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Module – 1:-**Business Economics** and its role in managerial decision making-meaning-scope-relevance-economic problems-scarcity Vs choice - Basic concepts in economics-scarcity, choice, resource allocation-Trade-off-opportunity cost-marginal analysis- marginal utility theory, Law of diminishing marginal utility -production possibility curve.

**Economics**

- If I have Rs.100 in my hand, should I have a chicken biriyani or use it to have a hair cut?
- If the government wishes to start a new project with certain crores of rupees, should they invest in road development or in poverty eradication programs?
- What are the different methods by which a person, family, society and a nation acquire wealth and how do they spend them in different areas like food, shelter, entertainment etc?

Economics is a social science that tries to deal with these kinds of problems. We have got a fixed amount of resources in our hand and how we can efficiently use these resources to gain maximum is the basic problem in many aspects of life. Economics studies these problems. Definitions given by various economists are:-

--*Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.*

--*An enquiry into the nature and causes of wealth of nations.*

**Business Economics**

Faris is appointed as the manager of a smartphone company. As the manager, Faris has to come across different problems like:-

a) How many number of smartphones should be produced in an year?

b) How many quantities in different versions of the smartphone should be produced?

c) In what proportion, the total available capital has to be distributed to manufacture different versions of the product?

d) How many employees have to be employed in different divisions of the company to fasten the production process and gain maximum profit?

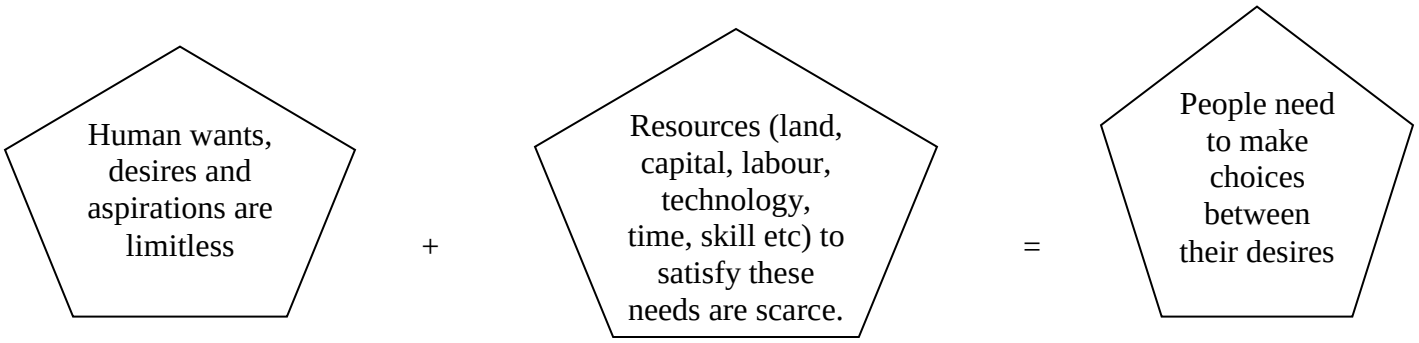
Maximizing gain from the given resources like capital, labour, land, technology, time, skills etc is the main objective of a business firm. So inorder to maximize the gain and to address the problems as mentioned above, a manager has to make use of economic theories and analytical tools in decision making process.

*Business economics is the branch of economics that deals with the application of economic theories, principles, analytical tools etc to the decision making process within a business unit, thereby to attain the desired economic goals.*

Economics

Microeconomics: It deals with economic matters within a business unit like revenue, cost, savings of workers etc

Macro economics: It deals with economic matters that can affect a business, but determined by outside environment. Eg:- national income, inflation rate, govt.policies etc




**Economic problems in a business unit**

You are appointed as the manager of a business unit, say a mobile phone company. The company has to acquire certain number of employees, electronic equipments, technology etc to manufacture and distribute mobile phones into the market. There are 3 basic problems that we have to face as a decision maker. The economic problem – sometimes called the basic or central economic problem – asserts that an economy's finite resources are insufficient to satisfy all human wants and needs. It assumes that human wants are unlimited, but the means to satisfy human wants are scarce.

Three questions arise from this:

- What to produce?

  This question deals with selecting the type of supply and the quantity of the supplyof products.

  Eg:-What type of smartphones should the company produce? How many smartphones should be produced in a year?

- How to produce?

  This question deals with procedures and methods used while making the product.

  Eg. "Should the company use more workers, or should theyinvest in more machinery?"

- For whom to produce?

  This question deals with distributing goods that have been produced, focusing on efficiency and equity. We have to identify those people for whom the products are to produced and it should be distributed to them.

**Scope of business economics in managerial decision making**

As a manager, imagine in what all areas should we use business economics in a business organization? Scope identifies those areas where the theories of business economics can be used. It includes:-

- Demand Analysis and Forecasting: - It is the process of identifying how many units of products of our company will be demanded by the customers in a certain period of time. Accurate estimates of demand is necessary for proper business planning. If forecasting is not done properly, the company may ether produce excess or fewer numbers of smartphones which may result in profit loss. A demand forecast can serve as a guide to management for maintaining and strengthening market position and enlarging profits.
- Cost and production Analysis: - To minimize the expenses while manufacturing smartphones, the company should analyse those areas where costs are incurred. A study of economic costs, combined with the data drawn from the firm's accounting records, can yield significant cost estimates which are useful for management decisions. Cost analysis helps in profit planning, cost control and pricing policies. Production analysis and production function analyse various inputs (capital, raw material, labour etc) and outputs( no.of units produced).
- Pricing Decisions, policies and practices.

  ----Should we sell our smartphones for rs.5000 or Rs.7000 or Rs.10000 or for any other amount?

  Pricing is an important area of business economic. Revenue of a firm depends a lot upon the price at which the commodities are sold in the market.Economic principles play a part while deciding the price of the commodity, pricing Method, price forecasting etc.
- Profit Management:- Business firms are generally organised for purpose of making profits and in the long run profits earned are taken as an important measure of the firms success. If knowledge about the future were perfect, profit analysis would have been a very easy task. However, in a world of uncertainty, expectations are not always realised so that profit planning and measurement constitute a difficult area of business economic. The important aspects covered under this area are : Nature and Measurement of profit, Profit policies and Technique of Profit Planning like Break-Even Analysis.
- Capital Management: - We need to find huge capital investments for the smooth running of our firm. We will have many options like investing from the owner's account, issuing shares, opting for bank loans etc. But which one should the management choose at a certain point of time? For what all purposes should the company use this capital? Capital management implies planning and control of capital expenditure. The main topics dealt with are: Cost of capital, Rate of Return and Selection of Projects.

**Significance of Business Economics :**

- Business economics is concerned with those aspects of traditional economics which are relevant for business decision making in real life.
- It also incorporates useful ideas from other disciplines such as psychology, sociology, etc, if they are found relevant to decision making.
- Business economics helps in reaching a variety of business decisions in acomplicated environment. Certain examples are :
    - What products and services should be produced?
    - What input and production technique should be used?
    - How much output should be produced and at what prices it should be sold?
    - What are the best sizes and locations of new plants?
    - When should equipment be replaced?
    - How should the available capital be allocated?
- Business economics makes a manager a more competent model builder.
- At the level of the firm where its operations are conducted though functional areas, such as finance, marketing, personnel and production, business economics serves as an integrating agent by coordinating the activities in these different areas.
- Business economics analyses the interaction between the firm and society, and accomplishes the key role of an agent in achieving its social and economic welfare goals.



**Scarcity**

Scarcity is the fundamental economic problem of having seemingly unlimited human wants in a world of limited resources. Scarcity refers to shortage of resources. It states that society has insufficient productive resources to fulfill all human wants and needs.

- We may wish to have heavy meals on every day, but our income may not be sufficient enough for that. Thus there is a scarcity or shortage of resource (here income/salary) which forces us to resort to normal meals on some days.

Scarcity leads to another concept in economics called choice.

**Choice**

---A person liked 4 shirts displayed in a textile shop. He wished to buy all the four, but he had only Rs.2000 in his hand. Thus, he had to select only two out of them. Here the person has made a choice out of the four alternatives.

---A company wishes to invest in project A and project B and each one costs Rs.30,000. But the company has got only Rs. 40,000 as cash. Thus a choice has to be made between Project A and Project B.

Choice involves decision making. It can include judging the merits of multiple options and selecting one or more of them. People should make choices because the resources available to them are not sufficient enough to satisfy all their desires.

**Trade off**

When one item is selected out of the four, we have to sacrifice the other three to get the selected one. Trade off means sacrificing some benefits or products to obtain some other benefits or products.

**Allocation of resources**

--A company with Rs.1 crore in hand and about 100 employees, wishes to manufacture two kinds of products, product A and product B. Here the company can allocate Rs.60 lakhs & 70 employees to manufacture product A, and Rs.40 lakhs & 30 employees to manufacture product B. Here the company has divided its available resources towards different alternatives.

Utilising the available resources in different alternatives is called allocation of resources

***Scarcity of resources forces us to make a choice between our desires. This choice making leads to trade off. Trade off results in opportunity costs. To implement our choices, we need allocation of resources***.

**Utility**

A bottle of water can quench our thirst. A car helps us to travel from one place to another. Every product has got the capacity to fulfill one or more of our needs, thereby giving us a certain amount of satisfaction.

--*Utility denotes that quality in a good or service by virtue of which our wants are satisfied. In, other words utility is defined as the want satisfying power of a commodity.*

--*Utility is the quality of a good to satisfy a want.*

--*Utility is the quality in commodities that makes individuals want to buy them.*

Cardinal utility theory says that utility can be measured in quantities in terms of a unit called 'utils'. For eg:- we can say a bottle of water has utility of 20 utils.

Ordinal utilty theory says that utility cannot be measured in quantities, but can only be compared with one another.

Features of utility

- Utility is Relative : Utility of a good never remains the same. It varies with time and place. A tube light has got utility at night but not so in the morning.
- Utility is Subjective : Utility is subjective because it deals with the mental satisfaction of a man. The same commodity may have different utility for different persons. A pen has got certain amounts of utility for literate and illiterate persons.

- Utility and usefulness: Utility and usefulness are different. A commodity having utility need not be useful. Cigarette and liquor are harmful to health, but if they satisfy the want of an addict then they have utility for him. Use of liquor or drugs may not be proper from the moral point of views. But as these intoxicants satisfy wants of the addicts, they have utility for them.

**Marginal Utility:**

Suppose on a hot day, we wish to have some cold ice-cream. After finishing the first cup of ice-cream, we will feel a certain amount of satisfaction or in economic terms it gives a certain amount of utility. This utility can be named as the marginal utility of first cup of ice-cream. Immediately after finishing the first cup, we started to have another cup as well. On finishing the second cup, we may feel certain amount of satisfaction/utility, which can be named as the marginal utility of the second cup of ice-cream. If this process is continued, we will obtain the marginal utilities for $3^{rd}$, $4^{th}$, $5^{th}$ etc cup of ice-creams. On analyzing the same, we can see that the utility/satisfaction derived out of second cup will be less than the first one. As more and more units are consumed, marginal utility of each unit diminishes.

*--Marginal Utility is the utility derived from the additional unit of a commodity consumed.*

*--Total utility is the sum total of marginal utilities of all units of a commodity consumed at a particular time.*

*--The change that takes place in the total utility by the consumption of an additional unit of a commodity is called marginal utility.*



As in our case of consuming more and more cups of ice-creams, we have:-

| Number of units of ice-cream consumed | Marginal utility (MU) | Total utility |
|---|---|---|
| 1 | 20 | 20 |
| 2 | 15 | 35 |
| 3 | 10 | 45 |
| 4 | 05 | 50 |
| 5 | 00 | 50 |
| 6 | -5 | 45 |

Total utility (TU) = $MU_1+MU_2+ MU_3 +MU_4 +$ ……

$MU = \Delta TU / \Delta Q$

$\Delta TU$: change in total utility.

$\Delta Q$: change in units consumed

Marginal utility can be measured from total utility,

$MU\ (_{n+1})^{th}$ unit = $TU\ _{(n+1)}^{th} - TU\ _{n}^{th}$

The marginal utility of each successive units or ice-cream goes on decreasing. At one stage it reaches zero, showing no utility at all. Beyond that point, ice-cream creates a negative impact on the person.

**Law of Diminishing Marginal Utility :**

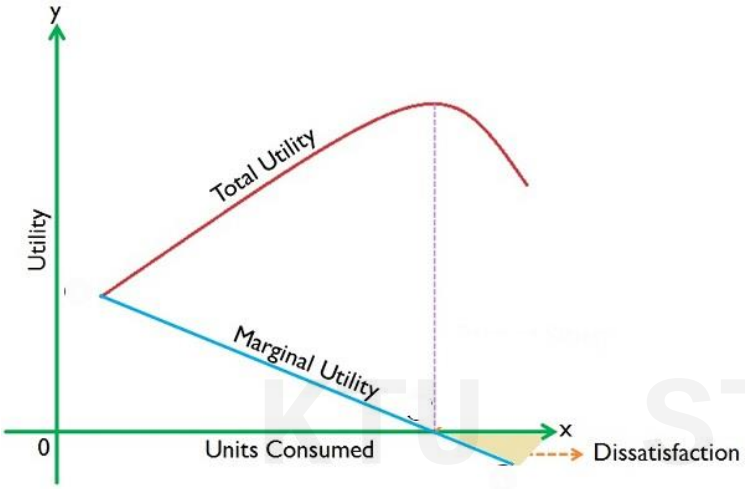
*--As the quantity consumed of a commodity increases continuously, the utility derived from each successive unit decreases, consumption of other commodities remaining the same.*

*--Marginal utility of each successive unit consumed diminishes with increase in consumption.*

(Analyze the case of consuming more and more cups of ice cream once again)

Assumptions of the law

- Utility can be measured in cardinal number system such as 1,2,3 etc
- Continuous consumption of the commodity is assumed.
- No change in income of the consumer, his tastes, character, fashion etc
- No change in the price of the commodity and its substitutes.
- Marginal utility of money remains constant.
- Suitable quantity of the commodity is consumed.
- Marginal Utility of every commodity is independent.
- Every unit of the commodity being used is of same quality and size.




Utility curve

Total utility increases at first, reaches a maximum level and then decreases.

Marginal utility decreases throughout, reaching zero at one stage and later moving to negative values showing dissatisfaction for the product.

( check the table for more clarification)

**Production possibility curve**

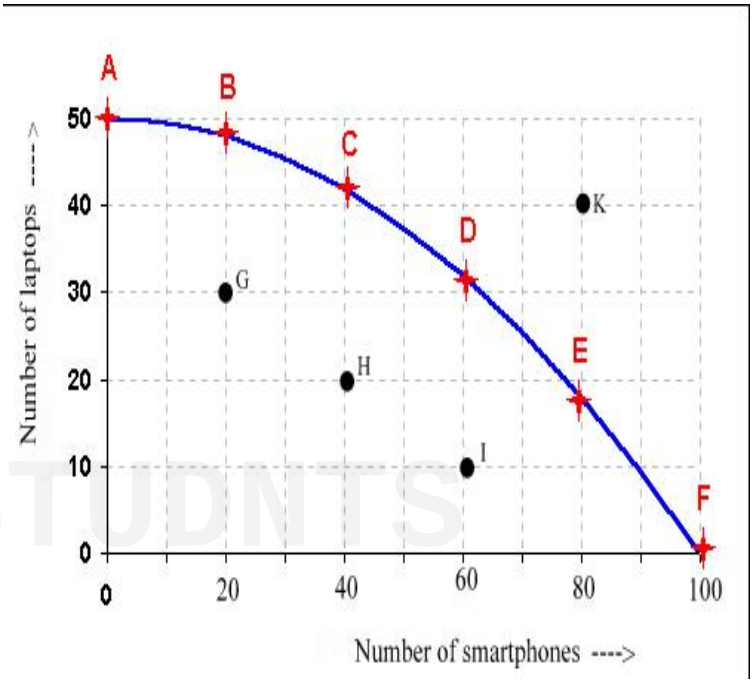
Suppose we have a fixed amount of resources (capital, labour etc) in our hand. We wish to produce smartphones and laptops using these resources. Since we have only a fixed number of resources, we have to allocate these resources into two sections to manufacture these two products. If all the resources are used to produce only one commodity, then we cannot produce a single unit of the other commodity. If the resources are allocated in different proportions, then the number of laptops and smartphones produced will vary depending upon that proportion.

Initially, all the resources are used to produce laptops. At that point, the number of laptops produced will be 50 and the number of smartphones produced will be zero. In the next stage, small amount of resources are allocated to the smartphone section and the remaining portion to the laptop section. Thus, the number of smartphones manufactured will increase by a small amount and that of laptops will decrease by a small amount. If more and more resources are allocated to smartphones, then the number of smartphones will increase and that of laptops will decrease. At last, a stage will be reached where no laptops can be produced at all.

*--A production possibility frontier (PPF) or production possibility curve (PPC) is a graphical representation of the alternative combinations of the amounts of two goods or services that an economy can produce by transferring resources employed at full efficiency from one good or service to the other.*

*--A production possibility frontier (PPF) or production possibility curve (PPC) is a graphical representation of possible combinations of two goods that can be produced with constant resources and technology, such that more of one good could be produced only by diverting resources from the other good, resulting in less production of it. Production possibility frontier (PPF) represents the point at which an economy is most efficiently producing its goods and services and, therefore, allocating its resources in the best way possible.*

| POINTS | NUMBER OF SMARTPHONES PRODUCED | NUMBER OF LAPTOPS PRODUCED |
|---|---|---|
| A | 0 | 50 |
| B | 20 | 47 |
| C | 40 | 42 |
| D | 60 | 31 |
| E | 80 | 18 |
| F | 100 | 0 |




- A, B, C, D, E and F show various combinations of number of laptops and smartphones that can be produced when the resources are **utilized at full efficiency**.
- The point "K" shows a combination of 80 smartphones and 40 laptops. But from the table, we can see that if all the resources are utilized at full efficiency, we can produce only 18 laptops with 80 smartphones. Thus, **"K" is a combination point which cannot be attained at the present stage**. We call those points outside the PPC as unattainable combination points. Our resources should be improved or increased to convert these unattainable points into attainable points.
- G, H and I show combinations of smartphones: laptops as (20:30), (40:20) and (60:10) respectively. But from the table we can see that 47 laptops can be produced with 20 smartphones, 42 laptops can be produced with 40 smartphones and 31 laptops can be produced with 60 smartphones. We have not attained such combinations at the points G, H and I. So these points correspond **to under utilization of resources.**

Module- 2: **Basics of Micro Economics I:-**Demand and Supply analysis- equilibrium-elasticity (demand and supply) -Production concepts-average product-marginal product-law of variable proportions- Production function-Cobb Douglas function-problems

## Demand

--**Demand** for a commodity is constituted by 3 components:-

- Desire for the product
- Ability to pay for the product
- Willingness to pay for the product

--Quantity demanded is a term used in economics to describe the total amount of goods or services demanded at any given point of time, at a given price.

## Determinants of demand

Determinants of demand refer to the influencing factors of demand. It includes:-

- Price of the product

  When the price of a product rises, the quantity demanded of that product falls. That also means that, when prices drop, demand will grow. People base their purchasing decisions on price if all other things are equal. Eg :- When shirts go on sale, you might buy three instead of one. The quantity that you demand increases because the price has fallen.

- Income effect

  The income of a consumer affects his/her purchasing power, which, in turn, influences the demand for a product. Increase in the income of a consumer would automatically increase the demand for products by him/her, while other factors are at constant, and vice versa.

  For example, if the salary of Mr. X increases, then he may be able to buy more chocolates for his children.

- Prices of related goods or services: Refer to the fact that the demand for a specific product is influenced by the price of related goods to a greater extent. Related goods can be of two types, namely, substitutes and complementary goods, which are explained as follows:

  a) Substitutes or supplementary effect: Refer to goods that satisfy the same need of consumers but at a different price. For example, tea and coffee, groundnut oil and sunflower oil are substitute to each other. The increase in the price of a good results in increase in the demand of its substitute with low

price. The increase in the price of coffee results in increase in the demand of its substitute, tea with low price. Therefore, consumers usually prefer to purchase a substitute, if the price of a particular good gets increased.

b) Complementary Goods or complementary effect:

Refer to goods that are consumed simultaneously or in combination. In other words, complementary goods are consumed together. For example, pen and ink, car and petrol, etc are used together. Therefore, the demand for complementary goods changes simultaneously. The complementary goods are inversely related to each other. For example, increase in the prices of petrol would decrease the demand of cars.

- Tastes and preference of customers

  The tastes and preferences of consumers are affected due to various factors, such as life styles, customs, common habits, and change in fashion, standard of living, religious values, age, etc

  A change in any of these factors leads to change in the tastes and preferences of consumers. Consequently, consumers reduce the consumption of old products and add new products for their consumption. For example, if there is change in fashion, consumers would prefer new and advanced products over old- fashioned products, provided differences in prices are proportionate to their income.

- Expectations of future price

  Expectations of consumers about future changes in the price of a product affect the demand for that product in the short run. For example, if consumers expect that the prices of petrol would rise in the next week, then the demand of petrol would increase in the present. On the other hand, consumers would delay the purchase of products whose prices are expected to be decreased in future, especially in case of non-essential products.

- Advertisement effect

  Consumers are highly sensitive about advertisements as sometimes they get attached to advertisements by their favourite celebrities. This results in the increase demand for a product.

- Number of buyers in the market.

  The number of consumers affects overall, or aggregate, demand. As more buyers enter the market, demand rises. That's true even if prices don't change.

- Government Policy:

  Government policies can affect the demand for a product. For example, if a product has high tax rate, this would increase the price of the product. This would result in the decrease in demand for a product.

- Climatic Conditions:

  The demand of ice-creams and cold drinks increases in summer, while tea and coffee are preferred in winter.

- Distribution of National Income

  If income is equally distributed among people in the society, the demand for products would be higher than in case of unequal distribution of income. However, the distribution of income in the society varies widely. The high income segment of the society would prefer luxury goods, while the low income segment would prefer necessary goods.

- Growth of Population:

  High growth of population would result in the increase in the demand for different products.

**Law of demand**

*Other things remaining the same, the higher the price of a good, the smaller is the quantity demanded; and the lower the price of a good, the larger is the quantity demanded.*

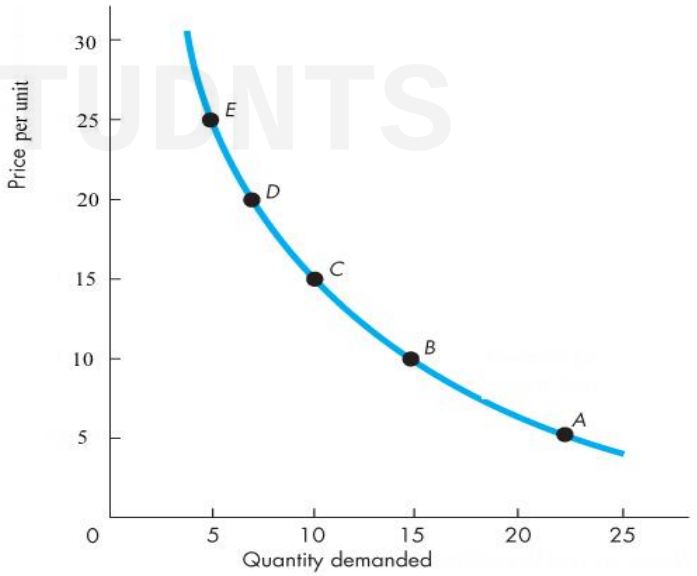
Other factors to be same means that we assume there is no change in tastes & preference of customers, no change in income, no change in price of related goods etc.

- Following are the different quantities of chocolates a boy is willing to buy at different prices.

Demand schedule

| Points | Price per unit | Quantity demanded |
|---|---|---|
| A | 5 | 22 |
| B | 10 | 15 |
| C | 15 | 10 |
| D | 20 | 7 |
| E | 25 | 5 |

Demand curve




-----There is an inverse relation between price and quantity demanded.

The quantity demanded decreases for an increase in price because of:-

a) Substitution effect : when the price of product' A' increases ,people will buy its substitutes thereby reducing the demand of product A

b) Income effect: - When the price of product' A' increases, it will reduce the real income or purchasing power of people, thereby reducing the demand of product A

**Law of supply**

The quantity supplied of a good or service is the amount that producers plan to sell during a given time period at a particular price

*Other things remaining the same, the higher the price of a good, the greater is the quantity supplied; and lower the price of a good, the smaller is the quantity supplied.*

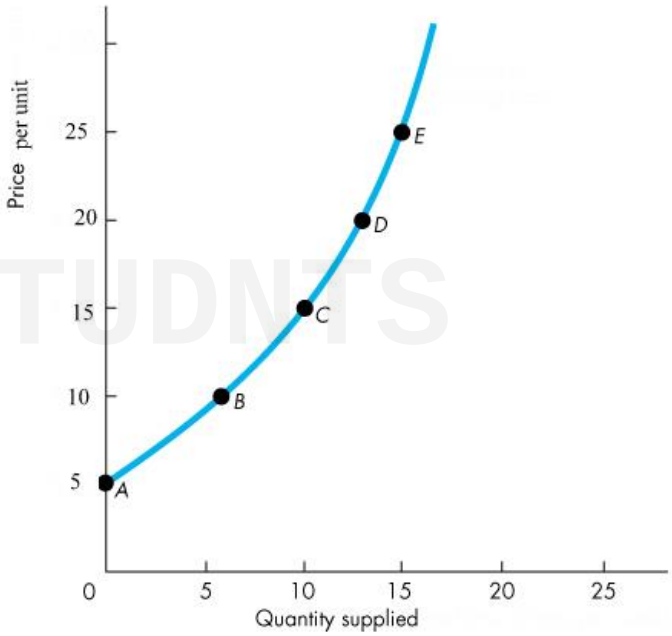
The supply curve shows the relationship between the quantity supplied of a good and its price when all other influences on producers' planned sales remain the same.

Supply schedule

Following table shows different quantities of chocolates that a person is ready to sell under different prices per unit.

| Points | Price per unit | Quantity supplied |
|---|---|---|
| A | 5 | 0 |
| B | 10 | 6 |
| C | 15 | 10 |
| D | 20 | 14 |
| E | 25 | 17 |

Supply curve




As the price per unit of the product increases, the supplier is willing to sell more and more chocolates as he will get more profit from each chocolate.

**Market equilibrium**

Equilibrium is a situation in which opposing forces balance each other. Equilibrium in a market occurs when the price balances the plans of buyers and sellers. Buyers may demand different quantity of goods at different prices. Sellers may supply demand different quantity of goods at different prices. If buyers demand and sellers supply same quantity of goods at a particular price, then we can say that an equilibrium is created.

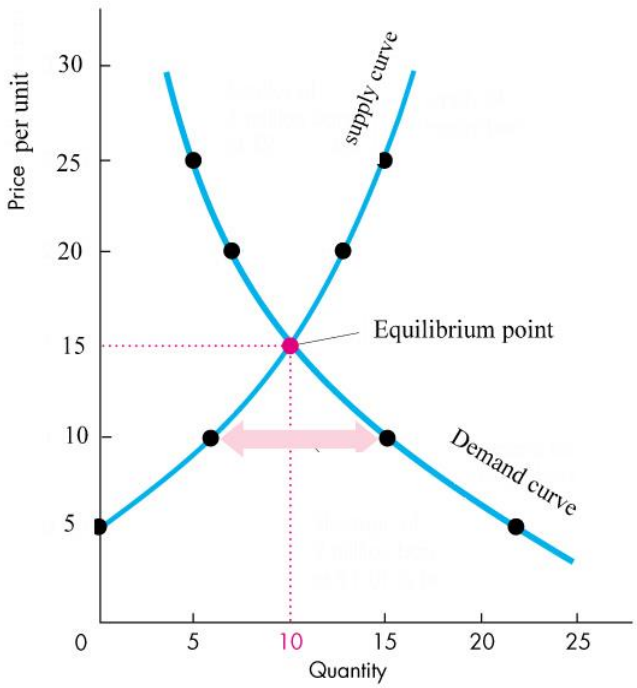
*The equilibrium price is the price at which the quantity demanded equals the quantity supplied.*

*The equilibrium quantity is the quantity bought and sold at the equilibrium price.*

Curve

Schedule

| Price per unit | Quantity supplied | Quantity demanded |
|---|---|---|
| 5 | 0 | 22 |
| 10 | 6 | 15 |
| 15 | 10 | 10 |
| 20 | 14 | 7 |
| 25 | 17 | 5 |




At Rs.10 per unit, the supplier will sell only 6 units but the customer demands 15 units. That means there is a shortage of supply and excess demand.

At Rs.20 per unit, the supplier is ready to sell 14 units but the customer demands only 7 units. That means there is a excess of supply and shortage of demand.

At Rs.15 per unit, the supplier will sell 10 units and the customer also demands 10 units. That means there plans of both customer and supplier will meet at this point. Here equilibrium price is Rs.15 and equilibrium quantity is 10.