - equal to a money price
58. The quantity demanded of a good or service is the amount that

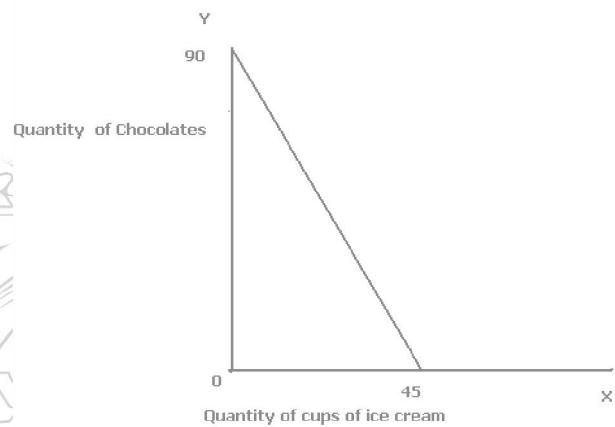
- a. consumer plan to buy during a given time period at a given price
 b. firms are willing to sell during a given time period at a given price
 c. a consumer would like to buy but might not be able to afford
 d. is actually bought during a given time period at a given price.
- 59.** Demand is the
 a. unlimited wants of consumers
 b. entire relationship between the quantity demanded and the price of a good
 c. willingness to pay for a good if income is larger enough
 d. ability to pay for a good
- 60.** If, as people's income increases, the quantity demanded of a good decreases, the good is called
 a. a substitute
 b. a normal good
 c. an inferior good
 d. a complement
- 61.** The price of tomatoes increases and people buy tomato puree. You infer that tomato puree and tomatoes are
 a. normal goods b. complements
 c. substitutes d. inferior goods
- 62.** Chicken and fish are substitutes. If the price of chicken increases, the demand for fish will
 a. increase or decrease but the demand curve for chicken will not change
 b. increase and the demand curve for fish will shift rightwards.
 c. not change but there will be a movement along the demand curve for fish.
 d. decrease and the demand curve for fish will shift leftwards.
- 63.** Potato chips and popcorn are substitutes. A rise in the price of potato chips will _____ the demand for popcorn and the quantity of popcorn will _____
 a. increase; increase
 b. increase; decrease
 c. decrease; decrease
 d. decrease; increase
- 64.** Apple juice and orange juice are substitutes in consumption and apple juice and apple sauce are substitutes in production. If the price of orange juice _____ or the price of apple sauce _____, then the price of apple juice will _____
 a. increases; increases; increase
 b. decreases; decreases; increase
 c. decreases; increases; decrease
 d. increases; decreases; increase
- 65.** An increase in the demand for computers and an increase in the number of sellers of computers will
 a. increase the number of computers bought
 b. decrease the price but increase the number of computers bought
 c. increase the price of a computer
 d. increase the price and the number of computers bought.
- 66.** When total demand for a commodity whose price has fallen increases, it is due to:
 a. income effect.
 b. substitution effect
 c. complementary effect
 d. price effect
- 67.** With a fall in the price of a commodity:
 a. consumer's real income increases
 b. consumer's real income decreases
 c. there is no change in the real income of the consumer
 d. none of the above
- 68.** With an increase in the price of diamond, its demand also increases. This is because it is a:
 a. substitute good
 b. complementary good
 c. conspicuous good
 d. none of the above
- 69.** The goods that exhibit direct price-demand relationship are called:
 a. Giffen goods
 b. Complementary goods
 c. Substitute goods

- d. None of the above
- 70.** In Economics when demand for a commodity increases with a fall in its price it is known as:
- contraction of demand
 - expansion of demand
 - no change in demand
 - none of the above
- 71.** The quantity supplied of a good or service is the amount that
- is actually bought during a given time period at a given price
 - producers wish they could sell at a higher price
 - producers plan to sell during a given time period at a given price
 - people are willing to buy during a given time period at a given price
- 72.** Supply is the
- limited resources that are available with the seller
 - cost of producing a good
 - entire relationship between the quantity supplied and the price of good.
 - Willingness to produce a good if the technology to produce it becomes available.
- 73.** In the book market, the supply of books will decrease if any of the following occurs except
- a decrease in the number of book publishers
 - a decrease in the price of the book
 - an increase in the future expected price of the book
 - an increase in the price of paper used.
- 74.** If the price of a video rental is below the equilibrium price, the quantity supplied is — — — — — than the quantity demanded. If the price of video rentals is above the equilibrium price, the quantity supplied is — — — — — than the quantity demanded.
- less; greater
 - greater; greater
 - greater; less
 - less; less
- 75.** An increase in the number of sellers of bikes will increase the
- the price of a bike
 - demand for bikes
 - the supply of bikes
 - demand for helmets
- 76.** If the supply of bottled water decreases, the equilibrium price ————— and the equilibrium quantity —————
- increases ; decreases
 - decreases; increases
 - decreases; decreases
 - increases; increases
- 77.** An increase in the demand for cameras and an increase in the number of sellers of cameras will
- increase the number of cameras bought
 - decrease the price but increase the number of cameras bought
 - increase the price of cameras
 - increase the price and the number of cameras bought.
- 78.** If good growing conditions increases the supply of strawberries and hot weather increases the demand for strawberries, the quantity of strawberries bought
- increases and the price might rise, fall or not change
 - doesn't change but the price rises
 - doesn't change but the price falls
 - increases and the price rises.
- 79.** Comforts lies between the
- inferior goods and necessities
 - luxuries and inferior goods
 - necessaries and luxuries
 - none of the above
- 80.** In a very short period the supply
- can be changed
 - can not be changed
 - can be increased
 - none of the above
- 81.** A lower supply curve indicates
- Smaller supply
 - larger supply
 - constant supply
 - none of the above
- 82.** When supply curve moves to rights it means
- supply increases
 - supply decreases

- c. supply remains constant
 - d. none of the above
- 83.** The elasticity of supply is defined as the
- a. responsiveness of the quantity supplied of a good to a change in its price
 - b. responsiveness of the quantity supplied of a good without change in its price
 - c. responsiveness of the quantity demanded of a good to a change in its price
 - d. responsiveness of the quantity demanded of a good without change in its price
- 84.** Elasticity of supply is measured by dividing the percentage change in quantity supplied of a good by _____
- a. Percentage change in income
 - b. Percentage change in quantity demanded of goods
 - c. Percentage change in price
 - d. Percentage change in taste and preference
- 85.** Elasticity of supply is zero means
- a. perfectly inelastic supply
 - b. perfectly elastic supply
 - c. imperfectly elastic supply
 - d. none of the above
- 86.** Elasticity of supply is greater than one when
- a. proportionate change in quantity supplied is more than the proportionate change in price.
 - b. proportionate change in price is greater than the proportionate change in quantity supplied.
 - c. change in price and quantity supplied are equal
 - d. None of the above
- 87.** If the quantity supplied is exactly equal to the relative change in price then the elasticity of supply is
- a. less than one
 - b. greater than one
 - c. one
 - d. none
- 88.** The price of a commodity decreases from Rs. 6 to Rs. 4 and his demand for goods increases from 10 units to 15 units, Find the coefficient

of price elasticity.

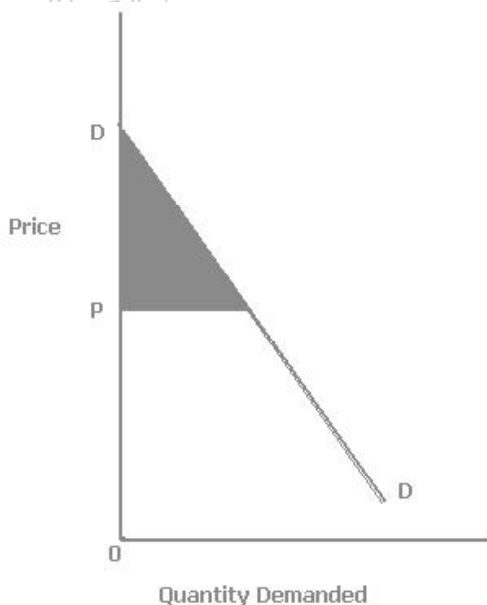
- a. 1.5
 - b. 2.5
 - c. -1.5
 - d. 0.5
- 89.** The supply function is given as $Q = -100 + 10P$. Find the elasticity using point method, when price is Rs.15
- a. 4
 - b. -3
 - c. -5
 - d. 3
- 90.** The figure below shows the budget constraint of a consumer with an income of ` 900/- to spend on two commodities, namely ice cream and chocolates.



The prices of these two commodities respectively are:

- (a) ` 10 and ` 20
 - (b) ` 20 and ` 10
 - (c) ` 10 and ` 5
 - (d) Any of the above.
- 91.** Which of the following statements about price elasticity of demand is correct?
- (a) Price elasticity of demand is a measure of how much the quantity demanded of a good responds to a change in the price of that good.
 - (b) Price elasticity of demand is computed as the percentage change in quantity demanded divided by the percentage change in price.
 - (c) Price elasticity of demand in the long run would be different from that of the short run.
 - (d) All the above.

92. The aim of the consumer in allocating his income is to _____.
- maximize his total utility.
 - maximize his marginal utility.
 - to buy the goods he wants most whatever the price.
 - to buy the goods which he expects to be short in supply.
93. At higher prices people demand more of certain goods not for their worth but for their prestige value – This is called
- veblen effect.
 - giffens paradox.
 - speculative effect.
 - none of the above.
94. If the price of air-conditioner increases from ₹ 30,000 to ₹ 30,010 and resultant change in demand is negligible, we use the measure of _____ to measure elasticity.
- point elasticity.
 - perfect elasticity.
 - perfect inelasticity.
 - price elasticity.
95. If the percentage change in supply is less than the percentage change in price it is called
- unit elasticity of supply.
 - perfectly elastic.
 - more elastic supply.
 - inelastic supply.
96. The supply curve shifts to the right because of _____
- improved technology.
 - increased price of factors of production.
 - increased excise duty.
 - all of the above.
97. Which of the following statements is correct?
- When the price falls the quantity demanded falls.
 - Seasonal changes do not affect the supply of a commodity.
 - Taxes and subsidies do not influence the supply of the commodity.
 - With lower cost, it is profitable to supply more of the commodity.
98. If the demand is more than supply, then the pressure on price will be
- upward
 - downward
 - constant
 - none of the above
99. The supply curve for perishable commodities is _____.
- elastic
 - inelastic
 - perfectly elastic
 - perfectly inelastic
100. Supply is a _____ concept.
- stock
 - flow and stock
 - flow
 - none of the above
101. The cross elasticity between Rye bread and Whole Wheat bread is expected to be:
- positive
 - negative
 - zero
 - can't say
102. In the diagram given below, the shaded portion represents.



- Price above which there is no demand for the commodity.
- Monopoly price of the commodity.
- Consumer surplus.
- None of the above.

HOME WORK

- 103.** The income elasticity of tomatoes is 0.25, it means tomatoes are:
 (a) inferior goods. (b) luxury goods.
 (c) normal goods. (d) can't say.
- 104.** The cross elasticity between personal computers and soft wares is:
 (a) positive. (b) negative.
 (c) zero. (d) one.
- 105.** The cross elasticity between Bread and DVDs is:
 (a) positive. (b) negative.
 (c) zero. (d) one.
- 106.** Which of the following statements is correct?
 (a) With the help of statistical tools, the demand can be forecasted accurately.
 (b) The more the number of substitutes of a commodity, more elastic is the demand.
 (c) Demand for butter is perfectly elastic.
 (d) Gold jewellery will have negative income elasticity.
- 107.** Suppose the income elasticity of education in private school in India is 1.6. What does this indicate:
 (a) Private school education is a luxury.
 (b) Private school education is a necessity.
 (c) Private school education is an inferior commodity.
 (d) We should have more private schools.
- 108.** Suppose potatoes have (-).0.4 as income elasticity. We can say from the data given that:
 (a) Potatoes are inferior goods.
 (b) Potatoes are superior goods.
 (c) Potatoes are necessities.
 (d) There is a need to increase the income of consumers so that they can purchase potatoes.
- 1.** Demand of commodity refers to
 (a) Need for commodity
 (b) Quantity demanded at certain a price and at a point of time
 (c) Desire for the commodity
 (d) Feeling of deprivation
- 2.** Demand for Pepsi and Coke is called:
 (a) Joint Demand
 (b) Competitive Demand
 (c) Complementary demand
 (d) Derived demand,
- 3.** When demand curve shifts upward to the right of the original curve then it is called
 (a) Extension in demand
 (b) Contraction in demand
 (c) Increase in demand
 (d) Decrease in demand
- 4.** Giffen paradox means:
 (a) Negative demand curve
 (b) Positive demand curve
 (c) Horizontal demand curve
 (d) Vertical demand curve.
- 5.** Rise in Price when accompanied by fall in demand, is known as :
 (a) Contraction in demand
 (b) Extension in demand
 (c) Increases in demand
 (d) Decrease in demand.
- 6.** If new demand curve shifts downward to left hand side, it is :
 (a) Increase In demand
 (b) Decrease in demand
 (c) Extension In demand
 (d) Contraction in demand.
- 7.** Demand for Car and petrol is :
 (a) Joint demand
 (b) Direct demand
 (c) Composite demand
 (d) Competitive demand.:

8. Law of demand implies:
 (a) Fall In demand due to rise in price
 (b) Rise In demand due to rise in price
 (c) No change in demand due to no change in price
 (d) None of these
9. Same price, more demand means
 (a) Increase in demand
 (b) Decrease in demand
 (c) Extension In demand
 (d) None of these
10. Factor that does not affect demand:
 (a) Price
 (b) Income
 (c) Price of related good
 (d) Religious sermons.
11. Same price, less demand means:
 (a) Increase in demand
 (b) Contraction in demand
 (c) Decrease in demand
 (d) Extension in demand.
12. Demand schedule expresses relationship between,
 (a) Price and quantity supplied
 (b) Price and quantity demanded
 (c) Increase in quantity demanded
 (d) Increase in quantity supplied.
13. When price falls, demand expands it is called:
 (a) Fall in demand
 (b) Contraction in demand
 (c) Extension in demand
 (d) Rise in demand.
14. Which one is not an exception to the Law of Demand;
 (a) Articles of Distinction
 (b) Ignorance
 (c) Inferior good
 (d) Normal good.
15. The relationship between price of a commodity and demand for the commodity and its price, ceteris paribus, is:
 (a) negative (inverse)
 (b) positive
 (c) non-negative
 (d) non-positive.
16. When price of a commodity falls, then the supply of the commodity:
 (a) rises (b) is not affected
 (c) tends to rise (d) also falls.
17. When demand for a commodity rises, the demand curve then, shifts:
 (a) To the right (b) Downwards
 (c) To the left (d) None
18. The demand curve slopes downwards in accordance with:
 (a) The law of supply
 (b) The principle proportionality
 (c) The Malthusian theory of population
 (d) The law of diminishing marginal utility.
19. Contraction of demand is the result of
 (a) Increase in price
 (b) Decrease in income
 (c) Change in preference
 (d) Higher tax upon commodity
20. Which of the following is not the assumption of law of demand ?
 (a) Income is constant
 (b) Preference does not change
 (c) Price remains constant
 (d) Number of buyers remain constant
21. Which of the following keeps price elasticity of a good low ?
 (a) Low price of the good
 (b) Low income of people
 (c) Comfort goods
 (d) Substitute goods
22. On a straight line demand curve meeting both the axis price elasticity at horizontal axis will be :
 (a) 0 (b) 1
 (c) α (d) 0.2
23. The supply of goods refers to:
 (a) actual production of a good
 (b) total stock of the good
 (c) stock available for sale
 (d) amount of the good offered for sale at a particular price per unit of time.

- 24.** Other things remaining constant, the law of demand states:
- demand for a commodity is
 - as demand rises, price rises inversely related to its price.
 - the demand for a commodity depends upon its price, level of income and price of related goods.
 - Price is not related to demand.
- 25.** When marginal utility is negative, then total utility
- becomes zero
 - becomes negative
 - increases
 - decreases
- 26.** Expansion and contraction in demand are caused by:
- Change in price of a commodity
 - Change in income
 - Change in the prices of related goods
 - Change in population
- 27.** State which of the following statements is correct.
- Inferior goods have negative income elasticity
 - Shorter the time period, greater is the possibility of increasing the supply of a product in response to demand
 - In a free economy, the State decides what, how and for whom to produce
 - Ceteris Paribus, if there is a fall in the supply of a product, the price will remain constant.
- 28.** The slope of Indifference Curves indicates :
- Price ratio between two commodities
 - marginal rate of substitution
 - factor substitution
 - level of indifference.
- 29.** In the case of inferior goods, the income elasticity of demand is :
- positive
 - zero
 - negative
 - infinite
- 30.** Consumer's Equilibrium is attained at a point where budget line is :
- above an indifference curve
 - below an indifference curve
 - tangent to an indifference curve
 - cuts an indifference curve
- 31.** When no change in quantity demanded takes place due to a price change, the demand curve will be :
- Horizontal
 - Positively sloped
 - Negative slope
 - Vertical
- 32.** The cross elasticity of complementary goods will be :
- Zero
 - Negative
 - Infinite
 - Two
- 33.** If demand for good is inelastic an increase in price will cause the total expenditure to :
- Remain constant
 - Decrease
 - Increase
 - Negative
- 34.** The shift in the supply curve to the left is referred to as :
- Increase in supply
 - Increase in quantity supplied
 - Decrease in quantity supplied
 - Decrease in supply
- 35.** When a price of substitute of a commodity X falls, the demand for X :
- Rises
 - Remains unchanged
 - Falls
 - Has no effect
- 36.** The indifference curve approach assumes :
- Rationality
 - Consistency
 - Transitivity
 - All of the above
- 37.** Marginal utility curve is a _____ curve :
- Total utility
 - Demand
 - Income
 - None of any
- 38.** A typical Indifference curve is always _____ curve :
- Convex
 - Concave
 - Positive
 - Negative
- 39.** Any point upon the same IC has _____ level of satisfaction.
- Increasing
 - Same
 - Decreasing
 - Different

40. As we move along an IC in an upward direction the MRS_{xy} _____.
- (a) Falls (b) Rises
(c) Remains constant (d) All the three
41. At equilibrium, the slope of the IC is _____.
- (a) Equal to the slope of the budget line
(b) Greater than the slope of the budget line
(c) Smaller than the slope of the budget line
(d) Either equal, Larger or Smaller than the slope of the budget line.
42. Market demand for any good is a function of the
- (a) Price per unit of the good
(b) Price per unit of other goods
(c) Income & Tastes of consumers
(d) All of the above
43. The demand curve for a commodity is generally drawn on the assumption that
- (a) The commodity has no substitutes
(b) Tastes, income and all other prices remain constant
(c) The average house hold consists of two persons
(d) Purchases of the commodity are made by a free market.
44. A higher indifference curve shows
- (a) A higher level of satisfaction
(b) A higher level of production
(c) A higher level of income
(d) None of the above
45. In the case of a Giffen good, the demand curve will be
- (a) Downward sloping to the right
(b) Upward sloping to the right
(c) Vertical
(d) None of the above
46. For most consumers apples and oranges are substitutes goods. Therefore we would expect a rise in the price of apples to lead to
- (a) A rightward shift in the demand curve of oranges
(b) A leftward shift in the supply curve of apples
(c) A downward change in the demand curve of oranges
(d) A fall in the price of oranges
47. Ceteris paribus clause in the Law of Demand does not mean
- (a) The price of the commodity does not change
(b) The price of its substitutes does not change
(c) The income of the consumer does not change
(d) The price of complementary goods does not change
48. In case of an inferior good the income elasticity of demand is :
- (a) Zero (b) Positive
(c) Negative (d) None
49. Which one of the following is true increase of demand for normal goods?
- (a) When Price increases, quantity demand decreases
(b) When Price increases, demand also increases
(c) When Price remains constant, demand falls down
(d) When Price falls down, demand remains constant
50. An exceptional demand curve is one that slopes:
- (a) Upwards to the right
(b) Downwards to the right
(c) Upwards to the left
(d) Horizontally
51. When there is decrease in demand the demand curve
- (a) Moves downwards towards y- axis
(b) Moves upwards away from y - axis
(c) Remains unchanged
(d) None of the above
52. Two goods that have to be consumed simultaneously are
- (a) Identical (b) complementary
(c) Substitutes (d) None of these
53. Which of the following pairs of commodities is an example of substitutes
- (a) Coffee and milk
(b) Diamond and Cow

- (c) Pen and ink
(d) Mustard oil and coconut oil
54. When an individual's income falls (while everything else remains the same), his demand for an inferior good :
- (a) Increases
(b) Decreases
(c) Remains unchanged
(d) We cannot say without additional information
55. If two goods are complements, this means that a rise in the price of one commodity will induce
- (a) An upward shift in demand for the other commodity
(b) A rise in the price of the other commodity
(c) A downward shift in demand for the other commodity
(d) No shift in demand for the other commodity
56. An income-demand curve for a "Luxury commodity" slopes:
- (a) Upwards to the right from the origin
(b) Vertically
(c) Upwards from left to right only beyond a certain level of consumer's income
(d) Horizontally
57. An income demand curve for inferior commodity always slopes
- (a) Upwards to the right
(b) Backwards to the left
(c) Downwards to the right
(d) Horizontally
58. Change in quantity demanded refers to
- (a) Upward shift of the demand curve
(b) Downward shift of the demand curve
(c) Movement on the same demand curve
(d) None of these
59. An increase in demand can result from
- (a) A decline in market price of complement
(b) An increase in income
(c) An increase in the price of substitutes
(d) All of the above
60. If the price of coffee suddenly shoots up, ceteris paribus, the demand curve for Tea is expected to—
- (a) Shift rightward from the original demand curve
(b) Increase
(c) Remain unaffected
(d) Decrease
61. In the case of Giffen good like bajra, a fall in its price tends to—
- (a) Make the demand remain constant
(b) Reduce the demand
(c) Increase the demand
(d) Change demand in an abnormal way
62. Cross demand is the change in the quantity demanded of a given commodity in response to the
- (a) Change in the utility of another commodity
(b) Change in the price of another commodity
(c) Change in the nature of another commodity
(d) Change in the size of another commodity
63. When the demand curve is a rectangular hyperbola, it represents
- (a) Unitary elastic demand
(b) Perfectly elastic demand
(c) Perfectly inelastic demand
(d) Relatively elastic demand
64. Market demand is
- (a) The sum of all individual demands
(b) Demand at prevailing average prices
(c) Ability to pay the price
(d) Demand in a perfectly free market
65. A negative income elasticity of demand for a commodity indicates that as income falls the amount of the commodity purchased
- (a) Rises
(b) Falls
(c) Remains unchanged
(d) Any of the above
66. In measuring price-elasticity
- (a) Price is a dependent variable and quantity is an independent variable
(b) Price is a independent variable and quantity is a dependent variable

- (c) Price and quantity both are independent variables
(d) Price and quantity both are dependent variables
- 67.** Consider a demand curve which takes the form of a straight line cutting both axis. Elasticity at the mid point of the line would be
(a) 0 (b) 1.0
(c) 1.5 (d) 2.0
- 68.** Income-Elasticity of demand will be zero when a given change in income brings about
(a) A less than proportionate change in quantity demanded
(b) A more than proportionate change in quantity demanded
(c) The same proportionate change in demand
(d) No change in demand
- 69.** Cross elasticity for complementary goods is
(a) Negative
(b) Zero
(c) High
(d) Infinite
- 70.** One common definition of luxury goods is goods with an income elasticity
(a) Greater than one
(b) Equal to one
(c) Less than one but more than zero
(d) None of these
- 71.** A straight line, downward-sloping demand curve implies that, as price falls, the elasticity of demand
(a) Increases (b) Decreases
(c) Remains the same (d) is zero
- 72.** In the longer period permitting adjustment, demand is likely to be
(a) Inelastic
(b) Elastic
(c) Unit elastic
(d) Cannot be known
- 73.** A demand curve which takes the form of a horizontal line parallel to the quantity axis illustrates elasticity which is
(a) Zero (b) Infinite
(c) $e > 1$ (d) $e < 1$
- 74.** If the percentage increase in the quantity of a commodity demanded is smaller than the percentage fall in its price, the coefficient of price elasticity of demand is—
(a) Greater than 1 (b) Equal to 1
(c) Less than 1 (d) Zero
- 75.** In the case of a straight line demand curve meeting the two axes, the price elasticity of demand at y-axis of the line would be equal to
(a) 1 (b) infinity
(c) 3 (d) 1.25
- 76.** Ceteris paribus, a change in the price of a commodity causes the quantity purchased of its complements to move
(a) In the same direction
(b) In the opposite direction
(c) In an insignificant manner
(d) Cannot be known
- 77.** If there were no changes in the quantity of food sold, even when its price falls, we would know it as
(a) Demand was entirely inelastic
(b) Demand was entirely elastic
(c) Demand was more elastic than one
(d) Demand was unit elastic
- 78.** A country is advised to devalue (reduce external value of) its currency only when its exports face
(a) Inelastic demand in foreign markets
(b) Elastic demand in foreign markets
(c) Unit elastic demand in foreign markets
(d) None of these
- 79.** Two commodities are considered to be perfect substitutes for each other if the elasticity of substitution is
(a) Positive (b) Negative
(c) Zero (d) Infinite
- 80.** If a straight line demand curve is tangent to a curvilinear demand curve, the elasticity of the two demand curves at the points of tangency is
(a) The same
(b) Different
(c) Can be the same or different
(d) Depends on the location of the point of tangency

- 81.** Which of the following is the method of measuring elasticity of demand when changes in price of a commodity are substantial
- Percentage method
 - Point method
 - Arc method
 - None of these
- 82.** In which case the elasticity shown by the different points of a curve is the same—
- rectangular hyperbola curve
 - A straight line curve
 - A downward sloping curve
 - None of these
- 83.** In case the two commodities are complements, cross elasticity will be
- Positive
 - Unitary
 - Negative
 - Infinite
- 84.** If cross - elasticity of one commodity for another turns out to be zero, it means they are
- Close substitutes
 - Good complements
 - Completely unrelated
 - None of these
- 85.** A high value of positive cross-elasticity indicates that the two commodities are
- Very good substitutes
 - Poor substitutes
 - Good complements
 - Poor complements
- 86.** The vertical demand curve for a commodity shows that its demand is
- Highly elastic
 - Perfectly inelastic
 - Fairly elastic
 - Moderately elastic
- 87.** If more is demanded at the same price or the same quantity is demanded at a higher price, this is known as
- Extension of demand
 - Contraction of demand
 - Increase in demand
 - Decrease in demand
- 88.** Utility may be defined as
- The power of a commodity to satisfy wants
 - The usefulness of a commodity
 - The level of satisfaction given by a commodity
 - The desire for a commodity
- 89.** The economic analysis expects the consumer to behave in a manner which is
- Rational
 - Irrational
 - Emotional
 - Indifferent
- 90.** The economically relevant range of the total utility curve is the portion over which
- The total utility is rising at a declining rate
 - The total utility is rising at an increasing rate
 - The total utility is maximum and constant
 - The total utility is declining
- 91.** After reaching the saturation point, consumption of additional units of the commodity causes
- Total utility to fall and marginal utility to increase
 - Total utility and marginal utility both to increase
 - Total utility to fall and marginal utility to become negative
 - Total utility to become negative and marginal utility to fall
- 92.** Which of the following concepts are most closely associated with Alfred Marshall?
- Marginal utility theory
 - Price mechanism under monopoly
 - Modern theory of wage
 - Interest theory
- 93.** The law of Equi-Marginal utility states
- $MU_x \cdot P_x = MU_y \cdot P_y = MU_z \cdot P_z$
 - $\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = \frac{MU_z}{P_z} = MU_M$
 - $\frac{MU_x}{P_x} > \frac{MU_y}{P_y} > \frac{MU_z}{P_z} > MU_M$
 - $\frac{MU_x}{P_x} < \frac{MU_y}{P_y} < \frac{MU_z}{P_z} < MU_M$

- 94.** Law of diminishing Marginal utility states
- Total utility diminishes with the consumption of every additional unit
 - Utility always diminishes whether something is consumed or not
 - Utility first increases and after that diminishes at every point
 - The additional benefit which a person derives from a given increase of his stock of a thing diminishes with every increase in that he already has
- 95.** The price which a consumer would be willing to pay for a commodity equals to his
- Total utility
 - Marginal utility
 - Average utility
 - Does not have any relation to any one of these
- 96.** Gossen's second law states that—
- When the income increases the demand for a commodity increases
 - The consumers consume only when $\frac{P_x}{P_y} = MUI_m$
 - Once a person has spent his entire income he would have maximised his total pleasure from it only if the satisfaction gained from the last item of each commodity bought was the same
 - None of these
- 97.** Economists associated with the development of "indifference curve analysis" are
- Hicks and Allen
 - Hicks and Robbins
 - Marshall and Hicks
 - Hicks and Xairas
- 98.** The indifference curve technique
- Has replaced utility technique altogether
 - is used as alternative to the utility technique
 - is used along with the utility approach
 - Has become a part of the utility approach
- 99.** Which of the following is one of the assumptions of the indifference curve analysis—
- Cardinal utility
 - Ordinal utility
 - Independent utility
 - Constant marginal utility of money
- 100.** Other things remaining the same, when a consumer's income increases, his equilibrium point moves to
- A higher indifference curve
 - A lower indifference curve
 - Remains unchanged on the same indifference curve
 - Moves to the left-hand side on the same indifference curve
- 101.** When the consumer's income increases, the budget line on an indifference map moves to
- A parallel position to the right
 - A parallel position to the left
 - A parallel position to the origin
 - None of the above
- 102.** If goods X and Y are perfect substitutes, then consumers's indifference curve for these commodities is represented by a
- Upward sloping straight line
 - Upward sloping curve which is convex from below
 - Downward sloping straight line to origin
 - Downward sloping curve which is convex
- 103.** The indifference curve which is 'L' shaped represents
- Perfect complementarity
 - Perfect substitutability
 - No substitutability
 - Non Complementarity
- 104.** When an indifference curve is an upward sloping curve it means that
- both the goods are complements
 - both the goods are perfect substitutes
 - both the goods are substitutes
 - One of the goods is a discommodity.

- 105.** If two goods are perfect substitutes to each other, it necessarily follows that
- An indifference curve relating the two goods will be curvilinear
 - An indifference curve relating the two goods will be linear
 - An indifference curve relating the two goods will be divided into two segments which meet at a right angle
 - An indifference curve relating the two goods will be convex to the origin
- 106.** The amount of a commodity that the consumer would purchase per unit of time at various levels of his income is shown by
- Contract curve
 - Lorenz curve
 - Engel curve
 - Indifference curve
- 107.** All the points on a budget line represent
- Increasing total expenditure
 - Decreasing total expenditure
 - The same total expenditure
 - None of the above
- 108.** If indifference curve has a positive slope, it means
- Consumer preferences are rational
 - Consumer preferences are irrational unpredictable
 - Service
 - Any one of the two goods is a discommodity
- 109.** For perfect substitutability between x and y
- MRS_{xy} will be constant
 - MRS_{xy} will be decreasing
 - MRS_{xy} will be increasing
 - None of the above
- 110.** On an indifference map higher indifference curves show
- The same lower level of satisfaction
 - The optimum level of satisfaction
 - The higher level of satisfaction
 - Levels of satisfaction among which the consumer is indifferent
- 111.** When quantity demanded changes by larger percentage than does price, elasticity is
- termed as:
- Inelastic
 - Elastic
 - Perfectly Elastic
 - Perfectly Inelastic
- 112.** depicts complete picture of consumer tastes and preferences.
- Budget line
 - Average cost curve
 - Indifference map
 - Marginal revenue curve
- 113.** When the consumer is in equilibrium his price line is _____ to Indifference curve
- Parallel
 - At right angle
 - Diagonally opposite
 - Tangent
- 114.** The total effect of a price change of a commodity
- Substitution effect + Price effect
 - Substitution effect + Income effect
 - Substitution effect + Demonstration
 - Substitution effect — Income effect
- 115.** If as a result of 10% increase in price, the quantity supplied does not change at all, it implies that the elasticity of Supply is:
- Zero
 - Infinite
 - Equal to one
 - Greater than Zero but less than are
- 116.** The Doctrine of consumer's surplus is based on
- Indifference curve analysis
 - Revealed preference theory
 - Law of substitution
 - The law of diminishing marginal utility
- 117.** Consumer's surplus is the highest in the case of
- Necessities
 - Comforts
 - Luxuries
 - Conventional necessities

- 118.** The case of a right angled indifference curve occurs when
 (a) The two goods are perfect
 (b) The two goods are perfectly substitutes complements
 (c) The two goods are inferior
 (d) The two goods are normal
- 119.** The horizontal demand curve parallel to X axis implies that the elasticity of demand is
 (a) Zero
 (b) Infinite
 (c) Equal to one
 (d) Greater than zero but less than infinity
- 120.** Who demonstrated the abnormal shape of demand curve for diamonds through the doctrine of conspicuous consumption—
 (a) Thorstein Veblen
 (b) Robert Giffen
 (c) David Ricardo
 (d) Alfred Marshall
- 121.** What was Robert Giffen's observation in relating to price and quantity demanded ?
 (a) A commodity whose price and quantity demanded vary in different direction
 (b) A commodity whose price and quantity demanded vary in same direction
 (c) A commodity whose price and quantity demanded is always constant
 (d) Both (A) and (B) are correct
- 122.** A rightward shift in supply curve indicates
 (a) A decrease in supply
 (b) An increase in quantity supplied
 (c) An increase in supply.
 (d) None of the above
- 123.** Indifference analysis is based on
 (a) Ordinal utility
 (b) Cardinal utility
 (c) Marginal utility
 (d) None of the above
- 124.** Other things being equal an increase in supply can be caused by
 (a) A rise in the price of the commodity
 (b) An improvement in the techniques of production
 (c) A rise in the income of the consumer
 (d) An increase in the income of the seller
- 125.** The market period supply curve for perishable commodities is
 (a) Relatively inelastic
 (b) Perfectly inelastic
 (c) Relatively elastic
 (d) Perfectly elastic
- 126.** Supply refers to the quantity of a commodity offered for sale at:
 (a) Retail price (b) Whole sale price
 (c) Given price (d) Current price.
- 127.** Stock is the total quantity produced in a:
 (a) Given period (b) Given year
 (c) Continuous period (d) None
- 128.** Stock implies:
 (a) quantity that a seller is willing to sell at a given price
 (b) quantity available with the seller
 (c) quantity that may be bought at a given price
 (d) maximum quantity of a good.
- 129.** Law of Supply-refers:
 (a) supply remains constant when price falls.
 (b) supply extends with fall in price
 (c) supply extends with rise in price
 (d) supply decreases with an increase in price
- 130.** Normal supply of a commodity implies:
 (a) Very short period
 (b) Short period
 (c) Long period
 (d) Very long period.
- 131.** The correct relationship between price, demand and supply of a commodity is that when:
 (a) price rises, supply falls and demand rises and quantity demanded falls
 (b) price rises, quantity supplied rises and demand falls
 (c) price falls, supply rises and demand falls
 (d) price rises, supply falls demand rises and demand falls.
- 132.** The supply schedule represents
 (a) Prices and quantities offered for sale
 (b) Prices and supply offered for sale

- (c) Demand and supply offered for sale
(d) None of the above.
- 133.** In law of supply, sloping curve is always
(a) Downward
(b) Upward
(c) Stable
(d) Always moving vertically.
- 134.** When sale rises with rise in price, it is called:
(a) increase in supply
(b) decrease in supply
(c) extension of supply
(d) contraction of supply.
- 135.** When sale falls with fall in price, it is called:
(a) contraction of supply
(b) extension of supply
(c) increase in supply
(d) decrease in supply.
- 136.** When there is fall in price, the quantity supplied remains the same, it will be a case of:
(a) contraction of supply
(b) extension of supply
(c) decrease in supply
(d) increase in supply.
- 137.** When there is rise in price, the quantity supplied remains the same, it will be a case of:
(a) contraction of supply
(b) decrease in supply
(c) increase in supply
(d) extension of supply.
- 138.** The supply is greatly influenced by the factor:
(a) price (b) cost
(c) industrial disputes (d) all these.
- 139.** Elasticity of supply means:
(a) the ratio of change in price and
(b) the ratio of relative change in quantity demand supplied to the change in income
(c) the ratio of change in income
(d) the ratio of percentage change in price and supply and percentage change in quantity supplied.
- 140.** In case supply is perfectly elastic, the supply curve:
(a) slopes upwards
(b) slopes downwards
(c) parallel to OX-axis
(d) parallel to OY-axis.
- 141.** In case supply is perfectly inelastic, the supply curve is:
(a) parallel to OX-axis
(b) parallel to OY-axis
(c) sloping upwards
(d) sloping downwards.
- 142.** When elasticity of supply is greater than unity, the supply curve:
(a) flatter and sloping upwards
(b) parallel to OX-axis
(c) parallel to OY-axis
(d) sloping downwards.
- 143.** When elasticity of supply is unity, the supply curve is:
(a) sloping upwards
(b) sloping downwards
(c) parallel to OX-axis
(d) parallel to OY-axis.
- 144.** Which of the formula expresses unity elasticity of supply?
(a) $E_s = 0$ (b) $E_s = 1$
(c) $E_s > 1$ (d) $E_s < 1$.
- 145.** Which of the formula expresses perfectly inelastic supply?
(a) $E_s = 0$ (b) $E_s = 1$
(c) $E_s < 0$ (d) $E_s > 1$.
- 146.** Which of the formula expresses perfectly elastic supply?
(a) $E_s = \text{infinity}$ (b) $E_s = 1$
(c) $E_s = 0$ (d) $E_s > 1$.
- 147.** The demand curve is also known as
(a) Marginal Revenue curve
(b) Marginal utility curve
(c) Average Revenue
(d) Average utility curve
- 148.** Supply of a good and its price have
(a) Negative relationship
(b) inverse relationship

- (c) No relationship
(d) Positive relationship
- 149.** An expansion, in the supply of a good is caused by a :
- (a) Rise in the price of good
(b) Fall in the prices of other goods.
(c) Fall in the prices of factors of production
(d) All of the above
- 150.** Which of the following has the lowest price elasticity of supply ?
- (a) Luxury
(b) Necessities
(c) Salt
(d) Perishable goods
- 151.** Calculate income elasticity for the household when the Income of a household rises by 10 % the demand for Rice rises by 5%
- (a) -.5 (b) +.5
(c) -2 (d) +2
- 152.** When two goods are perfect substitutes of each other then
- (a) MRS is falling (b) MRS is rising
(c) MRS is constant (d) None
- 153.** In case of a Giffin good, the demand curve will be :
- (a) Horizontal
(b) Downward- sloping to the right
(c) Vertical
(d) Upward — sloping
- 154.** Which is not the assumption of Indifference curve Analysis'
- (a) The consumer is rational and
(b) The consumer is not capable possesses full information about of ranking all combinations all the aspects of economic environment
(c) If consumer prefers combination A to B. and B to C, then he must prefer combination A to C
(d) If combination A has more commodities than combination B, then A must be preferred to B.
- 155.** Calculate Income-elasticity for the household when the income of a household rises by 5% and the demand for bajra falls by 2%
- (a) + 2.5 (b) — 2.5
(c) -.4 (d) +.4
- 156.** The consumer surplus concept is derived from
- (a) Law of demand
(b) Indifference curve analysis
(c) Law of diminishing marginal utility
(d) All of above
- 157.** The consumer is in equilibrium when
- (a) When marginal utility is constant
(b) When marginal utility is greater than price of the good
(c) When marginal utility is less than price of the good
(d) When marginal utility is equal to price of the good
- 158.** Which is not the property of Indifference curve analysis?.
- (a) Indifference curves slope downward to the left
(b) Indifference curves are always convex to the origin
(c) Indifference curves can never intersect each other
(d) A higher indifference curve represents a higher level satisfaction than the lower indifference curve
- 159.** Calculate Income-elasticity for a household when the Income of this household rises by 5% and the demand for buttons does not change at all.
- (a) Infinity (b) 1
(c) 5 (d) Zero
- 160.** If the goods are perfect substitutes for each other then cross elasticity is
- (a) Infinite (b) One
(c) Zero (d) None
- 161.** Consumer Surplus is
- (a) What a consumer is ready to pay + what he actually pays
(b) What a consumer is ready to pay — what he actually pays
(c) What he actually pays - what a consumer is ready to pay
(d) None of the above
- 162.** Indifference curve is convex to the origin due to
- (a) Falling MRS (b) Rising MRS
(c) Constant MRS (d) None

- 163.** If the proportion of income spent on a goods decreases. as income rises then Income elasticity is:
 (a) Greater than one (b) Less than one
 (c) One (d) Zero
- 164.** If two goods are totally unrelated, then cross elasticity between them is:
 (a) Zero (b) One
 (c) Infinite (d) None
- 165.** The income of a household rises by 20 percents, the demand for computer rises by 50% this means computer is a/an
 (a) Inferior good (b) Luxury good
 (c) Necessity (d) None
- 166.** Effective Demand depends on
 (a) Desire
 (b) Means to purchase
 (c) Willingness to use those means for that purchase
 (d) All of above
- 167.** Quantity demanded Is a
 (a) Flow Concept (b) Stock Concept
 (c) Both (a) and (b) (d) None
- 168.** Inferior goods have
 (a) Positive Income elasticity
 (b) Negative Income elasticity
 (c) Zero
 (d) Both (a) and (b)
- 169.** If two goods are substitutes like tea and coffee, then the cross elasticity is:
 (a) Negative (b) Zero
 (c) Positive (d) less than one
- 170.** If the price of Banana rises from Rs 30 per dozen to Rs. 40 per dozen and the supply increases from 240 dozen to 300 dozens elasticity of supply is:
 (a) .7 (b) -.67
 (c) .65 (d) .77
- 171.** The indifference curve approach does not assume :
 (a) Rationality on the part of consumers
 (b) Ordinal measurement of satisfaction
 (c) Cardinal measurement of satisfaction
 (d) Consistent consumption pattern behavior of consumer
- 172.** If distribution of income is more equal, then the propensity to consumer of the country is
 (a) Relatively High (b) Relatively Low
 (c) Unaffected (d) None
- 173.** Normal goods have
 (a) Positive income elasticity
 (b) Negative income elasticity
 (c) Fluctuating income elasticity
 (d) Zero income elasticity
- 174.** If the goods are complementary like car and petrol, their cross elasticity is,
 (a) Negative
 (b) Positive
 (c) Zero
 (d) Infinite
- 175.** If demand for a good is elastic, an increase in its price will cause total expenditure of the consumers of the good to :
 (a) Increase (b) Decrease
 (c) Remain the same (d) None
- 176.** If a good is priced at Rs 180 per unit and its price is increased to Rs. 240 per unit Now suppose quantity demanded previously was 100 units and as a result of price increase, the quantity demanded fell to 80 units. What is the price elasticity?
 (a) .777 (b) 1.4
 (c) 1 (d) .8
- 177.** Sir Robert Giffen was surprised to find out relationship of price with two other goods, which were:
 (a) Bread and Rice
 (b) Meat and Rice
 (c) Bread and Meat
 (d) Cheese and meat
- 178.** If the proportion of income spent on a good remains the same as income increases, then income elasticity for the good in :
 (a) More than one (b) One
 (c) Less than one (d) Zero
- 179.** Marginal utility analysis was mainly propounded by
 (a) J.B. Say (b) Robbins
 (c) Adam Smith (d) Alfred Marshall

- 180.** Indifference curve analysis propounded by:
 (a) Alfred Marshall
 (b) Adam Smith
 (c) Hicks and Allen
 (d) None of the above
- 181.** Cardinal Measurability of utility means:
 (a) Utility can be measured
 (b) Utility cannot be measured
 (c) Utility can be ranked
 (d) Utility can be measured in some case
- 182.** Which of the following statements is false?
 (a) An indifference curve is concave to the origin
 (b) An indifference curve is convex to the origin
 (c) A higher indifference curve is better than a lower indifferent curve
 (d) An indifference curve is a curve which represents all those combinations of two goods which give same satisfaction to the consumer.
- 183.** Identify the factor which generally keeps the price-elasticity of a demand for a good high.
 (a) Its very high price
 (b) Its very low price
 (c) Large number of substitutes
 (d) None of the above
- 184.** Suppose price of fashionable Shirts rises from Rs 400 per piece to Rs 700 per piece. Shopping Mall manager observes that the rise in price causes demand for shirts to fall from 500 shirts per week to 300 shirts per week. What is the price elasticity of demand for shirts?
 (a) 0.916 (b) 1.5
 (c) 1 (d) 1.667
- 185.** If the price of petrol rises by 25% and demand for car falls by 40% then, cross elasticity between petrol and car is:
 (a) -1.6 (b) 1.6
 (c) -2.6 (d) 2.6
- 186.** If income elasticity of the household for good X is 3 then it is a
 (a) Normal Good (b) Necessity Good
 (c) Luxury Good (d) Inferior Good
- 187.** The total area under the demand curve of good measures
 (a) Marginal utility
 (b) Total utility
 (c) Consumers surplus
 (d) Producer surplus
- 188.** If the proportion of income spent on a good increase as income increases, then income elasticity for the good is:
 (a) Greater than one (b) Less than one
 (c) One (d) Infinite
- 189.** Which is not the assumption of marginal utility analysis?
 (a) Cardinal measurability of utility
 (b) Constancy of the marginal utility of money
 (c) Rationality of human behaviour
 (d) Ordinal Measurability of utility
- 190.** Law of diminishing marginal utility may not apply to?
 (a) Money (b) Butter
 (c) Pepsi, Coke etc. (d) Ice cream
- 191.** Which is not the assumption of the law of diminishing marginal utility?
 (a) The different units consumed be identical in all respects
 (b) The different units consumed should consist of standard units
 (c) There should be time gap or interval between consumption of one unit and another unit
 (d) The law may not apply to hobbies, music etc.
- 192.** Concept of consumer surplus was evolved by :
 (a) Allen and Hicks (b) Adam Smith
 (c) Alfred Marshall (d) Robbins
- 193.** Contraction of demand is the result of;
 (a) Increase in the price of other good
 (b) Increase in the price of substitute goods
 (c) Decrease in the income of the consumer
 (d) Increase in the price of the good concerned
- 194.** Which of the following method is not used for measuring elasticity of supply?
 (a) Arc Method
 (b) Percentage Method
 (c) Total out Method
 (d) Point Method

- 195.** If the local ice-cream shop raises the price of a ice cream cup from Rs 10 per cup to Rs. 15 per cup, and quantity demanded falls from 500 cups per day to 300 cups per day, the price elasticity of demand for cup is :
- (a) 1 (b) 2.5
(c) 2 (d) 1.25
- 196.** Supply of a Commodity is a :
- (a) Flow concept
(b) Stock concept
(c) Both stock and flow concepts
(d) None of these
- 197.** If two goods are perfect substitute to each other, then is necessarily follows that
- (a) An indifference curve relating to the two goods will be curvilinear
(b) An indifference curve relating to the two goods will be linear
(c) An indifference curve relating the two goods will be concave to the origin
(d) An indifference curve relating the two goods will be convex to the origin
- 198.** When the price of substitute of X commodity falls, the demand for X commodity.
- (a) Falls
(b) Rises
(c) Remains unchanged
(d) None of the above
- 199.** Generally supply curve of industrial products is
- (a) Positively sloped
(b) Negatively sloped
(c) Both (a) and (b)
(d) Parallel of to Y axis
- 200.** Suppose income of the consumers increases by 11.6% and the demand for commodity x increases by 29 % what will be the income elasticity of demand for commodity x?
- (a) .04 (b) .4
(c) 4 (d) 2.5
- 201.** In which of the following methods of demand forecasting are the customers asked what they were planning to buy during the forthcoming period?
- (a) Collective opinion method
(b) Expert opinion method
(c) Survey of buyer's intention
(d) Statistical method
- 202.** In which of the following methods of demand forecasting are salesmen required to estimate expected sales in their respective territories?
- (a) Collective opinion method
(b) Expert opinion method
(c) Statistical method
(d) Barometric method
- 203.** Which of the following methods of demand forecasting is also known as Delphi Technique?
- (a) Statistical method
(b) Expert opinion method
(c) Collective opinion method
(d) Regression analysis
- 204.** Graphical method and fitting trend method are part of
- (a) Collective opinion method
(b) Expert opinion method
(c) Trend projection method
(d) Barometric method
- 205.** Which method of demand forecasting is used to find out the general behaviour of the economy?
- (a) Collective opinion method
(b) Expert opinion method
(c) Trend projection method
(d) Barometric method
- 206.** The art and science of predicting the probable demand for the product or a service at some future date is known as
- (a) Demand estimation
(b) Demand prediction
(c) Demand forecasting
(d) All the above
- 207.** Macro-level forecasting deals with
- (a) Demand for industry's product
(b) Demand for firm's product
(c) General economic environment
(d) All the above

208. Short term demand forecasting covers a time span of
- Less than a decade
 - Less than six months
 - Less than a year
 - Less than a month
209. Replacement demand is a factor affecting demand for
- Durable goods
 - Non-durable goods
 - Both the above
 - None of the above
210. The Delphi technique of demand forecasting was developed by
- Olaf Helmer
 - Norman Delphi
 - Alfred Marshal
 - Hicks and Allen
211. The consumer is in equilibrium when the following condition is satisfied:
- $\frac{MU_1}{MU_2} > \frac{P_1}{P_2}$
 - $\frac{MU_x}{MU_y} < \frac{P_x}{P_y}$
 - $\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$
 - None
212. If the airlines are making losses on passenger traffic they should lower their fares. The suggested remedy would only work if the demand for air travel had a price elasticity of _____
- zero
 - greater than zero but less than one.
 - one
 - greater than one
- Read the following data and answer Questions number 3-6**
- A shopkeeper sells gel pen at Rs10 per pen. At this price he can sell 120 per month. After some time, he raises the price to Rs 15 per pen. Following the price rise:
- * Only 60 pens were sold every month.
 - * The number of refills bought went down from 200 to 150.
 - * The number of ink pen customers bought went up from 90 to 180 per month.
213. The price elasticity of demand when gel pen's price increases from Rs. 10 per pen to Rs 15 per pen is equal to:
- 2.5
 - 1.0
 - 1.66
 - 2.66
214. The cross elasticity of monthly demand for refills when the price of gel pen increase from Rs 10 to Rs.15 is equal to:
- 0.71
 - +0.25.
 - 0.19.
 - +0.38.
215. The cross elasticity of monthly demand for ink pen when the price of gel pen increases from Rs 10 to Rs 15 is equal to:
- +1.66.
 - 1.05.
 - 2.09.
 - +2.09.
216. What can be said about the price elasticity of demand for pen?
- It is perfectly elastic.
 - It is elastic.
 - It is perfectly inelastic.
 - It is inelastic.
217. Suppose income of the residents of locality increases by 50% and the quantity of gel pens demanded increases by 20%. What is income elasticity of demand for gel pen?
- 0.4
 - 0.6
 - 1.25
 - 1.50
218. We can say that gel pen in economics sense is a/an
- luxury good
 - inferior good
 - normal good
 - nothing can be said.
219. Suppose the demand for meals at a medium-priced restaurant is elastic. If the management of the restaurant is considering raising prices, it can expect a relatively:
- large fall in quantity demanded.
 - large fall in demand.

- (c) small fall in quantity demanded.
 - (d) small fall in demand.
- 220.** Which one is not an assumption of the theory of demand based on analysis of indifference curves?
- (a) Given scale of preferences as between different combinations of two goods.
 - (b) Diminishing marginal rate of substitution.
 - (c) Constant marginal utility of money.
 - (d) Consumers would always prefer more of a particular good to less of it, other things remaining the same.
- 221.** Suppose a consumer's income increases from Rs.30,000 to Rs.36,000. As a result, the consumer increases her purchases of compact discs(CDs) from 25 CDs to 30 CDs. What is the consumer's income elasticity of demand for CDs?
- (a) 0.5
 - (b) 1.0
 - (c) 1.5
 - (d) 2.0
- 222.** If the quantity demanded of beef increases by 5% when the price of chicken increases by 20%, the cross-price elasticity of demand between beef and chicken is
- (a) -0.25
 - (b) 0.25
 - (c) -4
 - (d) 4
- 223.** In a typical demand schedule, quantity demanded:
- (a) varies directly with price.
 - (b) varies proportionately with price.
 - (c) varies inversely with price.
 - (d) is independent of price.
- 224.** Demand for electricity is elastic because
- (a) it is very expensive.
 - (b) it has a number of close substitutes.
 - (c) it has alternative uses.
 - (d) none of the above.
- 225.** If two goods were perfect substitutes of each other, it necessarily follows that
- (a) An indifference curve relating the two goods will be curvilinear.
 - (b) An indifference curve relating the two goods will be linear.

- (c) An indifference curve relating the two goods will be divided into two segments which meet at a right angle.
 - (d) An indifference curve relating the two goods will be convex to the origin.
- 226.** Demand for final consumption arises in.....
- (a) household sector only.
 - (b) government sector only.
 - (c) both household and government sectors.
 - (d) neither household nor movement sector.
- Read table 2 and answer Questions number 17-19

	% change in price	% change in quantity demanded(quantity supplied)	Elasticity
Demand for salt	20	-1	x
Demand for bananas	15	y	3
Supply of chicken	z	14	1

- 227.** Refer Table 2 and find the value of x.
- (a) -20.
 - (b) -0.05.
 - (c) -1.
 - (d) Can not be determine(d)
- 228.** Refer Table 2 and find the value of y.
- (a) -5
 - (b) 15.
 - (c) -45.
 - (d) -3.
- 229.** Refer table 2 and find the value of z.
- (a) 14
 - (b) 1
 - (c) 0.07.
 - (d) 5.
- 230.** If the quantity of CD demanded increases from 260 to 290 in response to an increase in income from Rs 9000 to Rs 9800, the income elasticity of demand is approximately:
- (a) 3.4
 - (b) 0.01.
 - (c) 1.3
 - (d) 2.3.
- 231.** If the quantity of good X demanded increases from 8 to 12 in response to an increase in the price of good Y from Rs 23 to Rs 27, the cross elasticity of demand for X with respect to the price of Y is approximately:
- (a) 0.35 and X and Y are complements.
 - (b) 0.35 and X and Y are substitutes.
 - (c) 2.5 and X and Y are complements.
 - (d) 2.5 and X and Y are substitutes.
- 232.** If cinema halls are making losses they should lower the ticket fares. The suggested remedy would only work if the demand for watching movies in cinema halls had a price elasticity of

- _____.
- (a) zero
 (b) greater than zero but less than one.
 (c) one
 (d) greater than one
- 233.** A book seller estimates that if she increases the price of a book from Rs.60 to Rs.67, the quantity of books demanded will decrease from 2 035 to 1 946. The book's price elasticity of demand is approximately
- (a) 0.4 (b) 0.8
 (c) 1.0 (d) 2.5
- 234.** Concerned about the poor state of the economy, a car dealer estimates that if income decreases by 4 per cent, car sales will fall from 352 to 335. Consequently, the income elasticity of demand for cars is approximately
- (a) -1.2 (b) 0.01
 (c) 0.4 (d) 1.2
- 235.** If the quantity of blankets demanded increases from 4600 to 5700 in response to a decrease in their price from Rs 220 to Rs 190, the price elasticity of demand for blankets is
- (a) 0.69 (b) 1.0
 (c) 1.46 (d) 2.66
- 236.** The cross elasticity of monthly demand for gel pen when the price of refills increases by 20% and demand for gel pens falls by 30% is equal to:
- (a) -0.71 (b) +0.25
 (c) -0.19 (d) -1.5
- 237.** The cross elasticity of monthly demand for ink pen when the price of gel pen increases by 25% and demand for ink pen increases by 50% is equal to:
- (a) +2.00 (b) -2.00
 (c) -2.09 (d) +2.09

- | | |
|---|-------|
| 1 | 3600 |
| 2 | 6800 |
| 3 | 9600 |
| 4 | 12000 |
| 5 | 14000 |
| 6 | 15600 |
| 7 | 16800 |
| 8 | 17600 |
| 9 | 18000 |
- 238.** What is marginal utility when consumption increases from 4 units to 5 units?
- (a) 3000. (b) 1200.
 (c) 2000. (d) 1500.
- 239.** What is marginal utility when consumption increases from 8 units to 9 units?
- (a) 3000. (b) 400.
 (c) 2000. (d) 1500.
- 240.** A draught in India leads to unusually low level of wheat production. This would lead to a rise in the price of wheat and fall in the quantity of wheat demanded due to:
- (a) excess demand at the original price.
 (b) excess supply at the original price.
 (c) the supply curve shifting to the right.
 (d) the demand curve shifting to the left.
- 241.** If a good has price elasticity greater than one then:
- (a) demand is unit elastic and a change in price does not affect sellers' revenue.
 (b) demand is elastic and a change in price causes sellers' revenue to change in the opposite direction.
 (c) demand is inelastic and a change in price causes sellers' revenue to change in the same direction.
 (d) None of the above is correct.
- 242.** If an increase in the price of blue jeans leads to an increase in the demand for tennis shoes, then blue jeans and tennis shoes are _____.
- (a) complements. (b) inferior goods.
 (c) normal goods. (d) substitutes.

Read the following table and answer question number 28 -29.

Number of products	Total utility	Marginal utility
0	0	-

- 243.** If a fisherman must sell all of his daily catch before it spoils for whatever price he is offered, once the fish are caught the fisherman's price elasticity of supply for fresh fish is _____.
- (a) zero
 (b) infinite.
 (c) one
 (d) unable to be determined from this information.
- 244.** If consumers always spend 15 percent of their income on food, then the income elasticity of demand for food is _____.
- (a) 1.50 (b) 1.15
 (c) 1.00 (d) 0.15
- 245.** If a buyer's willingness to pay for a new car is Rs. 200,000 and she is able to actually buy it for Rs.180000 her consumer surplus is
- (a) Rs18,000 (b) Rs20,000
 (c) Rs 2,000 (d) Rs 0
- 246.** Suppose there are three identical vases available to be purchased. Buyer 1 is willing to pay Rs 30 for one, buyer 2 is willing to pay Rs 25 for one, and buyer 3 is willing to pay Rs 20 for one. If the price is Rs 25, how many vases will be sold and what is the value of consumer surplus in this market?
- (a) Three vases will be sold and consumer surplus is Rs 80.
 (b) One vase will be sold and consumer surplus is Rs 5.
 (c) One vase will be sold and consumer surplus is Rs30.
 (d) Two vases will be sold and consumer surplus is Rs 5.
- 247.** Suppose consumer tastes shift toward the consumption of apples. Which of the following statements is an accurate description of the impact of this event on the market for apples?
- (a) There is an increase in the quantity demanded of apples and in the supply for apples.
 (b) There is an increase in the demand and supply of apples.
 (c) There is an increase in the demand for apples and a decrease in the supply of apples.

- (d) There is an increase in the demand for apples and an increase in the quantity supplied
- 248.** For _____ goods increase in income leads to increase in demand
- (a) Abnormal (b) Normal
 (c) Inferior (d) Superior
- 249.** What is the price elasticity of demand when, price changes from Rs.10 to Rs.12 and correspondingly demand changes from 6 units to 4 units?
- (a) 0.833 (b) 1.6
 (c) 2.2 (d) 1.833
- 250.** What is the new quantity demanded when price elasticity is 1 and price changes from Rs.15 to Rs.10 and the original quantity demanded was 10 units?
- (a) 15 units (b) 20 units
 (c) 8 units (d) 12 units
- 251.** What is the original price of a commodity when price elasticity is 0.71 and demand changes from 20 units to 15 units and the new price is Rs. 10?
- (a) Rs. 15 (b) Rs. 18
 (c) Rs. 20 (d) Rs. 8

Read the following table and answer question number 252 -253.

Number of products	Total utility	Marginal utility
0	0	-
1	1800	
2	3400	
3	4800	
4	6000	
5	7000	
6	7800	
7	8400	
8	8800	
9	9000	

- 252.** What is marginal utility when consumption increases from 4 units to 5 units?
- (a) 3000 (b) 1200
 (c) 1000 (d) 1500
- 253.** What is marginal utility when consumption increases from 8 units to 9 units?

- (a) 3000 (b) 200
(c) 2000 (d) 1500
- 254.** Total utility is maximum when:
(a) marginal utility is zero
(b) marginal utility is at its highest point
(c) marginal utility is equal to average utility
(d) average utility is maximum
- 255.** The consumer is in equilibrium at a point where the budget line :
(a) is above an indifference curve
(b) is below an indifference curve
(c) is tangent to an indifference curve
(d) cuts an indifference curve
- 256.** An indifference curve slopes down towards right since more of one commodity and less of another result in :
(a) same satisfaction
(b) greater satisfaction
(c) maximum satisfaction
(d) decreasing expenditure
- 257.** A vertical supply curve parallel to Y axis implies that the elasticity of supply is:
(a) zero
(b) infinity
(c) equal to one
(d) greater than Zero but less than infinity
- 258.** The income of a household rises by 20 per cent, the demand for computer rises by 25 per cent, this means computer (in Economics) is a/an
(a) inferior good (b) luxury good
(c) necessity (d) can't say
- 259.** Which of the following is not a property of the indifference curve ?
(a) Indifference curves are convex to the origin
(b) Indifference curves slope downwards from left to right
(c) No two indifference curve can cut each other
(d) None of the above
- 260.** If the price of apples rises from Rs. 30 per kg to Rs. 40 per kg and the supply increases from 240 kg to Rs. 300 kg. Elasticity of supply is:
(a) .77 (b) .67
(c) (-) .67 (d) (-) .77
- 261.** If the price of 'X' rises by 10 per cent and the quantity demanded falls by 10 per cent, 'X' has:
(a) Inelastic demand
(b) Unit elastic demand
(c) Zero elastic demand
(d) Elastic demand
- 262.** In the case of a straight line demand curve meeting the two axes the price – elasticity of demand at the mid-point of the line would be
(a) 0 (b) 1
(c) 1.5 (d) 2
- 263.** 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:
(a) remain the same (b) increase
(c) decrease (d) any of these
- 264.** The price of hot dogs increases by 22% and the quantity of hot dog demanded falls by 25% this indicates that demand for hot dog is -
(a) elastic (b) inelastic
(c) unitarily elastic
(d) perfectly elastic.
- 265.** The point elasticity at the mid-point on the demand curve is:
(a) one (b) zero
(c) less than one (d) less than zero
- 266.** When quantity demanded changes by larger percentage than does price, elasticity is termed as:
(a) inelastic
(b) perfectly elastic
(c) elastic
(d) perfectly inelastic
- 267.** If the price of good A increases relative to the price of substitute B and C, the demand for:
(a) B will increase
(b) C will increase
(c) B and C will increase
(d) B and C will decrease

- 268.** If income elasticity for the household for good A is 2 then it is a:
 (a) necessity item
 (b) inferior goods
 (c) luxurious item
 (d) comfortable item
- 269.** If a point on a demand curve of any commodity lies on X Axis then price elasticity of demand of that commodity at that point will be
 (a) Infinite (b) More than zero
 (c) Less than zero (d) zero
- Read the following data and answer Questions Number 60-62 XYZ are three commodities where X and Y are complements whereas X and Z are substitute.**
- A shopkeeper sells commodity X at Rs. 40 per piece. At this price he is able to sell 100 commodity of X per month. After some time he decreases the price of X to Rs. 20.
- Following the price decrease :
 He is able to sell 150 pieces of X per month
 The demand for Y increases from 25 units to 50 units
 The demand for commodity Z decreases from 150 to 75 units.
- 270.** The price elasticity of demand when the price of X decreases Rs. 40 per piece to Rs. 20 per piece will be equal to:
 (a) 1.5 (b) 1.0
 (c) 1.66 (d) 0.6
- 271.** The cross elasticity of monthly demand for Y when the price of X decrease from Rs. 40 to Rs. 20 is equal to:
 (a) +1 (b) -1
 (c) -1.5 (d) +1.5
- 272.** The cross-elasticity of Z when the price of X decreases from 40 to 20 is equal to:
 (a) -0.6 (b) +0.6
 (c) -1 (d) +1
- 273.** What can be said about price elasticity of demand for X?
 (a) Demand is unit elastic
 (b) Demand is highly elastic
 (c) Demand is perfectly elastic
 (d) Demand is inelastic
- 274.** Suppose income of the residents of locality increase by 50% and the quantity of X commodity increases by 20%. What is income elasticity of demand for commodity X?
 (a) 0.6 (b) 0.4
 (c) 1.25 (d) 1.35
- 275.** We can say that commodity X in economics is a/an
 (a) luxury good (b) inferior Good
 (c) normal Good (d) none
- 276.** Who is the main exponent of Marginal utility analysis ?
 (a) Paul Samuelson (b) Hicks
 (c) Keynes (d) Marshall
- 277.** Cardinal measure of utility is required in:
 (a) Marginal Utility theory
 (b) Indifference curve
 (c) Revealed preference
 (d) None
- 278.** Demand curve can be derived from:
 (a) MU curve (b) PCC
 (c) Both (d) None
- 279.** The exception to law of demand are -
 (a) Veblen goods (b) Giffen goods
 (c) both (d) none
- 280.** Period in which supply cannot be increased is called -
 (a) market period (b) short run
 (c) long run (d) none of there
- 281.** If the income elasticity is greater than one the commodity is -
 (a) necessity (b) luxury
 (c) inferior goods (d) none of these
- 282.** The 'Diamond Water' controversy is explained by -
 (a) total utility
 (b) marginal utility
 (c) price offered
 (d) quantity supplied
- 283.** Which among the following is the drawback of consumer surplus (as explained in marginal utility analysis)?
 (a) it is highly hypothetical and imaginary
 (b) it ignores the interdependence between the goods

- (c) it can not be measured in terms of money because marginal utility of money changes
- (d) all of the above
- 284.** Which one of the following assumptions is not necessary for the cardinal utility theory ?
- (a) Rationality of the consumer
(b) Constant marginal utility of money
(c) Perfectly competitive market
(d) Additivity of utility
- 285.** The IC curve approach assumes :
- (a) rationality (b) consistency
(c) transitivity (d) all of the above
- 286.** A higher indifference curve shows :
- (a) a higher level of satisfaction
(b) a higher level of production
(c) a higher level of income
(d) none of the above
- 287.** In the case of two perfect substitutes, the indifference curve will be :
- (a) straight line (b) L-shaped
(c) U-shaped (d) C-shaped
- 288.** A consumer is at equilibrium when :
- (a) slope of the price line is equal to indifference curve
(b) he saves 10% of his income
(c) borrows an amount equal to his income from the bank
(d) none of the above
- 289.** The total area under the demand curve of a good measures:
- (a) marginal utility
(b) total utility
(c) consumers surplus
(d) producers' surplus
- 290.** The concept of elasticity of demand was developed by :
- (a) Alfred Marshall (b) Edwin Camon
(c) Paul Samuelson (d) Fredric Bonham
- 291.** Price elasticity of demand is defined as
- (a)
$$\frac{\text{Change in quantity demanded}}{\text{Change in price}}$$
- (b)
$$\frac{\text{Proportionate change in quantity demanded}}{\text{Change in price}}$$
- (c)
$$\frac{\text{Change in quantity demanded}}{\text{Proportionate change in price}}$$
- (d)
$$\frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$
- 292.** The utility may be defined as
- (a) the power of commodity to satisfy wants
(b) the usefulness of a commodity
(c) the desire for a commodity
(d) none of the above
- 293.** Consumer's surplus is the highest in the case of
- (a) necessities (b) comforts
(c) luxuries (d) capital goods
- 294.** Indifference curve approach assumes
- (a) consumer has full knowledge of all relevant information
(b) all commodities are homogenous and divisible
(c) prices of commodities remain the same throughout the analysis
(d) all of the above.
- 295.** The 'substitution effect' takes place due to change in
- (a) income of the consumer
(b) prices of the commodity
(c) relative prices of the commodities
(d) all of the above
- 296.** Which of the following influence most the price level in the very short-run period?
- (a) demand (b) supply
(c) cost (d) production
- 297.** The indifference curve approach does not assume :
- (a) Rationality on the parts of consumers
(b) Ordinal measurement of satisfaction
(c) Consistent consumption pattern behaviour of consumers
(d) Cardinal measurement of utility

- 298.** _____ depicts complete picture of consumer's tastes and preferences
 (a) Budget line
 (b) Average cost curve
 (c) Indifference map
 (d) Marginal revenue curve
- 299.** When the price of a substitute of X commodity falls, the demand for X commodity:
 (a) Falls
 (b) Rises
 (c) Remains unchanged
 (d) Any of the above
- 300.** The demand for a factor of production is said to be a derived demand because
 (a) it is a function of the profitability of an enterprise
 (b) it depends on the supply of complementary factors
 (c) its stems from the demand for the final product
 (d) it arises out of means being scarce in relation to wants.
- 301.** Positive income elasticity implies that as income rises, demand for the commodity
 (a) rises (b) falls
 (c) remains unchanged (d) becomes zero
- 302.** In the case of a straight line demand curve meeting the two axes, the price elasticity of demand at y-axis of the line would be equal to
 (a) 1 (b) infinity
 (c) 3 (d) 1.25
- 303.** If as a result of 10% increase in price, the quantity supplied does not change at all, it implies that the elasticity of Supply is :
 (a) Zero
 (b) Infinite
 (c) Equal to one
 (d) Greater than Zero but less than one
- 304.** Supply of a good and its price have
 (a) Negative relationship
 (b) Inverse relationship
 (c) No relationship
 (d) Positive relationship
- 305.** An expansion in the supply of a good is caused by a:
 (a) Rise in the price of good
 (b) Fall in the prices of other goods.
 (c) Fall in the prices of factors of production
 (d) All of the above
- 306.** Which of the following has the lowest price elasticity of supply?
 (a) Luxury
 (b) Necessities
 (c) Salt
 (d) Perishable goods
- 307.** Calculate income elasticity for the household when the income of a household rises by 10 %, the demand for Rice rises by 5%.
 (a) -.5 (b) +.5
 (c) -2 (d) +2
- 308.** When two goods are perfect substitutes of each other then
 (a) MRS is falling (b) MRS is rising
 (c) MRS is constant (d) None
- 309.** Calculate Income-elasticity for the household when the income of a household rises by 10% the demand for T.V. rises by 20%
 (a) +.5 (b) -.5
 (c) +2 (d) -2
- 310.** In case of necessities the marginal utilities of the earlier units are large. In such cases the consumer surplus will be:
 (a) Infinite
 (b) Zero
 (c) Marginally positive
 (d) Marginally Negative
- 311.** Calculate Income-elasticity for the household when the income of a household rises by 5% and the demand for bajra falls by 2%.
 (a) +2.5 (b) -2.5
 (c) -.4 (d) +.4
- 312.** Which is not the property of Indifference curve analysis?
 (a) Indifference curves slope downward to the left
 (b) Indifference curves are always convex to the origin

- (c) Indifference curves can never intersect each other
- (d) A higher indifference curve represents a higher level satisfaction than the lower indifference curve
- 313.** Suppose income of the consumers increases by 50 % and the demand for commodity x increases by 20 % what will be the income elasticity of demand for commodity x ?
- (a) .04 (b) .4
(c) 4 (d) -4
- 314.** A higher indifference curve shows:
- (a) A higher level of satisfaction
(b) A higher level of production
(c) A higher level of income
(d) None of the above
- 315.** Calculate Income-elasticity for a household when the income of this household rises by 5% and the demand for buttons does not change at all.
- (a) Infinity (b) 1
(c) 5 (d) Zero
- 316.** If the goods are perfect substitutes for each other then cross elasticity is
- (a) Infinite (b) One
(c) Zero (d) None
- 317.** Indifference curve is convex to the origin due to:
- (a) Falling MRS (b) Rising MRS
(c) Constant MRS (d) None
- 318.** If the proportion of income spent on a goods decreases as income rises then income elasticity is:
- (a) Greater than one (b) Less than one
(c) One (d) Zero
- 319.** If two goods are totally unrelated, then cross elasticity between them is:
- (a) Zero (b) One
(c) Infinite (d) None
- 320.** The income of a household rises by 20 percent, the demand for computer rises by 50%, this means computer is a/an:
- (a) Inferior good (b) Luxury good
(c) Necessity (d) None
- 321.** The indifference curve approach assumes:
- (a) Rationality (b) Consistency
(c) Transitivity (d) All of the above
- 322.** Effective Demand depends on:
- (a) Desire
(b) Means to purchase
(c) Willingness to use those means for that purchase
(d) All of above
- 323.** Quantity demanded is a:
- (a) Flow Concept (b) Stock Concept
(c) Both (a) and (b) (d) None
- 324.** Inferior goods have:
- (a) Positive Income elasticity
(b) Negative Income elasticity
(c) Zero
(d) Both (a) and (b)
- 325.** If two goods are substitutes like tea and coffee, then the cross elasticity is:
- (a) Negative (b) Zero
(c) Positive (d) Less than one
- 326.** If the price of Banana rises from Rs 30 per dozen to Rs. 40 per dozen and the supply increases from 240 dozen to 300 dozens elasticity of supply is:
- (a) .7 (b) -.67
(c) .65 (d) .77
- 327.** The other name of Budget line is:
- (a) Demand line (b) Price line
(c) Supply line (d) None
- 328.** Normal goods have:
- (a) Positive income elasticity
(b) Negative income elasticity
(c) Fluctuating income elasticity
(d) Zero income elasticity
- 329.** If the goods are complementary like car and petrol, their cross elasticity is:
- (a) Negative (b) Positive
(c) Zero (d) Infinite
- 330.** If demand for a good is elastic, an increase in its price will cause total expenditure of the consumers of the good to:
- (a) Increase
(b) Decrease
(c) Remain the same
(d) None of the above
- 331.** If a good is priced at Rs 180 p.u. and its price is increased to Rs. 240 p.u. Now suppose quantity demanded previously was 100 units and as a

- result of price increase, the quantity demanded fell to 80 units. What is the price elasticity?
- (a) .777 (b) 1.4
(c) 1 (d) .8
- 332.** Sir Robert Giffen was surprised to find out relationship of price with two other goods, which were:
- (a) Bread and Rice
(b) Meat and Rice
(c) Bread and Meat
(d) Cheese and Meat
- 333.** Indifference curve analysis is propounded by:
- (a) Alfred Marshall
(b) Adam Smith
(c) Hicks and Allen
(d) None of the above
- 334.** If the quantity of Banana demanded in 100 kg and quantity supplied is 50 kg, then price per kg of Banana is:
- (a) Rs.18
(b) Rs.24
(c) Less than equilibrium price
(d) Greater than equilibrium price
- 335.** If the price of petrol rises by 25% and demand for car falls by 40% then, cross elasticity between petrol and car is:
- (a) -1.6 (b) 1.6
(c) -2.6 (d) 2.6
- 336.** Assume that when price is Rs.40 quantity demanded is 9 units, and when price is Rs. 38, quantity demanded is 10 units. Based on this information, what is the marginal revenue resulting from an increase in output from 9 units to 10 units?
- (a) Rs.20 (b) Rs.40
(c) Rs.38 (d) Rs.1
- 337.** Law of diminishing marginal utility may not apply to:
- (a) Money (b) Butter
(c) Pepsi, Coke etc. (d) Ice cream
- 338.** Utility is a -
- (a) Subjective concept
(b) Objective concept
(c) Irrelevant concept
(d) Intermediate concept
- 339.** Utility -
- (a) Differs from person to person
(b) Differs from time to time
(c) Differs from product to product
(d) All of the above are correct
- 340.** The Marginal Utility Curve is -
- (a) Horizontal to Y axis
(b) Demand Curve of that Commodity
(c) Vertical to X axis
(d) None of the above
- 341.** The Total Utility that Shyam derives after having 4 Mangoes is 10, and the Total Utility on consuming 5 Mangoes is 9. What is the Marginal Utility for 5th mango ?
- (a) 1 (b) 0
(c) -1 (d) +1
- 342.** Utility may be affected by the presence or absence of
- (a) Substitute Goods
(b) Complementary Goods
(c) Both (a) nor (b)
(d) Neither (a) nor (b)
- 343.** The Consumer will attain maximum satisfaction, and will be _____ when MU of money spent on various goods that he buys, are equal.
- (a) Irrational (b) In equilibrium
(c) Rational (d) In happiness
- 344.** The Law of Equi-Marginal Utility applies because -
- (a) The Consumer will try to maximize his satisfaction.
(b) There may be substitutes available in the market for every product
(c) Consumer will substitute one item for the other such that his $MU > Price$
(d) All of the above.
- 345.** Ordinal Approach to Utility analyses -
- (a) One Commodity at a time
(b) Two Commodities at a time
(c) Many Commodities at a time
(d) Does not analyse any Commodity at all

- 346.** _____ is helpful in designing Government policies and implementing welfare programs.
- Law of Diminishing Returns
 - Law of Equi-Marginal Utility
 - Consumer Surplus
 - Income and Substitution Effects
- 347.** If we make the assumption that Utility cannot be expressed in monetary terms, the concept of Consumer's Surplus -
- Will still apply
 - Will not apply
 - Only Producer's Surplus will arise
 - Nothing can be said
- 348.** Generally, MRS shows -
- Increasing trend
 - Decreasing trend
 - Constant trend
 - Not trend at all
- 349.** MU_x of X is 40 and MU_y of Y is 30. If the price of Y is Rs.9 what will be the price of X at equilibrium ?
- Rs.9
 - Rs.30
 - Rs.15
 - Rs.12
- 350.** Individual Demand is also called -
- Industrial Demand
 - Market Demand
 - Household Demand
 - All of the above
- 351.** When a Consumer wants a product by seeing another person use that product, it is called -
- Disturbance effect
 - Comparison effect
 - Demonstration effect
 - Marshallian Effect
- 352.** Why is the Demand Curve otherwise known as the Average Revenue Curve ?
- Price paid for each unit by the Consumer, is the Average Revenue per unit for the Seller.
 - Price paid for each unit by the Consumer, is the Total Revenue for the Seller
 - Price paid by Consumer is equal to the Seller's willingness to sell the product.
 - All of the above.
- 353.** The Law of Demand is a -
- Positive Statement
 - Normative Statement
 - Both (a) and (b)
 - Neither (a) nor (b)
- 354.** For goods which more elastic demand -
- $\Delta q > \Delta p$
 - $\Delta q = \Delta p$
 - $\Delta q < \Delta p$
 - $\Delta q = 1$
- 355.** Point Elasticity of Demand is calculated as -
- Upper Segment \div Lower Segment
 - Lower Segment \div Upper Segment
 - Either (a) or (b)
 - Neither (a) nor (b)

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