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INDIAN ECONOMY

CIVIL SERVICES EXAMINATION 2025

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Indian Economy

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Unit 1

Introduction to Economy

CHAPTER

1

FUNDAMENTALS OF ECONOMICS

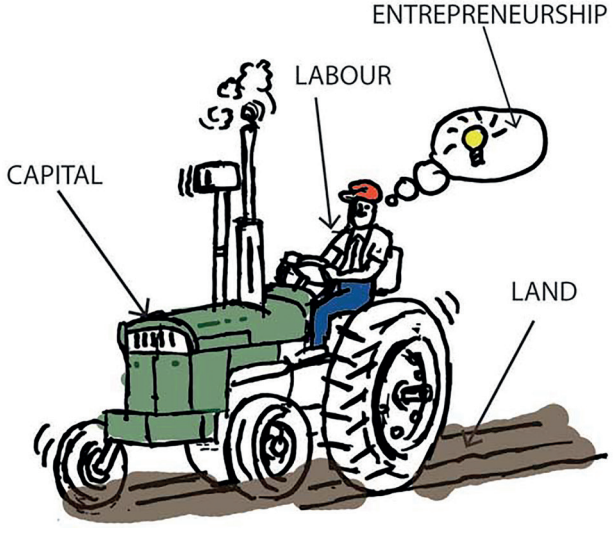
1.1 Basics

Economics is a social science analyzing the production, distribution and consumption of goods and services. In other words, it is discipline that deals with what choices people make; how and why they make them while making purchases.

Scarcity is the basic economic problem that exists because we as humans have unlimited wants that cannot be met by the limited amount of resources in the world. Any good or service that has a non-zero price is considered scarce. It will cost you something to consume that good or service. Without scarcity, people would consume everything they could possibly consume and would not have to make choices or trade-offs between goods and services. Therefore, Economics is the study of how societies allocate scarce resources to produce valuable commodities and distribute them among different people.

1.2 Factors of Production

Factors of production refers to the inputs that are used in the production of goods or services in the attempt to make an economic profit. The factors of production include land, labour, capital and entrepreneurship.



A. Land

- Land is an economic resource encompassing natural resources found within a nation's economy.
- This resource includes timber, land, fisheries, farms and other similar natural resources.
- Land is usually a limited resource for many economies. Example: India has 17.7% of the global population but only 2.4% of the global land.

B. Labour

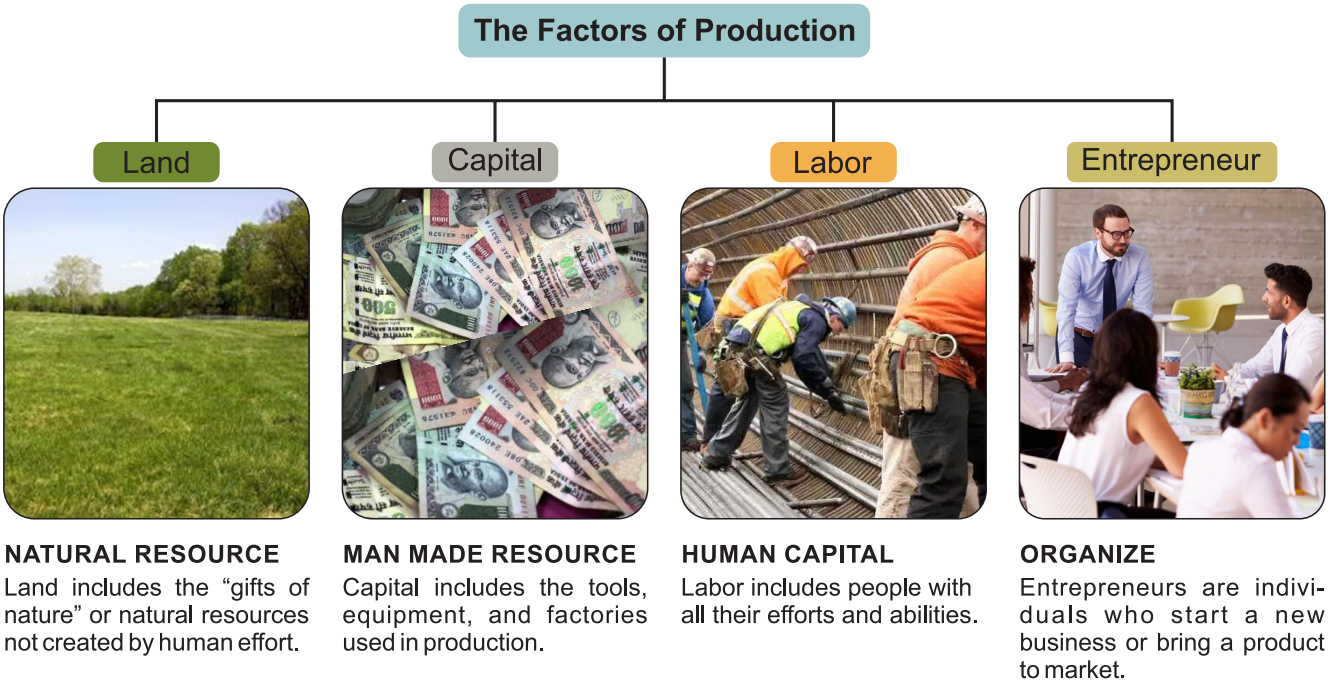
- Labour represents the human capital available to transform raw material or natural resources into consumer goods.
- Human capital includes able-bodied individuals capable of working in the nation's economy and willing to provide various services to other individuals or businesses.
- This factor of production is a flexible resource as workers can be allocated to different areas of the economy for producing consumer goods or services.
- Human capital can also be improved through training educating or re-skilling workers.

C. Capital

- Capital also represents the investment in durable physical assets made by individuals and companies which are used to produce goods or services. These assets include buildings, production facilities, equipment, vehicles etc.
- Capital represents the monetary resources companies use to purchase natural resources, land and other capital goods.
- Capital thus refers to man-made goods used in supply of other products.

D. Entrepreneurship

- Economic resources can exist in an economy and still not be transformed into consumer goods.
- Entrepreneurs usually have an *idea* for creating a valuable good or service and assume the *risk* involved with transforming economic resources into consumer products for which they earn profit.



1.3 Types of Goods

A. Final Goods

Any good or service purchased by the consumer (Individual or Enterprise) can be for final use or for use in further production. An item that is meant for final use and will not pass through any more stages of production or transformations is called a *final good*.

Features:

- It will not undergo any *further transformation* at the hands of any producer.
- Once it has been sold, it passes out of the *active economic flow*.
- Apart from this, they undergo transformation by the action of the ultimate purchaser, during their consumption.

Example: The tea leaves purchased by the consumer are not consumed in that form – they are used to make drinkable tea which is consumed. Similarly, most of the items that enter our kitchen are transformed through the process of cooking. But cooking at home is not an economic activity even though the product involved undergoes transformation. Home cooked food is not sold to the market and hence is final good.

B. Intermediate Goods

Of the total production-taking place in the economy, a large number of products do not end up in final consumption and are not capital goods either. Such goods may be used by other producers as material inputs. Examples are steel sheets used for making automobiles and copper used for making utensils. These are intermediate goods, mostly used as raw material or inputs for production of other

Basis of Difference	Consumer/Consumption Goods	Capital Goods
Definition	Consumption goods are those goods that are used by the consumers and have no use in future.	Capital goods are those goods that have a future use and are used for production of consumption goods.
Purpose	Consumer goods are purchased in order to fulfil personal consumption needs. They sustain Consumption of people.	Capital goods are purchased for manufacturing of consumption goods.
Satisfaction of Human Wants	Directly satisfy human wants and hence have a direct demand.	Indirectly satisfy human wants and hence have a derived demand.
Transformation	May/May not be transformed in the process of production/consumption.	Don't get transformed in the process of production.
Target Market	Consumer	Manufacturers

Basis of Difference	Consumer/Consumption Goods	Capital Goods
Demand	Consumption goods have high demand.	Demand for capital goods is comparatively less.
Pricing	Comparatively cheap.	Costlier in comparison to consumption goods
Impact on Production Capacity	Help to raise the labour productive capacity.	Help to raise both labour and capital productive capacity.
Expected Life	Usually Limited (in case of FMCG's- Fast Moving Consumer Goods).	Life covers more than one productive cycle. They undergo wear and tear and hence require replacement and repair.
Types	• **Durable Goods:** Goods that can be used repeatedly over a considerable period. • **Non-Durable Goods:** Used up in a single act of consumption. • **Services**.	
Examples	Television Sets, Mobile Phones, Milk, Fruits, etc.	Machinery, Building, Furniture etc.

commodities. Continuing the above example, if the same cooking or tea brewing was done in a restaurant where the cooked product would be sold to the customers, then the same items such as tea leaves would cease to be final goods and would be counted as inputs to which economic addition takes place. Thus, it is not in the nature of the good but in the economic nature of its use that a good becomes a final good.

1.4 Study of Economics

The study of economics can be subcategorized into Microeconomics and Macroeconomics.

- **Microeconomics** is the study of economics of the individual or business decision regarding allocation of resources given the scarcity and government intervention.

  Microeconomics includes concepts such as relationship between *supply and demand, price of goods and services and relationship between wages, employment, inflation*.
- **Macroeconomics** is the study of the performance and structure of the whole economy rather than specific individual markets.

  Macroeconomics includes concepts such as *inflation, international trade, unemployment, and national consumption and production, savings and general price levels*.

1.5 Schools of Economic Thought

There are also schools of economic thought. Two of the most common are Classical and Keynesian.

- The **Classical view** believes that *free markets* are the best way to allocate resources and the government's role should be *limited* to that of a fair and strict referee.
- In contrast, the **Keynesian approach** believes that markets do not work well at allocating resources on their own and that governments must step in from time to time and actively reallocates resources efficiently.

1.6 Types of Economy

1.6.1 In Terms of Role of State

The most contentious issue that has affected civilized history of humankind is how the production process in an economy should be organized. Whether the production should be the sole responsibility of State/Government or should it be left altogether to the private sector?

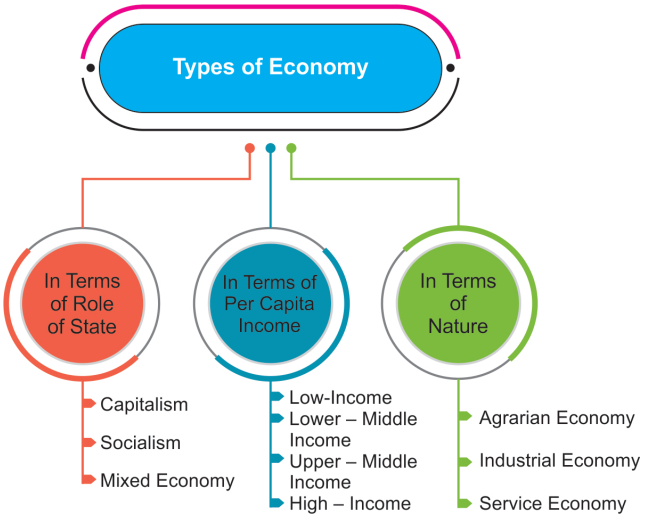
Every society has to answer three questions, which determine the type of economic system:

- What goods and services should be produced in the country?
- How should the goods and services be produced? Should producers use more human labour or more capital (machines) for producing things?

Type of Economy	What is Produced	How it is Produced	How it is Distributed
Capitalist/Market Economies (Example: UK,US, Canada)	Whatever people are willing to buy & sell.	Business Owners determine the most efficient legal methods of production.	Determined by how much a person is able or willing to pay.
Socialist/Command Economies (Example-Soviet Union, Cuba)	Whatever the government decides.	However the government decides.	However the government decides, Generally to create equality for all on the bases of Class/Caste/ Gender.

- How should the goods and services be distributed among people?

Based on the answer of these three questions, the economic systems are classified into 3 categories:



A. Capitalist

The capitalistic form of economy has its origin in the famous work of **Adam Smith** – *An Enquiry into the Nature and the Causes of the Wealth of Nations* (1776). He stressed on '*laissez faire*' state i.e., non-interference by the government.

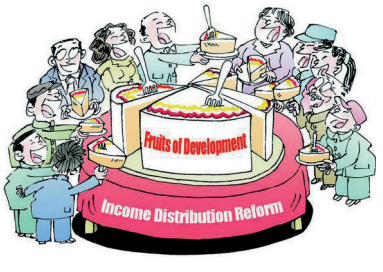
The decisions of what to produce, how much to produce and at what price to sell,are taken by the market, by the private enterprises in this system with the state having no economic role.

- In a capitalist economy, the market determines prices through the *laws of supply and demand*.

  For example, when demand for coffee increases, a profit-seeking business will boost prices in order to increase its profit. If, at the same time, society's appetite for tea diminishes, growers will face lower prices and aggregate production will decline.
- If labour is cheaper than capital, more labour-intensive methods of production will be used and vice-versa.
- In a capitalist society, the goods produced are distributed among people not on the basis of what people need but on the basis of what people can afford and are willing to purchase.

  This means that a sick person will be able to use the required medicine only if he/she can afford to buy it; if they cannot afford the medicine, they will not be able to use it even if they need it urgently.

B. Socialist



The socialistic form of economy was rooted in the ideas of historical change proposed by the German philosopher **Karl Marx** (1818-83). More specifically, this kind of economic system first came up in the erstwhile USSR after the Bolshevik Revolution (1917) and got its practical shape in the People's Republic of China (1949).

Under a true socialist system, it is the government's role to determine output and pricing levels. The challenge is synchronising these decisions with the needs of consumers. A socialist society answers the above three questions in a totally different manner:

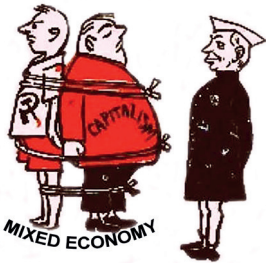
- **Distinction from Capitalist Economy:** In principle, distribution under socialism is supposed to be based on what people need and not on what they can afford to purchase. Unlike capitalism, for example, a socialist nation provides free healthcare to the citizens who need it. Strictly, a socialist society has no private property since everything is owned by the state.
- Socialistic economy emphasized the *collective ownership of the means of production* (property and assets) and it also ascribed a large role to the state in running the economy.
- **Distinction between Communist and Socialist Economy:** Socialism and Communism are often used in place of each other despite being fundamentally different from each other. Communist economy advocates withering away of the state where means of production would be owned by community.
- In *Communism*, All economic resources are publicly owned and controlled by the government. Individuals hold no personal property or assets.

  In *Socialism*, Individuals can own personal property but all industrial and production capacity is communally owned and managed by a democratically elected government.
- In *Communism*, Class is abolished. The chances of one worker earning more than the other are nonexistent.

  In *Socialism*, Classes exist but the differences between them are greatly reduced. It is possible for some people to earn more than others.

C. Mixed Economy

It is an economic system that features characteristics of both capitalism and socialism. A mixed economic system allows a level of private economic freedom in the use of capital, but also allows for governments to interfere in economic activities in order to achieve social aims whenever required.



Mixed economic systems are not laissez-faire systems: the government is involved in planning the use of resources and can exert control over businesses in the private sector.

For example, Governments seeks to redistribute wealth by taxing the private sector, and using funds from taxes to promote social objectives.

Model Adopted by India

The leaders of Independent India had to decide the type of economic system most suitable for our nation, which would promote the welfare of all rather than a few.

Among the different types of economic systems, socialism appealed to Jawaharlal Nehru the most. However, he was not in favour of the kind of socialism established in the former Soviet Union where all the means of production, i.e. all the factories and farms in the country, were owned by the government. There was no private property. It was not possible in a democracy like India for the government to change the ownership pattern of land and other properties of its citizens in the way that it was done in the former Soviet Union, this would have created upheaval among the industrial classes and stunted India's grown story.

The leaders found the answer in an economic system, which, in their view, combined the best features of socialism without its drawbacks. In this view, India would be a *socialist society with a strong public sector* but also with private property and democracy; the government would plan economy with the *private sector being encouraged* to be part of the plan effort. This was done because modernisation projects had long gestation period, large capital required and risk which the nascent private sector couldn't shoulder.

So, after Independence, India opted for the Mixed Economy. In the process of organizing the economy, some basic and important infrastructural economic responsibilities were taken up by the State Governments (centre and state) and rest of the economic activities was left to private enterprise i.e. the market.

But once the country started the process of economic reforms in early 1990s, the prevailing state-market mix was redefined and a new form of mixed economy began to be practised.

- The redefined mixed economy for India had a declared favour for the market economy.
- Many economic roles, which were under complete government monopolies, were now opened for participation by the private sector. Examples are many - telecommunication, power, roads, oil and natural gas, etc.
- At the same time, social sector such as education, healthcare, drinking water, etc. were given extra emphasis by the state so as to create a balance between profit seeking interest of private sector with the welfare obligation of the state.

The economic system of India was a mixed economy in pre-1991 years as it is in post-1991 years but the composition of state-market mix has gone for a change (For detailed reasons that why india adopted mixed economy, refer socio-economic planning).

1.6.2 In Terms of Per Capita Income

The *World Bank* classifies economies based on their GNI (Gross National Income) per capita. The categories are given below:

Categorisation of Economy (Yearly)	
Economy	**Per Capita GNI (2022)**
Low-Income	$1,085 or less
Lower Middle-Income	Between $1,085 and $4,255
Upper Middle-Income	Between $4,255 and $13,205
High-Income	$13,205 or more

Low-Income and lower middle-income economies are usually referred to as *developing economies*, and the Upper Middle Income and the High Income are referred to as *Developed Countries*. India is categorized in the Lower Middle Income Category with per capita GNI of $2170 as per World Bank.

1.7 Structural Composition

The contribution made by the different sectors of the economy, namely the agricultural sector, the industrial sector and the service sector in the GDP of the country makes up the structural composition of the economy.

A. Primary Sector

The primary sector involves the extraction of raw materials from the natural resources. Therefore, this is sometimes known as the *Extraction Sector*. This extraction results in raw materials and basic foods, such as coal, wood, iron and corn. Since most of the natural product we get are from agriculture, dairy, forestry, fishing, it is also called *agriculture and allied sector*. People engaged in primary activity are called *red collar workers* due to the outdoor nature of their work.

B. Secondary Sector

The secondary sector involves the transformation of raw materials into finished or manufactured goods. This sector is rightly called the **manufacturing sector**. Since the manufacturing is done by the industries this sector is also called the **industrial sector** such as automobiles, textiles, etc. People engaged in secondary activity are called *blue collar workers*.

Examples of manufacturing sector:

- Small workshops producing pots, artisan production.
- Mills producing textiles,
- Factories producing steel, chemicals, plastic, car.
- Food production such as brewing plants, and food processing.
- Oil refinery.

C. Tertiary Sector

The service sector helps in development of primary and secondary sector is concerned with the intangible aspect of offering services to consumers and business. It involves retail of the manufactured goods. It also provides services, such as insurance and banking. Its provide value addition to transportation and production of goods created through secondary sector. This sector jobs are called *white collar jobs*.

Sector	Contribution to GDP	Proportion of Workforce Employed
Agriculture	18%	63%
Industry	23%	14%
Services	59%	23%

D. Quaternary Sector

The quaternary sector is said to be the *intellectual aspect* of the economy. It includes education, training, the development of technology and research and development. It is also called the *knowledge sector*. It is the process, which enables entrepreneurs to innovate better manufacturing processes and improve the quality of services offered in the economy. Without this growth of technology and information, economic development would be slow or non-existent.

E. Quinary Sector

Quinary sector, which includes the *highest levels of decision making* in a society or economy. This sector includes top executives or officials in such fields as government, science, universities, nonprofit, healthcare, culture and the media. It may also include police and fire departments, which are public services as opposed to for-profit enterprises.

These include services that focus on the creation rearrangement and interpretation of ideas. Profession under this category is called *gold collar professional*.

Economists sometimes also include domestic activities (duties performed in the home by a family member or dependent) in the quinary sector. These activities, such as childcare or housekeeping, are typically not measured by monetary amounts but contribute to the economy by providing services for free that would otherwise be paid for.

1.8 Structural Transformation of Indian Economy

Structural transformation in an economy is usually associated with the changes in sectoral composition of output, employment and changes in the rural-urban composition of output and employment.

As a country develops, it undergoes 'structural change'. The natural economic movement of a country goes from agrarian economy to an industrial economy to a service economy. But, India's growth story has been different and India has leapfrogged from an agrarian economy to a service economy.

1.8.1 Peculiar Structural Changes

- The share of agriculture in Indian GDP fell from more than 40% in the early 1960s to around 17% by the end of the 2000s.
- It is to be noted that the rate of decline in the agricultural share accelerated as the rate of economic growth increased.
- The share of industry as a whole rose from about 20% in 1960 to around 28% in 2009, whereas the share of manufacturing alone disappointingly stayed at around 15% during the entire period, again a sign of sluggish structural transformation.
- By 1990 the share of the service sector was 40.59 per cent, more than that of agriculture or industry, like what we find in developed nations. This phenomenon of growing share of the service sector was accelerated in the post 1991 period.
- Presently, service sector has emerged as the largest and fastest growing sector of the economy with around more than fifty percent contribution to the GDP.
- The increasing contribution of service sector to GDP growth is referred as *Growing Tertiarization of Indian Economy*.

1.8.2 Reasons for Asymmetric Structural Transformation of Indian Economy

The reason for asymmetric structural transformation of Indian economy is on account of account of rapid increase in tertiary sector and slow growth in secondary sector.

A. Reasons for Slow Growth in Secondary Sector

1. **Stringent Labor Laws:** The labour laws in India are extremely complicated. e.g, Industrial Disputes Act-1947 provides that if you are a manufacturing firm with 100 workers or more, you cannot dismiss any of them under any circumstances unless you get prior approval from the government which is rarely given. The law is to be followed even if the industry is going bankrupt. Thus, the investors are not willing to enter into this sector.
2. **Inadequate Skilled Workforce:** The manufacturing sector, for it to grow, requires an educated workforce with the necessary skills and training. India's skill ecosystem needs to be fixed.
3. **Basic Infrastructure:** Roads, connectivity and transportation are slow and costly when compared to developed nations which is a huge deterrence to Industries. Uninterrupted power supply is another challenge.
4. **Small Size:** Small enterprises, because of their smaller size, suffer from low productivity, preventing them from achieving economies of scale.
5. **Low Spending on R&D:** Currently, India spends about 0.7% of GDP on research and development, a considerably small amount when compared with other developed nations. This prevents the sector to evolve, innovate and grow.

B. Reasons for Rapid Increase in Tertiary Sector

1. **Advent of Information and the knowledge economy** which has enhanced the growth of the high productivity segment of the services. It is also attributed to well educated and fluent English speakers and human

resources. This has led to India's success is software and ITeS significant service exports.

2. **Public Services** grow more rapidly where national government have significant role in planning and production in the economy as a whole.
3. A large part of the service sector consists of soft infrastructure such as *banking*, *insurance*, *finance*, *transport* and *communications*, *education*, *Health* etc. An urgent requirement of development is the proper expansion of social and physical infrastructure as provided by these services.
4. **Increasing urbanization** may be regarded as another cause as it is closely associated with a rise in demands for infrastructure services such as communication, public utilities and distribution services.
5. **Tourism** is becoming more and more international as knowledge is being spread through television and internet thereby promoting various services like hotel accommodations.
6. Also with increasing **complexities** of modern industrial organization, manufacturing industries have become service oriented. This has been reflected in the increasing functions of accounting finance, legal services, advertising, marketing, public relations etc.

■■■■

TRY SOME PRELIMS PREVIOUS YEAR QUESTIONS

1. Which of the following activities constitute the real sector in the economy?

1. Farmers harvesting their crops.
2. Textile mills converting raw cotton into fabrics
3. A commercial bank lending money to a trading company
4. A corporate body issuing Rupee Denominated Bonds overseas

Select the correct answer using the code given below:

(a) 1 and 2 only (b) 2, 3 and 4 only
(c) 1, 3 and 4 only (d) 1, 2, 3 and 4

(2022)

Ans. (a)

2. In the context of any country, which one of the following would be considered as part of its social capital?

(a) The proportion of literates in the population
(b) The stock of its buildings, other infrastructure and machines
(c) The size of population in the working age group
(d) The level of mutual trust and harmony in the society

(2019)

Ans. (d)

CHAPTER

2

MICROECONOMICS

2.1 Basic Concepts

Microeconomics is the study of economic tendencies, and behaviour of individual decision making unit when choices are made or when the factors of production change. Individual actors are often broken down into micro-economic subgroups, such as buyers, sellers and business owners.

Theory of Choice

Theory of choice operate on both the level of demand and supply.

Supply Side: The supply side is expressed by the production function. A production function expresses the fact that a firm's output depends on the quantity of inputs it employs. If the firm wants to maximize profits (defined as the difference between the sales value of its output and the cost of its inputs), it will select that combination of inputs that minimizes its expenses, maximises its revenue.

Demand Side: The demand side is expressed by the utility function. Each household is endowed with definite "tastes" that can be expressed in a series of "utility functions." A utility function (an equation similar to the production function) shows that the pleasure or satisfaction households derive from consumption will depend on the products they purchase and on how they consume these products.

It is necessary to assume that households seek to maximize satisfaction and that they will distribute their given incomes among available consumer goods in a way that derives the largest possible "utility" from consumption. Their incomes, in theory, are assumed to be fixed.

In economic theory, the production function contributes to the calculation of ***supply curves*** (graphic representations of the relationship between product price and quantity that a seller is willing and able to supply) for firms in ***product markets*** and ***demand curves*** (graphic representations of the relationship between product price and the quantity of the product demanded) for firms in ***factor markets***.

All of these demand and supply curves express the quantities demanded and supplied as a function of prices not because price alone determines economic behavior but because the purpose is to arrive at a ***theory of price determination***.

Equilibrium/Market Clearing Price

The important point is that most demand curves are negatively inclined/sloping (this means an inverse relationship exists between consumer demand and price, and therefore consumers demand less as the price rises), while most supply curves are positively inclined/sloping (this means a direct relationship exists between supply and price, and therefore suppliers are likely to produce more at higher prices). The participants in a market will be driven to the price at which the two curves intersect; this price is called the "***equilibrium***" ***price*** or "***market-clearing***" ***price*** because it is the only price at which supply and demand are equal.

2.2 Demand

2.2.1 Demand Curve

The demand curve is a relation between the quantity of the good chosen by a consumer and the price of the good. The independent variable (price) is measured along the vertical axis (y-axis) and dependent variable (quantity) is measured along the horizontal axis (x-axis). The demand curve gives the quantity demanded by the consumer at each price.

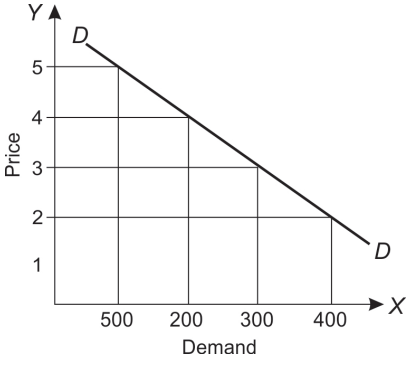
The demand curve will move downward from the left to the right, which expresses the law of demand.

2.2.2 Law of Demand

Law of Demand states that the other factors remaining constant, price and quantity demanded of any good and services are inversely related to each other. When the price of a product increases, the demand for the product will fall. In other words, higher price leads to a lower quantity demanded and that a lower price leads to a higher quantity

demanded, assuming the other factors affecting demand remain constant. The given below diagram explains the law of demand clearly:

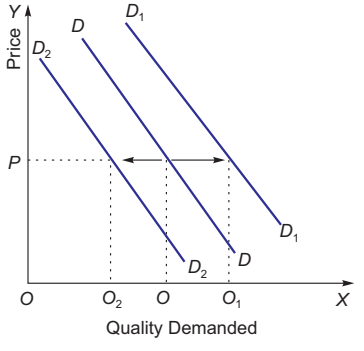
As the Price of commodity decreases from ₹5 to ₹2, the quantity demanded of the commodity increases from 100 units to 400 units.



Demand Curve

2.2.3 Assumptions to the Law of Demand

1. **Income of the Consumer remains constant:** If there is a change in the income of the consumer then the law of demand would have no effect. If the income of consumer rises then even during price rise, the demand of consumer would be unaffected. Vice versa if the income of the consumer falls then even during price fall, the consumer demand would be less.
2. **Consumer Taste and Preferences do not change:** If the taste, preference, custom or habit of the consumer changes in respect to the product (either in favour or against the product) then the Law of Demand would be ineffective.
3. **Size and Composition of Population remains same:** The size and composition of the total population should not change. As population increases, so does the demand of the commodity. With a change in the demographics of the population, the needs and demands of the population changes and so does the demand of the commodity.



Shifts in demand curve due to changes in variables other than price

2.2.4 Income Effect and Substitution Effect

The substitution effect is the economic understanding that as prices rise — consumers will replace more expensive items with less costly alternatives/substitutes. Conversely, as the wealth of individuals increases, the opposite tends to be true, as lower-priced or inferior commodities are preferred over more expensive, higher-quality goods and services, known as the income effect. The substitution effect is generally has a negative impact within an economy, as it limits consumer and producer choice.

The income effect represents the change in an individual's or economy's income and its impact on the quantity demanded of a good or service. The relationship between income and quantity demanded is a positive one; as income increases, so does the quantity of goods and services demanded. For example, when an individual's income increases, that person demands more goods and services, thus increasing consumption, other things remaining same.

2.2.5 Exceptions to the Law of Demand

A. Giffen Goods

A Giffen good is a good for which demand increases as the price increases, and falls when the price decreases. A Giffen good has an upward-sloping demand curve, as shown in the graph, which is contrary to the fundamental law of demand.

A Giffen good is typically an inferior good that does not have easily available substitutes, as a result of which the income effect dominates the substitution effect. Staple foods are an example of Giffen Goods. They are consumed by people living in poverty for the sole reason that they are unable to afford superior foodstuffs. As the price of a superior food rises, consumers are unable to supplement their diet with the more expensive foods, causing demand of giffen goods (staple food) to increase as the price of other superior foods.

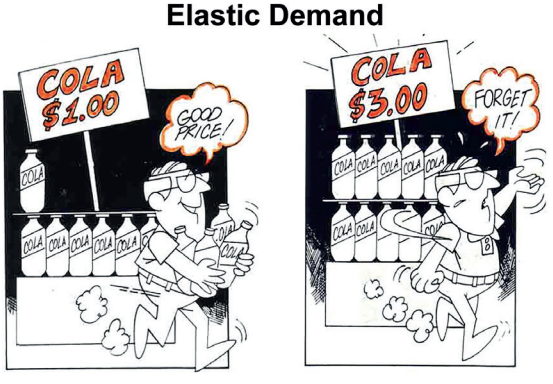
B. Veblen Goods

A good for which demand increases as the price increases, because of its exclusive nature and appeal as a status symbol. A Veblen good, like a Giffen good, has an upward-sloping demand curve, which runs counter to the typical downward-sloping curve.

However, a Veblen good is generally a high-quality, coveted product, in contrast to a Giffen good which is an inferior product that does not have easily available substitutes. As well, the increase in demand for a Veblen good reflects consumer tastes and preferences, unlike a Giffen good, where higher demand is directly attributable to the price increase.

2.2.6 Demand Elasticity (DE)

Demand elasticity refers to how sensitive the demand for a good is to changes in other economic variables, such as the prices and consumer income. Demand elasticity is calculated by taking the percent change in quantity of a good demanded and dividing it by a percent change in another economic variable. Higher demand elasticity for a particular economic variable means that consumers are more responsive to changes in this variable, such as price or income.



- **Case 1:** DE > 1, it is called elastic that is it reacts proportionately higher to changes in other economic factors. A 1% change in price or income leads to more than 1% change in demand.
- **Case 2:** DE < 1, it is called inelastic and the demand reacts proportionately lower to changes in another variable. A 1% change in price or income leads to less than 1% change in demand.

2.2.7 Types of Demand Elasticity

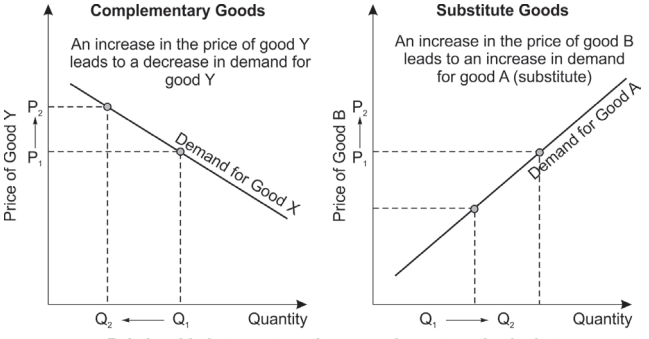
A. Cross Elasticity

The measure of responsiveness of the demand for a good towards the change in the price of a related good is called cross price elasticity of demand. It is always measured in percentage terms.

With the consumption behavior being related, the change in the price of a related good leads to a change in the demand of another good. Related goods are of two kinds, i.e., substitutes and complementary goods.

1. **Substitute Goods:** The cross elasticity of demand for substitute goods is always positive because the demand for one good increases if the price for the other good increases.

   In case the two goods are substitutes for each other like tea and coffee, the cross price elasticity will be positive, i.e., if the price of coffee increases, the demand for tea increases.



Relationship between two close complements and substitutes

2. **Complementary Goods:** The cross elasticity of demand for complementary goods is negative. As the price for one goods increases, an item closely associated with that item and necessary for its consumption decreases because the demand for the main good has also dropped.

   In case the goods are complementary in nature like pen and ink, then the cross elasticity will be negative, i.e. demand for ink will decrease if prices of pen increase or vice-versa.

B. Price Elasticity of Demand

Price elasticity of demand is a measure of the relationship between a change in the quantity demanded of a particular good and a change in its price. The degree to which rising

price translates into falling demand is called demand elasticity or price elasticity of demand.

$$\text{Price Elasticity of Demand (PED)} = \frac{\text{\% age change in quantity demanded}}{\text{\% age change in price}}$$

If a small change in price is accompanied by a large change in quantity demanded, the product is said to be elastic (or responsive to price changes). Conversely, a product is inelastic if a large change in price is accompanied by a small amount of change in quantity demanded. Price elasticity of demand measures the responsiveness of demand to changes in price for a particular good.

- **Case 1: If PED = 0**, Demand is perfectly inelastic. When the consumers do not respond to the increase or decrease in the price of a good, and the demand remains unchanged, it is said to be perfectly inelastic (i.e., demand does not change when price changes). For example: Insulin for a Diabetic patient etc. i.e., *items of necessity*.
- **Case 2: If PED < 1**, Demand is relatively inelastic (this occurs when the percent change in demand is less than the percent change in price). For example: petrol, salt, *goods produced by a monopoly* etc.
- **Case 3: If PED = 1**, Demand is unit elastic (the percent change in demand is equal to the percent change in price). This can occur only with goods that have *close substitutes* or alternatives, like clothing brands, consumer goods etc.
- **Case 4: If PED = ∞ (infinity)**, Demand is perfectly elastic (demand is affected to a greater degree by changes in price). For example: *Luxury Goods*, anything with close and large number of substitutes.
- **Case 5: If PED > 1**, Demand is relatively elastic (the percentage change in the quantity demanded of a product is greater than percentage change in price. For example: *fast moving consumer goods*, Newspaper, consumer goods like tomato ketchup, chocolates etc.

C. Income Elasticity

Income elasticity of demand refers to the sensitivity of the quantity demanded for a certain good to a change in real income of consumers who buy this good, keeping all other things constant.

Income elasticity of demand means the ratio of the percentage change in the quantity demanded to the percentage change in income.

$$\text{Income Elasticity} = \frac{\text{\% age change in quantity demanded}}{\text{\%age change in income}}$$

Types of Income Elasticity of Demand

1. **Positive Income Elasticity of Demand:** If there is direct relationship between income of the consumer and demand for the commodity, then income elasticity will be positive. That is, if the quantity demanded for a commodity increases with the rise in income of the consumer and vice versa, it is said to be positive income elasticity of demand. For example: as the income of consumer increases, they consume more of *superior (luxurious) goods*. On the contrary, as the income of consumer decreases, they consume less of luxurious goods.
2. **Negative Income Elasticity of Demand:** If there is inverse relationship between income of the consumer and demand for the commodity, then income elasticity will be negative. That is, if the quantity demanded for a commodity decreases with the rise in income of the consumer and vice versa, it is said to be negative income elasticity of demand. For example: As the income of consumer increases, they either stop or reduce consumption of *inferior goods*.
3. **Zero Income Elasticity of Demand:** If the quantity demanded for a commodity remains constant with any rise or fall in income of the consumer, it is said to be zero income elasticity of demand. For example: In case of *basic necessary goods* such as salt, kerosene, electricity, etc., there is zero income elasticity of demand.

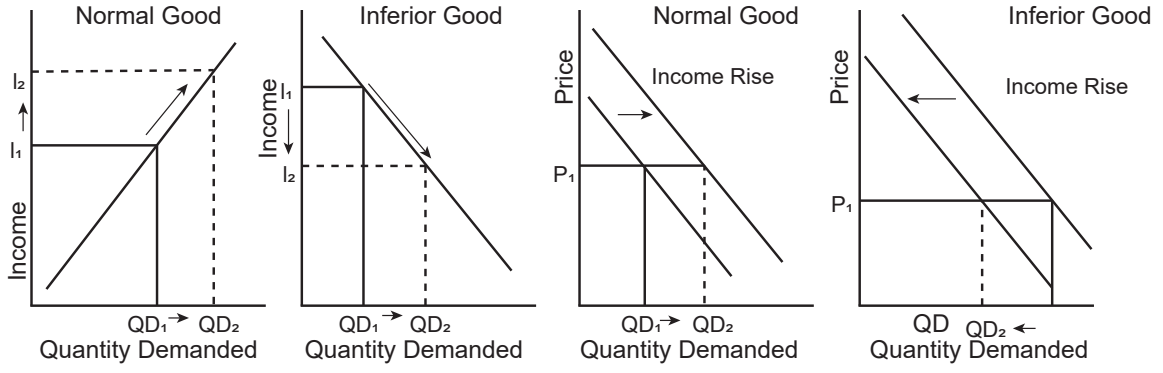
Normal Goods and Inferior Goods: Depending on the values of the income elasticity of demand, goods can be broadly categorized as inferior goods and normal goods.

1. **Normal Goods:** Normal goods have positive income elasticity of demand; as incomes rise, more goods are demanded at each price level. The quantity of a good that the consumer demands can increase or decrease with the rise in income depending on the nature of the good. For most goods, the quantity that a consumer chooses increases as the consumer's income increases and decreases as the consumer's income decreases. Such goods are called normal goods. *Thus, a consumer's demand for a normal good moves in the same direction as the income of the consumer.*

   Normal goods whose income elasticity of demand is between zero and one are typically referred to as *necessity goods*, which are products and services that consumers will buy regardless of changes in

their income levels. Examples of necessity goods and services include staple foods, water and electricity.

2. **Inferior Goods:** Inferior goods have a negative income elasticity of demand, as the income of the consumer increases, the demand for an inferior good falls, and as the income decreases, the demand for an inferior good rises. Examples of inferior goods include low quality food items like coarse cereals.



There is an extension in demand as income increases so to does the quantity demanded.

There is an extension in demand as income decreases the quantity demanded increases.

There is a rightward (positive) shift caused by income rising (a non-price factor) thus an increase in demand.

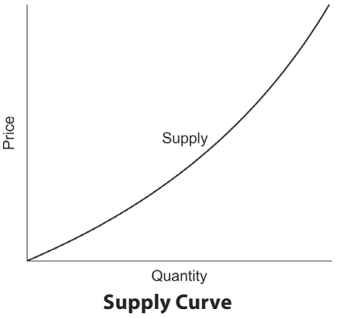
There is a leftward (negative) shift caused by a rise in income thus demand decreasing.

2.3 Supply

2.3.1 Supply Curve

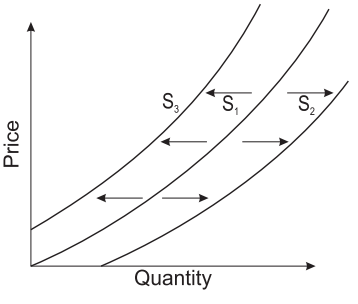
Supply curve is the graphic representation of the relationship between product price and quantity of product that a seller is willing and able to supply.

In most cases, the supply curve is drawn as a slope rising upward from left to right, since product price and quantity supplied are directly related (i.e., as the price of a commodity increases in the market, the amount supplied increases). This relationship is dependent on certain other things remaining constant. Such things include the number of sellers in the market, the state of technology, the level of production costs, the seller's price expectations, and the prices of related products.



Supply Curve

A change in any of these conditions will cause a shift in the supply curve. A shifting of the curve to the left corresponds to a decrease in the quantity of product supplied, whereas a shift to the right reflects an increase.



Shift in Supply

2.3.2 Law of Supply

Law of supply states that other factors remaining constant, price and quantity supplied of a good are directly related to each other. In other words, when the price paid by buyers for a good rises, then suppliers increase the supply of that good in the market.

When the price of a good rises, the supplier increases the supply in order to earn a profit because of higher prices.

2.3.3 Assumptions to the Law of Supply

1. **Cost of Production Remain Constant:** If the cost of production increases with a rise in the price of the product, the seller or producer will not find it worthwhile to produce and supply more of the commodity. Cost of Production includes the cost incurred in paying wages, interest, rent etc.
2. **Technology Remain Constant:** There should not be any change in the technique or technology used in the production of the commodity. This is important for the cost of production to remain same. If with an upgraded technology or an improvised technique, the cost of production decreases then the producer or the seller will produce and supply more of the commodity even at falling prices.
3. **Transport Cost Remain Constant:** Any change in transport cost will lead to a change in the total cost of production, a reduction in transport cost will encourage the producer or supplier to produce and supply the commodity even at falling price.
4. **Related Goods (Substitute Goods and Complementary Goods):** Any change in the price of the related goods will affect the supply of the commodity. If the producer is involved in production of more than one commodity, he will be inclined to produce the commodity which has a higher price. Under this circumstance, more of the product may not be produced even though the price of the commodity rises because it is more profitable to produce the other good.

2.3.4 Supply Elasticity

The price elasticity of supply of a good measures the responsiveness of quantity supplied to changes in the price of the good. More specifically, the price elasticity of supply, is defined as follow:

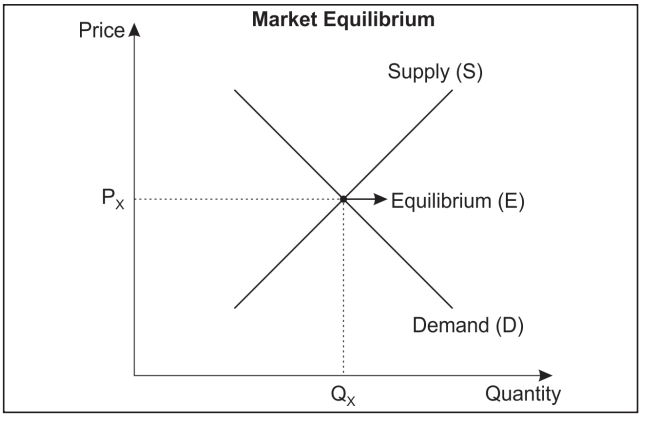
$$\text{Price Elasticity of Supply (Es)} = \frac{\text{\% age change in quantity supplied}}{\text{\% age change in price}}$$

Cases of Elasticity Supply

1. **Elastic Supply ($E_s > 1$):** Supply is said to be elastic when a given percentage change in price leads to a larger change in quantity supplied. Under this situation, the numerical value of E_s will be greater than one but less than infinity.
2. **Inelastic Supply ($E_s < 1$):** Supply is said to be inelastic when a given percentage change in price causes a smaller change in quantity supplied. Here the numerical value of elasticity of supply is greater than zero but less than one.
3. **Unit Elasticity of Supply ($E_s = 1$):** If price and quantity supplied change by the same magnitude, then we have unit elasticity of supply. Any straight line supply Curve passing through the origin.

2.4 Market Equilibrium

In equilibrium, the aggregate quantity that all firms wish to sell equals the quantity that all the consumers in the market wish to buy; in other words, market supply equals market demand. The price at which equilibrium is reached is called *equilibrium price* and the quantity bought and sold at this price is called *equilibrium quantity*.



If at a price, market supply is greater than market demand, we say that there is an *excess supply* in the market at that price and if market demand exceeds market supply at a price, it is said that *excess demand* exists in the market at that price. Therefore, equilibrium in a perfectly competitive market can be defined alternatively as *zero excess demand-zero excess supply* situation.

2.5 Market Structure

Dimensions	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Number of Sellers	Many	Many	Few	One
Barriers to Entry	Very Low	Low	High	Very High

Dimensions	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Types of substitute Products	Very Good	Good substitutes but differentiated	Very good differentiated substitutes	No good substitutes
Nature of Competition	Price only	Marketing, features and price	Marketing, features and price	Advertising
Pricing Power	None	Little	Little to significant	Significant

2.5.5 Monopsony

In monopsony, sometimes referred to as a buyer's monopoly, is a market condition similar to a monopoly except that a large buyer, not a seller, controls a large proportion of the market and drives prices down. A monopsony occurs when a single firm has market power in employing its factors of production.

2.6 Economics of Profit Determination

Cost of Production

Production cost refers to the cost incurred by a business when manufacturing a good or providing a service. Production costs include a variety of expenses including labor, raw materials, consumable manufacturing supplies and general overhead. Additionally, any taxes levied by the government or royalties owed by natural resource extracting companies are also considered production costs.

Fixed and Variable Cost

Fixed costs are those that do not vary with output and typically include rents, insurance, depreciation, set-up costs.

Variable costs are costs that do vary with output, and they are also called direct costs. Examples of typical variable costs include fuel, raw materials, and some labour costs.

Total Fixed Cost and Total Variable Cost

Given that total fixed costs (TFC) are constant as output increases, the curve is a horizontal line on the cost graph because total fixed cost remains constant irrespective of amount of production and is not zero at zero level of output. The total variable cost (TVC) curve slopes up at an accelerating rate, reflecting the law of diminishing marginal returns.

Total Cost

The total cost (TC) curve is found by adding total fixed and total variable costs.

Average Fixed Cost

Average fixed costs are found by dividing total fixed costs by output. As fixed cost is divided by an increasing output. Average fixed costs will continue to fall. The average fixed cost (AFC) curve will slope down continuously, from left to right.

$$\text{Average Fixed costs (AFC)} = \frac{\text{Total fixed costs}}{\text{Output}}$$

Average Variable Cost

Average variable costs are found by dividing total variable costs by output. The average variable cost (AVC) curve will at first slope down from left to right, then reach a minimum point, and rise again.

$$\text{Average Variable Costs (AVC)} = \frac{\text{Total Variable costs}}{\text{Output}}$$

Average Total Cost

Average total cost (ATC) is also called average cost or unit cost. Average total costs are a key cost in the theory of the firm because they indicate how efficiently scarce resources are being used.

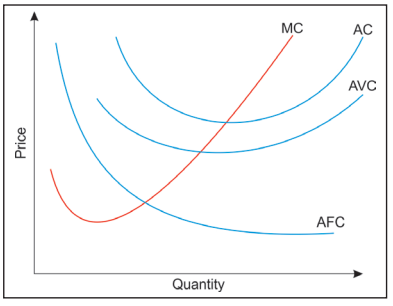
Average Total Cost = Average Fixed Cost + Average Variable Cost

The ATC curve is also 'U' shaped because it takes its shape from the AVC curve, with the upturn reflecting the onset of diminishing returns to the variable factor.

Marginal Cost

Marginal cost is the cost of producing one extra unit of output. It can be found by calculating the change in total cost when output is increased by one unit. It is important to

note that marginal cost is derived solely from variable costs, and not fixed costs.



Marginal Cost

The marginal cost curve falls briefly at first, then rises. Marginal costs are derived from variable costs and are subject to the principle of variable proportions. It is the leading cost curve, because changes in total and average costs are derived from changes in marginal cost.

Average Total Cost and Marginal Cost

A firm is most productively efficient at the lowest average total cost, which is also where Average Total Cost (ATC) = Marginal Cost (MC). This happens when the firm has covered its fixed cost and cost of production on an average is equal to production of one additional unit.

Opportunity Cost

Opportunity cost refers to a benefit that a person could have received, but gave up, to take another course of action. Opportunity cost represents the cost of next best alternative. This cost is, therefore, most relevant for two mutually exclusive events.

When assessing the potential profitability of various investments, businesses look for the option that is likely to yield the greatest return. Often, this can be determined by looking at the expected rate of return for a given investment vehicle. However, businesses must also consider the opportunity cost of each option. Assume that, given a set amount of money for investment, a business must choose between investing funds in securities or using it to purchase new equipment. No matter which option is chosen, the potential profit that is forfeited by not investing in the other option is called the opportunity cost. This is often expressed as the difference between the expected returns of each option:

Opportunity Cost = Return of Most Lucrative Option – Return of Chosen Option.

Total Revenue

Total revenue is the total receipts a seller can obtain from selling goods or services to buyers. It can be written as P × Q, which is the price of the goods multiplied by the quantity of the sold goods. Profit for the seller would be equal to the total revenue minus the total cost. This profit will be maximised when marginal revenue from producing an additional unit will be greater than or equal to the marginal cost of producing such unit. The firm in each market faces a different shaped Revenue curve.

■■■■

TRY THIS PRELIMS PREVIOUS YEAR QUESTION

1. Consider the following statements:

Other things remaining unchanged, market demand for a good might increase if:

1. Price of its substitute increases
2. Price of its complement increases
3. The good is an inferior good and income of the consumers increases
4. Its price falls

Which of the statements given above are correct?

(a) 1 and 4 only (b) 2, 3 and 4 only
(c) 2, 3 and 4 only (d) 2, 3 and 4 only

(2021)

Ans. (a)