



Biyani Girls College
I Internal Examination 2019-20
BBA (I Year)
Subject- Business Economics

Time: 1.30 Hrs.

Set: A

MM: 40

[I] Multiple Choice Questions

(10*1=10)

- 1) What type of relationship exists between the price and quantity demanded?
(a) Indirect (b) Inverse (c) Positive (d) Both (a) and (b)
Ans: d
- 2) _____ represents the tabular form of quantity demanded of a particular product during a given period
(a) Law of Demand (b) Demand Curve
(c) Demand Schedule (d) Cross Demand
Ans:c
- 3) Extension and Contraction of Demand for a good occurs as a result of
(a) Change in the quality of good (b) Change in the price of a good
(c) Availability of cheaper substitutes (d) Increase in Income
Ans:b
- 4) Which of the following cost curve is U shaped?
(a) Average cost curve (b) Marginal cost curve
(c) Average fixed cost curve (d) Average variable cost curve
Ans:a
- 5) The point where TR curve cuts TC curve is called
(a) Equilibrium point (b) Split off point
(c) Point of inflexion (d) Breakeven point
Ans:d
- 6) Cardinal utility approach is based on the _____ school of thought.
(a) Marshalling (b) Albert (c) Economic (d) None of these
Ans:a
- 7) In the short –run ,when the output of a firm increases, its average fixed cost will
(a) Increase (b) decrease
(c) Remains constant (d) none of the above
Ans:b
- 8) When TU is maximum, MU is zero, it is called _____
(a) Saturation (b) Diffusion (c) Utility (d) none of these
Ans: a

- 9) Collection opinion method is also known as the _____
 (a) Sales force opinion (b) purchase force opinion method
 (c) Sales return opinion (d) purchase return opinion

Ans:a

- 10) _____ goods are those which can replace each other in use
 (a) fact (b) No replace (c) substitute (d) none of these

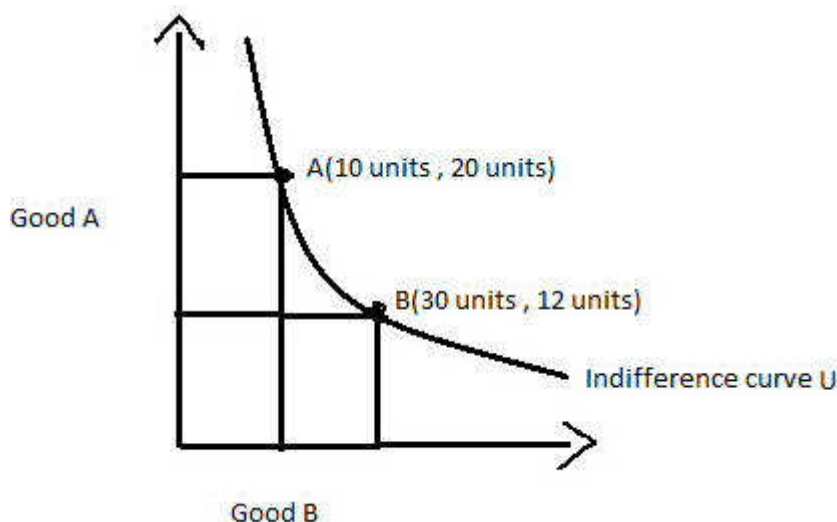
Ans:c

[III] Long type Questions:

(10*3=30)

- 1) Define Indifference Curve. What are its characteristics?

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



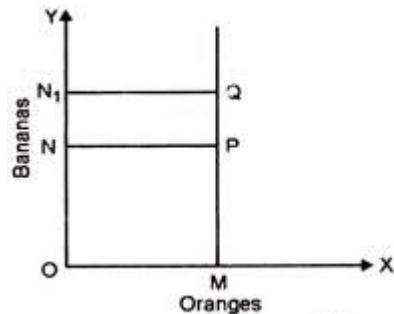
1. They Slope Negatively or Slope Downwards from the Left to the Right:

This is an important feature of Indifference Curve. If the total satisfaction is to remain the same, the consumer must part with a diminishing number of bananas as he gets an increasing stock of oranges. The loss of satisfaction to the consumer on account of the downward movement must be made up by the gain through the rightward movement. As such the Indifference Curve must slope downwards to the right.

In this diagram at P, the consumer obtains OM of oranges and ON of bananas. At Q, he gets the same OM. Quantity of oranges, but ON1 of bananas. He secures greater total satisfaction of X than at P. He cannot therefore be indifferent between P and Q. Thus it is proved that an Indifference Curve cannot slope upward to the right, nor can it be horizontal or vertical. The only possibility is that it must slope downwards to the right. The consumer will get additional supplies of oranges by sacrificing diminishing quantities of bananas.

2. They are Convex to the Origin of Axes:

The second property of the Indifference Curve is that they are generally convex to the origin of the axes—the left hand portion is normally steep while the right hand portion is relatively flat. This property of the Indifference Curve is derived from the Law of Diminishing Marginal Rate of Substitution. The marginal rate of substitution neither increases nor does it



remain constant.

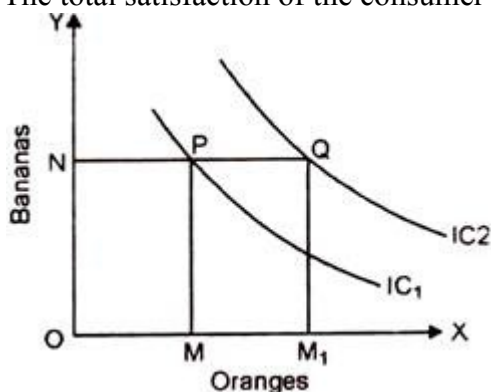
If the marginal rate of substitution had increased, the Indifference Curve would have been concave to the origin. If the marginal rate of substitution had remained constant, the Indifference Curve would have been a diagonal straight line at 45° angle. The marginal rate of substitution neither increases nor does it remain constant. The marginal rate of substitution on the contrary goes on diminishing. So the Indifference Curve has to be convex to the origin of axes.

In this diagram, an increase of oranges from OM to OM1 is accompanied by a progressively diminishing number of bananas from ON to ON1. Thus a falling curve whose slope diminishes as we move to the right is bound to be convex to the origin of axes.

3. Every Indifference Curve to the right represents Higher Level of Satisfaction than that of the Proceeding One:

Let us take two Indifference Curves IC1 and IC2 lying to the right of IC1. At the point P the consumer gets OM of oranges and ON of bananas. At the point Q though the number of bananas remains the same i.e., ON, yet the number of oranges increases from OM to OM1.

The total satisfaction of the consumer is therefore bound to be greater at Q than at P.

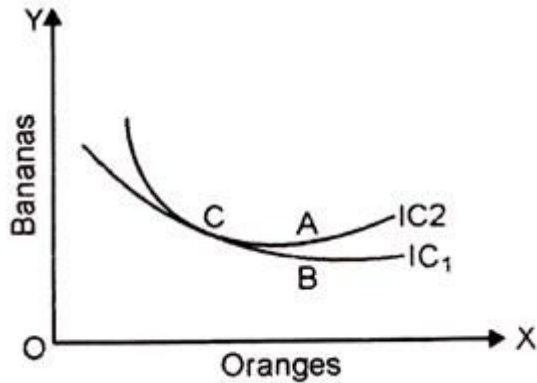


Hence Q represents a more valued and preferred combination of oranges and bananas than P. As all the points on one Indifference Curve represents equal satisfaction, therefore every point on IC2 represents a combination, preferred to that represented by any point on IC. An

Indifference Curve to the right represents a preferred position and therefore a consumer will always try to move on the indifference map as much to the right as possible.

4. Indifference Curves can neither touch nor Intersect each other, so that one Indifference Curve Passes through only one Point on an Indifference Map:

The fourth property of Indifference Curve is that no two Indifference V' Curves can ever cut each other.



Since point A is an Indifference Curve IC2, it represents a higher level of satisfaction to the consumer c than point B which is located on the lower Indifference c Curve IC1. Point C, however lies on both the curves. This m means that two levels of satisfaction, A and B which are by definition unequal manage to become equal at the point C. This is clearly impossible.

Indifference Curve can never intersect each other:

5. Indifference Curves are not Necessarily Parallel to each other. Although, they are Falling and Negatively Inclined to the Right:

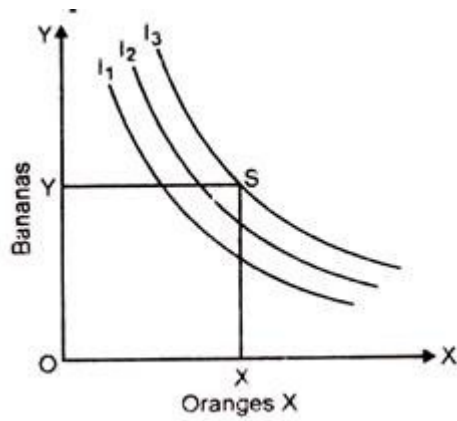
Yet the rate of the fall will not be the same for all Indifference Curves.

This is due to two reasons:

Firstly, the Indifference Curves are not based on the cardinal measurability of utility. Secondly, the rate of substitution between the two commodities need not be the same in all the indifference schedules. It is therefore not necessary that the Indifference Curves should be parallel to each other.

6. In reality, Indifference Curves are like Bangles:

But as a matter of principle their effective region is in the form of segments. This is so because Indifference Curves are assumed to be negatively sloping and convex to the origin. An individual can move to the higher indifference. Curves I2 and I3, until he reaches the saturation upon S where his total utility is the maximum. If the consumer increases his consumption beyond X and Y his total utility will fall.



2. Define Cost. What are the various concept of cost?

Ans. An amount that has to be paid or given up in order to get something. In business, **cost** is usually a monetary valuation of (1) effort, (2) material, (3) resources, (4) time and utilities consumed, (5) risks incurred, and (6) opportunity forgone in production and delivery of a good or service.

Concept of Costs in terms of Treatment

1. Accounting costs

Accounting costs are those for which the entrepreneur pays direct cash for procuring resources for production. These include costs of the price paid for raw materials and machines, wages paid to workers, electricity charges, the cost incurred in hiring or purchasing a building or plot, etc. Accounting costs are treated as expenses. Chartered accountants record them in financial statements.

2. Economic costs

There are certain costs that accounting costs disregard. These include money which the entrepreneur forgoes but would have earned had he invested his time, efforts and investments in other ventures. For example, the entrepreneur would have earned an income had he sold his services to others instead of working on his own business

Similarly, potential returns on the capital he employed in his business instead of giving it to others, the output generated by his resources which he could have used for others' benefits, etc. are other examples of economic costs.

Economic costs help the entrepreneur calculate supernormal profits, i.e. profits he would earn above the normal profits by investing in ventures other than his.

Concept of Costs in terms of the Nature of Expenses

1. Outlay costs

The actual expenses incurred by the entrepreneur in employing inputs are called outlay costs. These include costs on payment of wages, rent, electricity or fuel charges, raw materials, etc. We have to treat them as general expenses for the business.

2. Opportunity costs

Opportunity costs are incomes from the next best alternative that is foregone when the entrepreneur makes certain choices.

For example, the entrepreneur could have earned a salary had he worked for others instead of spending time on his own business. These costs calculate the missed opportunity and calculate income that we can earn by following some other policy.

Concept of Costs in terms of Traceability

1. Direct costs

Direct costs are related to a specific process or product. They are also called traceable costs as we can directly trace them to a particular activity, product or process.

They can vary with changes in the activity or product. Examples of direct costs include manufacturing costs relating to production, customer acquisition costs pertaining to sales, etc.

2. Indirect costs

Indirect costs, or untraceable costs, are those which do not directly relate to a specific activity or component of the business. For example, an increase in charges of electricity or taxes payable on income. Although we cannot trace indirect costs, they are important because they affect overall profitability.

Concept of Costs in terms of the Purpose

1. Incremental costs

These costs are incurred when the business makes a policy decision. For example, change of product line, acquisition of new customers, upgrade of machinery to increase output are incremental costs.

2. Sunk costs

Sunk costs are costs which the entrepreneur has already incurred and he cannot recover them again now. These include money spent on advertising, conducting research, and acquiring machinery.

Concept of Costs in terms of Payers

1. Private costs

These costs are incurred by the business in furtherance of its own objectives. Entrepreneurs spend them for their own private and business interests. For example, costs of manufacturing, production, sale, advertising, etc.

2. Social costs

As the name suggests, it is the society that bears social costs for private interests and expenses of the business. These include social resources for which the firm does not incur expenses, like atmosphere, water resources and environmental pollution.

Concept of Costs in terms of Variability

1. Fixed costs

Fixed costs are those which do not change with the volume of output. The business incurs them regardless of their level of production. Examples of these include payment of rent, taxes, interest on a loan, etc.

2. Variable costs

These costs will vary depending upon the output that the business generates. Less production will cost fewer expenses, and vice versa, the business will pay more when its production is greater. Expenses on the purchase of raw material and payment of wages are examples of variable costs.

2) Define Production Function. Explain short run laws of production.

Ans. The **Production Function** shows the relationship between the quantity of output and the different quantities of inputs used in the **production** process. In other words, it **means**, the total output produced from the chosen quantity of various inputs.

“As the proportion of the factor in a combination of factors is increased after a point, first the marginal and then the average product of that factor will diminish.” Benham

Assumptions:

Law of variable proportions is based on following assumptions:

(i) Constant Technology:

The state of technology is assumed to be given and constant. If there is an improvement in technology the production function will move upward.

(ii) Factor Proportions are Variable:

The law assumes that factor proportions are variable. If factors of production are to be combined in a fixed proportion, the law has no validity.

(iii) Homogeneous Factor Units

The units of variable factor are homogeneous. Each unit is identical in quality and amount with every other unit.

(iv) Short-Run:

The law operates in the short-run when it is not possible to vary all factor inputs.

Explanation of the Law:

In order to understand the law of variable proportions we take the example of agriculture. Suppose land and labour are the only two factors of production.

By keeping land as a fixed factor, the production of variable factor i.e., labour can be shown with the help of the following table:

Table 1.

Units of Land	Units of Labour	Total Production	Average Production	Marginal Production
10 Acres	0	—	—	—
"	1	20	20	20
"	2	50	25	30
"	3	90	30	40
"	4	120	30	30
"	5	140	28	20
"	6	150	25	10
"	7	150	21.3	0
"	8	140	17.5	-10

From the table 1 it is clear that there are three stages of the law of variable proportion. In the first stage average production increases as there are more and more doses of labour and capital employed with fixed factors (land). We see that total product, average product, and marginal product increases but average product and marginal product increases up to 40 units. Later on, both start decreasing because proportion of workers to land was sufficient and land is not properly used. This is the end of the first stage.

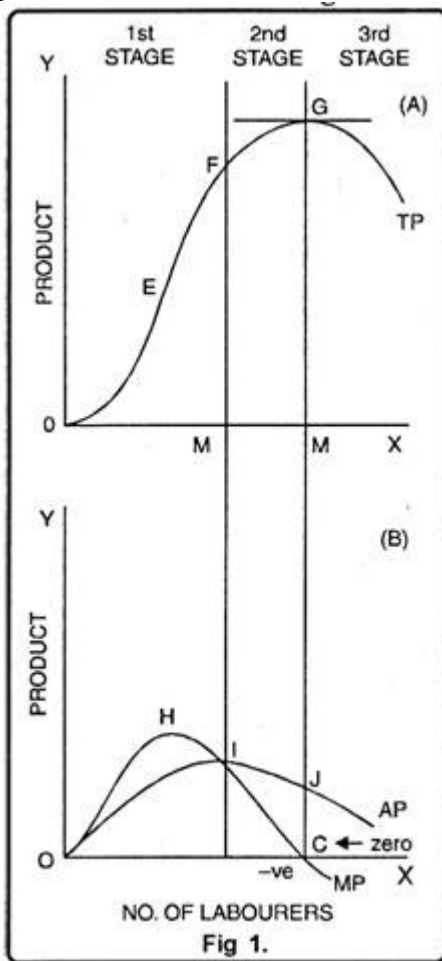
The second stage starts from where the first stage ends or where AP=MP. In this stage, average product and marginal product start falling. We should note that marginal product falls at a faster rate than the average product. Here, total product increases at a diminishing rate. It is also maximum at 70 units of labour where marginal product becomes zero while average product is never zero or negative.

The third stage begins where second stage ends. This starts from 8th unit. Here, marginal product is negative and total product falls but average product is still positive. At this stage, any additional dose leads to positive nuisance because additional dose leads to negative marginal product.

Graphic Presentation:

In fig. 1, on OX axis, we have measured number of labourers while quantity of product is shown on OY axis. TP is total product curve. Up to point 'E', total product is increasing at increasing rate. Between points E and G it is increasing at the decreasing rate. Here marginal

product has started falling. At point 'G' i.e., when 7 units of labourers are employed, total product is maximum while, marginal product is zero. Thereafter, it begins to diminish corresponding to negative marginal product. In the lower part of the figure MP is marginal product curve.



Up to point 'H' marginal product increases. At point 'H', i.e., when 3 units of labourers are employed, it is maximum. After that, marginal product begins to decrease. Before point 'I' marginal product becomes zero at point C and it turns negative. AP curve represents average product. Before point 'I', average product is less than marginal product. At point 'I' average product is maximum. Up to point T, average product increases but after that it starts to diminish.

Three Stages of the Law:

1. First Stage:

First stage starts from point 'O' and ends up to point F. At point F average product is maximum and is equal to marginal product. In this stage, total product increases initially at increasing rate up to point E. between 'E' and 'F' it increases at diminishing rate. Similarly marginal product also increases initially and reaches its maximum at point 'H'. Later on, it begins to diminish and becomes equal to average product at point T. In this stage, marginal product exceeds average product ($MP > AP$).

2. Second Stage:

It begins from the point F. In this stage, total product increases at diminishing rate and is at its maximum at point 'G' correspondingly marginal product diminishes rapidly and becomes 'zero' at point 'C'. Average product is maximum at point 'I' and thereafter it begins to decrease. In this stage, marginal product is less than average product ($MP < AP$).

3. Third Stage:

This stage begins beyond point 'G'. Here total product starts diminishing. Average product also declines. Marginal product turns negative. Law of diminishing returns firmly manifests itself. In this stage, no firm will produce anything. This happens because marginal product of the labour becomes negative. The employer will suffer losses by employing more units of labourers. However, of the three stages, a firm will like to produce up to any given point in the second stage only.



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I Internal Examination 2019-20
B.COM (I+H)Year
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Time: 1.30 Hrs.

Set: B

MM: 40

[I] Multiple Choice Questions

(10*1=10)

- 1) Which one of the following is a factor of production?
(a) Enterprise (b) enterprise
(c) Elasticity (d) Environment sustainability
Ans:a
- 2) The aggregate demand curve _____ a market demand curve _____ it _____ the sum of all market demand curves in the economy.
(a) is not; and; is not (b)is; and; is
(c) is; but; is not (d)is not; but; is
Ans:b
- 3) Demand is determined by
(a)Price of the product (b) Relative prices of other goods
(c) Tastes and habits (d) All of the above
Ans:d
- 4) The cost of one thing in terms of the alternative given up is called:
(a)Real Cost (b) Production Cost
(c) Physical Cost (d) Opportunity Cost
Ans:d
- 5) Cardinal utility approach is based on the _____ school of thought.
(a) Marshalling (b) Albert
(c) Economic (d) None of these
Ans:a
- 6) (6) Indifference Curve Slopes
(a)Downward to the right (b) Upward to the right 3
(c)Downward to the left (d) Upward to the left
Ans:a
- 7) Micro economics is also known as
(a) Price theory (b) Process theory
(c) Product theory (d) Projection theory
Ans: a
- 8) _____ represents the tabular form of quantity demanded of a particular product during a given period
(a) Law of Demand (b) Demand Curve
(c) Demand Schedule (d) Cross Demand
Ans:c
- 9) _____ goods are those which can replace each other in use
(a) Fact (b) No replace (c) substitute (d) none of these
Ans:c
- 10) Which of the following cost curve is U shaped?

(a) Average cost curve

(b) Marginal cost curve

(c) Average fixed cost curve

(d) Average variable cost curve

Ans:a

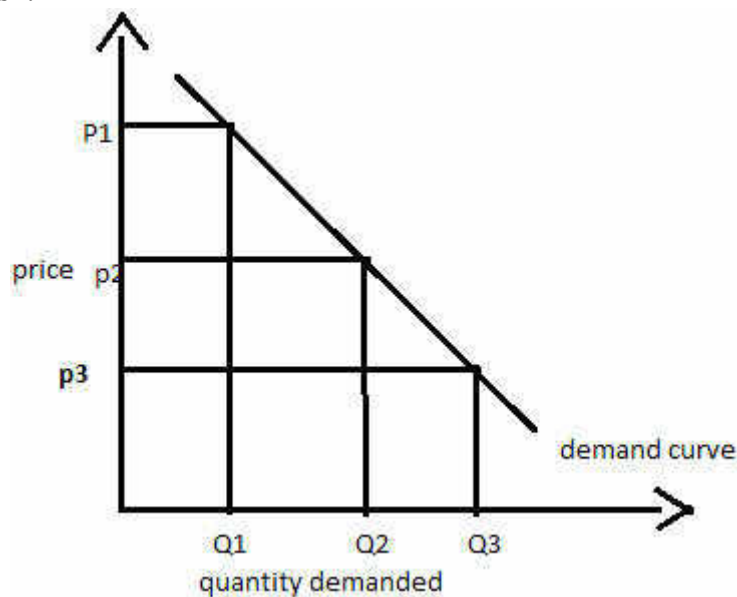
[III] Long type Questions:

(10*3=30)

1) State Law of Demand. What are the reasons and exceptions of law of Demand?

Ans. The law of demand states that other factors being constant (*ceteris paribus*), price and quantity demanded of any good and service are inversely related to each other. When the price of a product increases, the demand for the same product will fall.

Description: Law of demand explains consumer choice behavior when the price changes. In the market, assuming other factors affecting demand being constant, when the price of a good rises, it leads to a fall in the demand of that good. This is the natural consumer choice behavior. This happens because a consumer hesitates to spend more for the good with the fear of going out of cash.



The above diagram shows the demand curve which is downward sloping. Clearly when the price of the commodity increases from price p_3 to p_2 , then its quantity demand comes down from Q_3 to Q_2 and then to Q_1 and vice versa.

REASONS OF LAW OF DEMAND:

1. **Substitution Effect:** The Substitution effect is seen when the quantity demanded for one commodity changes due to the change in the price of other closely related commodity. Such as, if the price of the commodity decreases while the price of the other is assumed to remain the same, then the latter becomes dearer and the demand for the cheaper commodity increases.

For example, suppose the price of tea decreases while the price of coffee remains unchanged, then the tea will be substituted for coffee and thus the demand for tea increases. This effect of increase in the demand for tea is called as the substitution effect.

2. **Income Effect:** The income effect explains the change in demand due to the change in the real income of the consumer as a result of the change in the price of the given commodity. Such as, with the fall in the price of a commodity, the real income (purchasing power) of the consumer increases since the consumer can now purchase more units of the commodity with the same amount of money income. Thus, the increase in demand due to the increase in the real income is called as the income effect.

For example, Suppose a boy purchases 5 ice-creams for Rs 50, and if the price of ice-cream falls to Rs 8, now he can purchase 6 ice-creams with the same amount of money income or may decide to buy the same quantity and save the rest of the money, as he is required to spend less.

3. **Utility-Maximizing Behavior:** The consumer theory posits that the consumer buys goods and services to maximize his total utility (satisfaction). We know, that the marginal utility decreases with each additional unit of the commodity and thus, this is one of the reasons for the downward slope of the demand curve, which shows that the demand for the normal goods increases with the fall in the prices.

A person exchanges his money income for the purchase of the commodity so as to maximize his satisfaction. He continues to buy the commodity as long as the marginal utility of money (MU_m) is less than the marginal utility of the commodity (MU_x).

4. **Large Number of Consumers:** The effect on demand due to the change in the number of consumers as a result of a change in the price also causes the demand curve to slope downwards. Such as, if the price of the commodity falls, then many new consumers who were earlier not able to afford the commodity due to its high price, starts purchasing it. And as a result, the demand for the commodity increases. On the other hand, if the price rises, then few rich people can buy it, and many consumers will withdraw themselves from the market. And as a result, the demand for the commodity decreases.
5. **Varied Uses of the Product:** This is one of the important reasons for the law of demand, which explains that the product has several uses and can be utilized for different purposes. When the price of the commodity rises, then the consumer restricts its usage for the most important purpose. On the other hand, if the commodity becomes cheap then it can be utilized for all kinds of purposes, whether important or not.

For example, if the price of coal increases, then it will be more used in the industries where it is an essential raw material, whereas its demand for less important use such as in household (bonfire) gets reduced.

Thus, these are the important factors that explain the slope of the demand curve and advocates that the law of demand is valid.

EXCEPTIONS OF LAW OF DEMAND:

1. **Giffen Goods:** Giffen goods are the inferior goods whose demand increases with the increase in its prices. There are several inferior commodities, much cheaper than the superior substitutes often consumed by the poor households as an essential commodity. Whenever the price of the Giffen goods increases its quantity demanded also increases because, with an increase in the price, and the income remaining the same, the poor people cut the consumption of superior substitute and buy more quantities of Giffen goods to meet their basic needs.

For Example, Suppose the minimum monthly consumption of food grains by a poor household is 20 Kg Bajra (Inferior good) and 10 Kg Rice (superior good). The selling price of Bajra is Rs 5 per kg, and the rice is Rs 10 per kg, and the household spends its total income of Rs 200 on the purchase of these items. Suppose, the price of Bajra rose to Rs 6 per kg then the household will be forced to reduce the consumption of rice by 5 Kg and increase the quantity of Bajra to 25 Kg in order to meet the minimum monthly requirement of food grains of 30 kg.

2. **Veblen Goods:** Another exception to the law of demand is given by the economist Thorstein Veblen, who proposed the concept of “**Conspicuous Consumption.**” According to Veblen, there are a certain group of people who measure the utility of the commodity purely by its price, which means, they think that higher priced goods and services derive more utility than the lesser priced commodities.

For example, goods like a diamond, platinum, ruby, etc. are bought by the upper echelons of the society (rich class) for whom the higher the price of these goods, the higher is the prestige value and ultimately the higher is the utility or desirability of them.

1. **Expectation of Price Change in Future:** When the consumer expects that the price of a commodity is likely to further increase in the future, then he will buy more of it despite its increased price in order to escape himself from the pinch of much higher price in the future.

On the other hand, if the consumer expects the price of the commodity to further fall in the future, then he will likely postpone his purchase despite less price of the commodity in order to avail the benefits of much lower prices in the future.

2. **Ignorance:** Often people are misconceived as high-priced commodities are better than the low-priced commodities and rest their purchase decision on such a notion. They buy those commodities whose price are relatively higher than the substitutes.
3. **Emergencies:** During emergencies such as war, natural calamity- flood, drought, earthquake, etc., the law of demand becomes ineffective. In such situations, people often fear the shortage of the essentials and hence demand more goods and services even at higher prices.
4. **Change in fashion and Tastes & Preferences:** The change in fashion trend and tastes and preferences of the consumers negates the effect of law of demand. The consumer tends to buy those commodities which are very much ‘in’ in the market even at higher prices.
5. **Conspicuous Necessities:** There are certain commodities which have become essentials of the modern life. These are the goods which consumer buys irrespective of an increase in the price. For example TV, refrigerator, automobiles, washing machines, air conditioners, etc.
6. **Bandwagon Effect:** This is the most common type of exception to the law of demand wherein the consumer tries to purchase those commodities which are bought by his friends, relatives or neighbors. Here, the person tries to emulate the buying behavior and patterns of the group to which he belongs irrespective of the price of the commodity.

For example, if the majority of group members have smart phones then the consumer will also demand for the smartphone even if the prices are high.

Thus, these are some of the exceptions to the law of demand where the demand curve is upward sloping, i.e. the demand increases with an increase in the price and decreases with the decrease in price.

2) Define Utility. Explain Law of Diminishing Marginal Utility.

Ans The “**Utility**” in Economics means the satisfaction derived or expected to be derived from the consumption of goods and services.

The **law of Diminishing Marginal Utility** posits that with the more and more consumption of the units of the commodity the utility derived from each successive unit goes on diminishing, provided the consumption of other commodities remain constant.

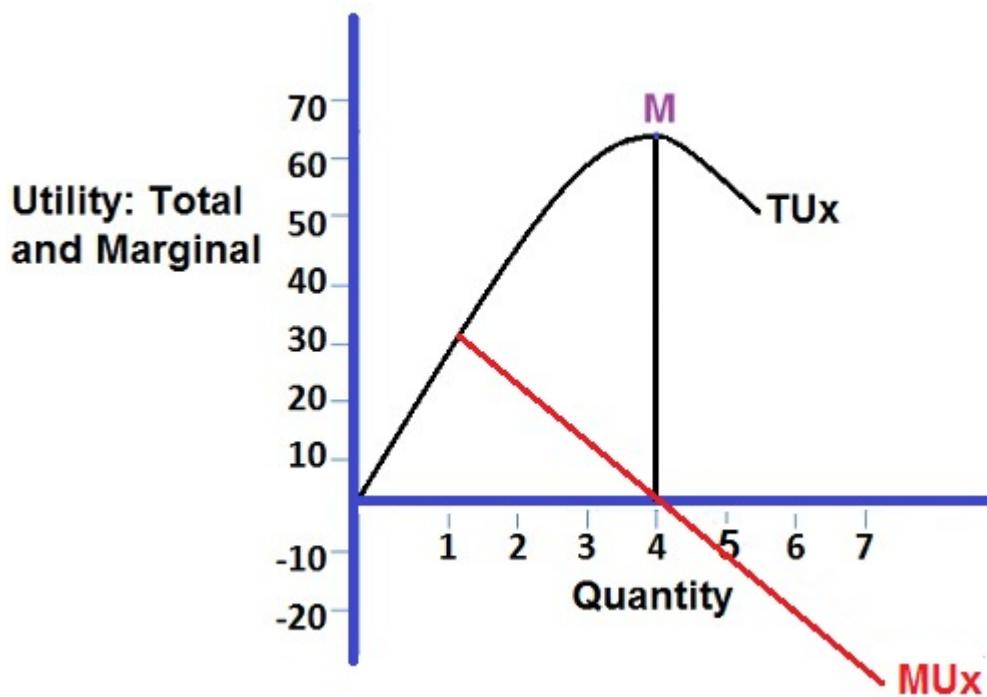
The concept of the law of diminishing marginal utility can be understood through a real life example. Suppose you are thirsty, and as you drink the first glass of water, keeping the

consumption of all other commodities constant, you get the maximum satisfaction, and with each successive glass of water, the additional benefit (utility) diminishes.

The law of diminishing marginal utility can be illustrated through the table given below. Suppose there is a commodity X, whose utility can be measured in the quantitative terms. Also, the total utility and marginal utility of the commodity is given in the table.

Units of Commodity X	Total Utility (Tux)	Marginal Utility (MUx)
1	30	30
2	50	20
3	65	15
4	70	5
5	65	-5
6	45	-20

As shown in the table., with the increase in the consumption of the units of commodity X, the total utility increases, but at a diminishing rate. The marginal utility also diminishes with the consumption of each successive unit of X.



As shown in the fig. TU_x increases as a result of the consumption of additional units of the commodity X while the MU_x is a downward sloping curve, which shows that the utility diminishes with the consumption of more and more units of the commodity X. At units 4, the TU_x reaches to the maximum point, the **Point of Saturation** denoted as **M**, from where the TU_x **starts declining**. Beyond this point, i.e. as the TU_x starts declining the MU_x becomes negative. The downward sloping Marginal utility curve illustrates the law of diminishing marginal utility.

The relationship between the Total Utility and Marginal Utility can be summarized as:

- When MU decreases, TU increases at a decreasing rate.
- When MU is Zero, TU is maximum.
- When MU is negative, TU starts declining.

Thus, the law of diminishing marginal utility holds universally, for both the durable and non-durable goods. In certain conditions, such as accumulation of money, a hobby of collecting old coins, stamps, visiting cards, etc. the marginal utility might initially increase, but eventually, it starts declining.

Assumptions of Law of Diminishing Marginal Utility

The law is said to hold true under certain conditions, and these conditions are referred to as the assumptions of the law of diminishing marginal utility. These are:

1. It is assumed that the **unit of the consumer good is a standard one**, i.e. the rational quantity of the commodity is consumed. Such as, a cup of tea, a pair of shoes, bottle of cold drink, glass of water, etc.
2. It is assumed that the **utility is measurable**, and the satisfaction of the consumers can be expressed in the **quantitative terms**.
3. The **consumer's tastes and preferences** remain same during the period of the consumption.

4. There must be **continuity in the consumption**. If a break is necessary, then the time interval between the consumption of two units should be appropriately short.
5. It is assumed that the **quality of the commodity remains uniform** during the period of consumption.
6. All the commodities consumed by the consumer are said to be **independent of each other**, such as the marginal utility of one commodity has no relation with the marginal utility of another commodity.
7. It is assumed that the **income** of the consumer and the **price of goods and services** remains unchanged during the period of consumption.
8. The **marginal utility of money remains constant** for the consumer.
9. The **mental condition** of the consumer should remain normal during the consumption period. For example, if a person drinks any alcoholic drink, then he will derive more pleasure with each additional glass of drink, this is because of a change in his mental status due to intoxication.

The conditions of diminishing marginal utility hold universally. But, however, in certain conditions such as accumulation of money, hobbies of collecting stamps, old coins, songs, etc. the marginal utility might initially increase, but eventually it decreases.

Exceptions or Limitations:

The limitations or exceptions of the law of diminishing marginal utility are as follows:

1. The law does not hold well in the rare collections. For example, collection of ancient coins, stamps etc.
2. The law is not fully applicable to money. The marginal utility of money declines with richness but never falls to zero.
3. It does not apply to the knowledge, art and innovations.
4. The law is not applicable for precious goods.
5. Historical things are also included in exceptions to the law.
6. Law does not operate if consumer behaves in irrational manner. For example, drunkard is said to enjoy each successive peg more than the previous one.
7. Man is fond of beauty and decoration. He gets more satisfaction by getting the above merits of the commodities.
8. If a dress comes in fashion, its utility goes up. On the other hand its utility goes down if it goes out of fashion.
9. The utility increases due to demonstration. It is a natural element.

Causes of Diminishing Marginal Utility:

Three important causes of the diminishing marginal utility are:

1. Satisfaction of a Particular Want:

Although human wants are unlimited, a particular want is limited. So it can be satisfied. As a person consumes more and more of a commodity, his indication becomes less and less. So his marginal utility from the successive units becomes gradually smaller. It means that too many units of a commodity bring complete satisfaction.

2. Introspection:

The validity of the law can be established through introspection (i.e., an examination of one's own thought or mental reaction). The classical economists used to look into their minds for their own psychological reaction to the extra consumption of a particular thing (say, an apple, an ice-cream, a chocolate, etc.) and tested the truth of the law.

3. Less Important Uses of Additional Quantities:

Furthermore, marginal utility diminishes because a person, having several units of a commodity capable of alternative uses, puts one unit to its most important use and the additional units to the successively less important uses.

3) Define Isoquant curve. What are the characteristics of isoquant curves?

Ans. **Iso-Quant Curve: Definitions, Assumptions and Properties!**

The term Iso-quant or Iso-product is composed of two words, Iso = equal, quant = quantity or product = output.

Thus it means equal quantity or equal product. Different factors are needed to produce a good. These factors may be substituted for one another.

an Iso-product or Iso-quant curve is that curve which shows the different combinations of two factors yielding the same total product. Like, indifference curves, Iso-quant curves also slope downward from left to right. The slope of an Iso-quant curve expresses the marginal rate of technical substitution (MRTS).

Assumptions:

The main assumptions of Iso-quant curves are as follows:

1. Two Factors of Production:

Only two factors are used to produce a commodity.

2. Divisible Factor:

Factors of production can be divided into small parts.

3. Constant Technique:

Technique of production is constant or is known before hand.

4. Possibility of Technical Substitution:

The substitution between the two factors is technically possible. That is, production function is of 'variable proportion' type rather than fixed proportion.

5. Efficient Combinations:

Under the given technique, factors of production can be used with maximum efficiency.

Iso-Product Schedule:

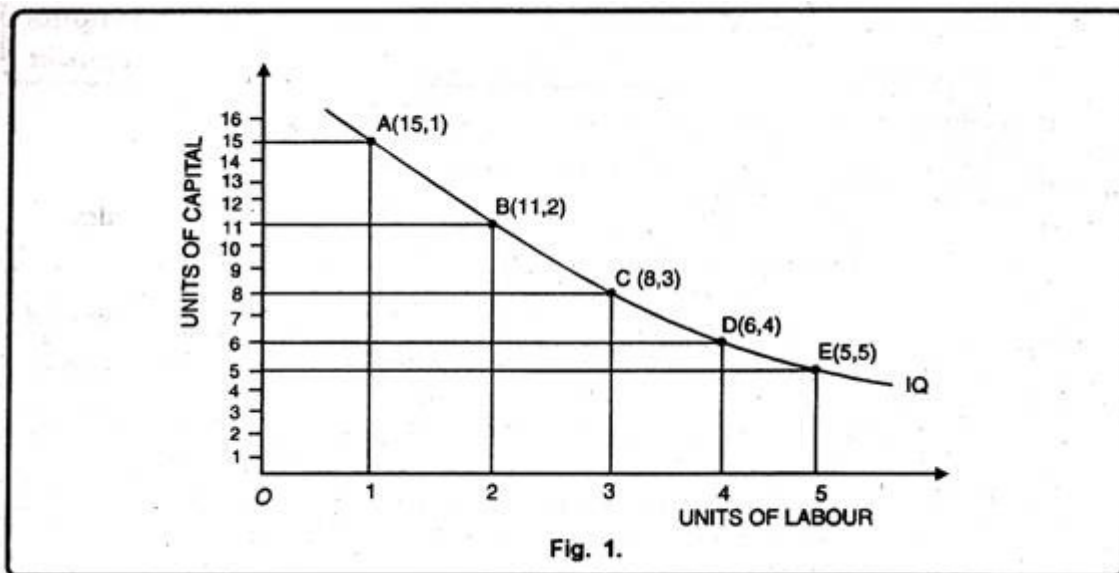
Let us suppose that there are two factor inputs—labour and capital. An Iso-product schedule shows the different combination of these two inputs that yield the same level of output as shown in table 1.

Table 1. Iso-Product Schedule.

Combination	Units of labour	Units of capital	Output of cloth (metres)
A	1	15	200
B	2	11	200
C	3	8	200
D	4	6	200
E	5	5	200

The table 1 shows that the five combinations of labour units and units of capital yield the same level of output, i.e., 200 metres of cloth. Thus, 200 metre cloth can be produced by combining.

- (a) 1 units of labour and 15 units of capital
- (b) 2 units of labour and 11 units of capital
- (c) 3 units of labour and 8 units of capital
- (d) 4 units of labour and 6 units of capital
- (e) 5 units of labour and 5 units of capital



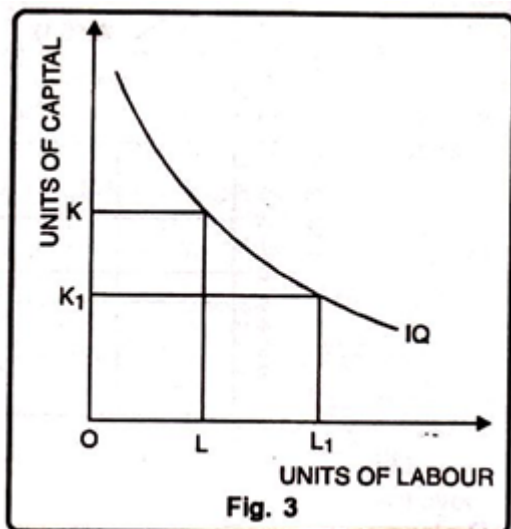
Properties of Iso-Product Curves:

The properties of Iso-product curves are summarized below:

1. Iso-Product Curves Slope Downward from Left to Right:

They slope downward because MTRS of labour for capital diminishes. When we increase labour, we have to decrease capital to produce a given level of output.

The downward sloping iso-product curve can be explained with the help of the following figure:



2. Isoquants are Convex to the Origin:

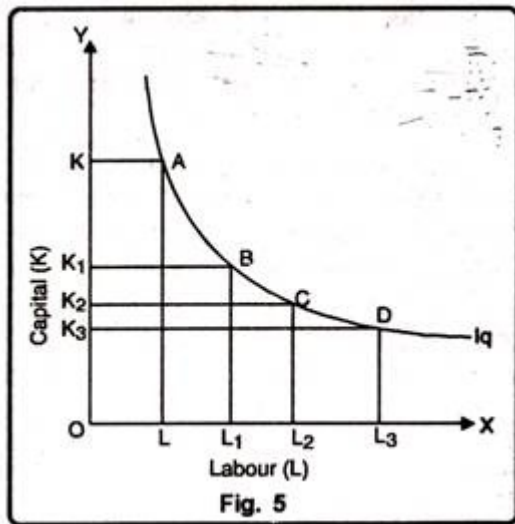
Like indifference curves, isoquants are convex to the origin. In order to understand this fact, we have to understand the concept of diminishing marginal rate of technical substitution (MRTS), because convexity of an isoquant implies that the MRTS diminishes along the isoquant. The marginal rate of technical substitution between L and K is defined as the quantity of K which can be given up in exchange for an additional unit of L. It can also be defined as the slope of an isoquant.

It can be expressed as:

$$MRTS_{LK} = - \Delta K / \Delta L = dK / dL$$

Where ΔK is the change in capital and ΔL is the change in labour.

Equation (1) states that for an increase in the use of labour, fewer units of capital will be used. In other words, a declining MRTS refers to the falling marginal product of labour in relation to capital. To put it differently, as more units of labour are used, and as certain units of capital are given up, the marginal productivity of labour in relation to capital will decline.

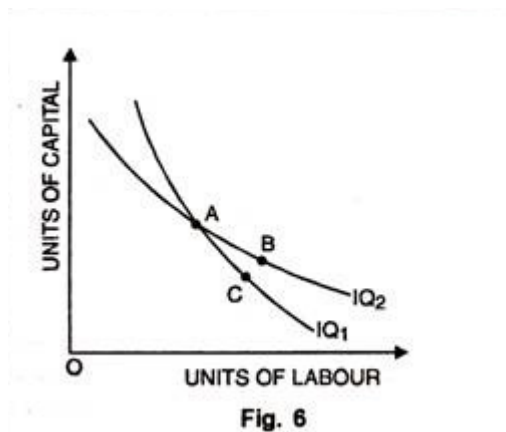


This fact can be explained in Fig. 5. As we move from point A to B, from B to C and from C to D along an isoquant, the marginal rate of technical substitution (MRTS) of capital for labour diminishes. Everytime labour units are increasing by an equal amount (AL) but the corresponding decrease in the units of capital (AK) decreases.

Thus it may be observed that due to falling MRTS, the isoquant is always convex to the origin.

3. Two Iso-Product Curves Never Cut Each Other:

As two indifference curves cannot cut each other, two iso-product curves cannot cut each other. In Fig. 6, two Iso-product curves intersect each other. Both curves IQ1 and IQ2 represent two levels of output. But they intersect each other at point A. Then combination A = B and combination A = C. Therefore B must be equal to C. This is absurd. B and C lie on two different iso-product curves. Therefore two curves which represent two levels of output cannot intersect each other.



4. Higher Iso-Product Curves Represent Higher Level of Output:

A higher iso-product curve represents a higher level of output as shown in the figure 7 given below:

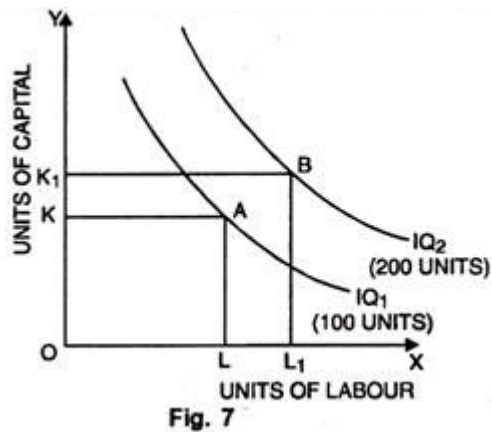


Fig. 7

In the Fig. 7, units of labour have been taken on OX axis while on OY, units of capital. IQ₁ represents an output level of 100 units whereas IQ₂ represents 200 units of output.

5. Isoquants Need Not be Parallel to Each Other:

It so happens because the rate of substitution in different isoquant schedules need not be necessarily equal. Usually they are found different and, therefore, isoquants may not be parallel as shown in Fig. 8. We may note that the isoquants Iq₁ and Iq₂ are parallel but the isoquants Iq₃ and Iq₄ are not parallel to each other.

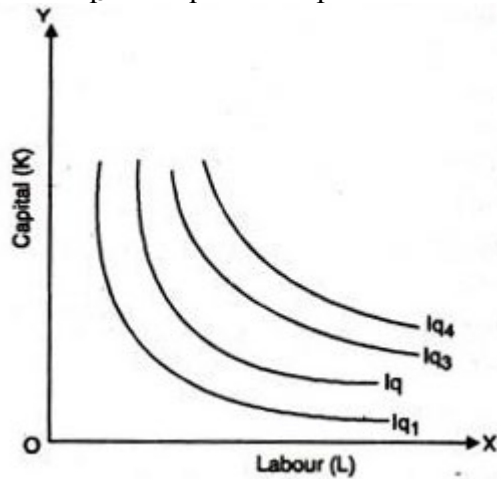


Fig. 8

6. No Isoquant can Touch Either Axis:

If an isoquant touches X-axis, it would mean that the product is being produced with the help of labour alone without using capital at all. These logical absurdities for OL units of labour alone are unable to produce anything. Similarly, OC units of capital alone cannot produce anything without the use of labour. Therefore as seen in figure 9, IQ and IQ₁ cannot be isoquants.

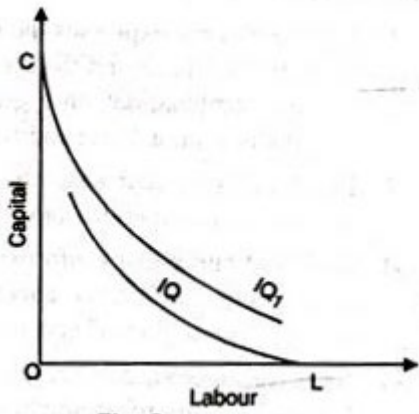


Fig. 9