What is Economics? Distinguish between Micro Economics and Macro Economics. State the fundamental problems in Economics.

Economics:
In 1776 classical economist Adam Smith in his book ‘Wealth of Nations’ defined “economics is the science of wealth”. In 1890 neo-classical economist Alfred Marshal in his book ‘Principals of Economics’ defined, “Economics is the study of mankind in the ordinary business of life.” In 1931 modern economist L. Robins in his book ‘An essay to the nature and significance of economics science’ defined, “Economics is a science which studies human behavior as a relationship between ends and scarce means, which have alternative uses.”

Microeconomics versus Macroeconomics ***
Economic analysis is divided into two main branches: microeconomics and macroeconomics. Both are important in dealing with the problem of scarcity. Microeconomics takes a close up view of the economy by concentrating on the choices made by individual participants in the economy such as consumers, workers, business managers and investors. Macroeconomics looks at economy from a broader perspective by considering its overall performance and the way various sectors of the economy relate to one another. The performances of the economy is gauged by the total value of annual production, the capacity of the economy to provide jobs, the changes in the purchasing power of money, and the growth of the employment and output.

Basic economic problems:**
The concepts of scarcity and opportunity cost are vital to understanding how the economy works. In the face of the inevitable imbalance between limited productive capability and limitless wants, the following questions needed to be consider:

1. **What will be produced?**
The productive potential of an economy can’t be used to do everything for everybody. Decision must be made about what to produce and how much of each item to produce with the limited resources available.

2. **How will goods and services be produced?**
There is more than one way to accomplish any given objective. For example, crops can be harvested by many workers using hand tools or with specialized machines and fewer workers. Machines or other products (such as chemicals) can be substituted for labor or land when producing any mix of goods. Productive methods that squeeze the most out of available means allow the greatest possible material well being from limited resources.

3. **To whom will goods and services be distributed?**
The distribution of material well being is never perfectly equal. Some people have the financial resources to enjoy great quantities of goods and services of the highest quality. No society has yet discovered how to provide equally for the needs and wants of everyone while still offering the incentives that encourage high quality production and technological innovation.

- Define, goods, different types of goods, normal goods, inferior goods, want, wealth.

**Goods**
Goods are tangible things—things you can touch—that satisfy wants. Examples of goods are cars, clothing, food, and toys.

**Different types of goods***
**Substitute goods :**
Substitute goods means that goods which serve a purpose similar to that of a given item.

**Complements goods:**
Complement goods are such goods whose uses together enhance the satisfaction of a consumer obtained from each.

**Normal goods**
A good for which the demand decreases with price increase Of the commodity is called normal good.

**Inferior goods**
A good for which the demand decreases with increase in the income of the consumer is called an inferior good.

**Giffen goods**
When price of some goods increase then demand of those goods also increase. That type of goods are called Giffen goods.

**Want:**
In economics expectations for any commodities is want. It acts as the motive behind all economic activities.

**Characteristic of want:**
1. Wants are unlimited.
2. Particular wants are limited.
3. Wants are complementary.
4. Wants are competitive.

Wealth:
To be a wealth in economy there must be 4 features:
1. Utility.
2. Scarcity.
3. Transferability.
4. Externality.

Demand, Supply and Consumer Demand

- What is the demand? Discuss the factors that affect the demand curve or what are the situations in which the law of demand may not operate?

- **Concept of Demand**
Demand in Economics means effective demand, that is one which meets with all its three crucial characteristics:

  1. Desire to have a good.
  2. Ability to pay for that good or purchasing power.
  3. Willingness to pay for that good.

In the absence of any of these three characteristics, there is no demand. So, we can say that, Demand= desire + ability to pay + willing to spend.

- **Factors that affect the demand curve**
The law of demand in order to establish the price-demand relationship makes a number of assumptions as follows:

  1. Income of the consumer is given and constant.
  2. No change in tastes, preference, habits etc.
  3. Constancy of the price of other goods.
  4. No change in the size and composition of population.

These Assumptions are expressed in the phrase “other things remaining equal”.

- **what are the situations in which the law of demand may not operate or Causes of changes in demand:**
  1. Change in price of the income.
  2. Change in wealth.
  3. Change in the price of other goods.
  4. Change in expectation of future price.
  5. Change in taste or fashion.
  6. Change in number of buyer in the market.

- **Demand function? Draw a demand curve from a demand schedule.**

**Demand function**
Demand function refers to the relationship between price and demand. Demand function is given as below:

\[ Q_d = f(p) \]

- **Draw a demand curve from a demand schedule**

The demand for a good or service is defined to be the relationship that exists between the price of the good and the quantity demanded in a given time period, ceteris paribus. One way of representing demand is through a demand schedule such as the one appearing below:
Both the demand schedule and the demand curve indicate that, for this good, an inverse relationship exists between the price and the quantity demanded when other factors are held constant. This inverse relationship between price and quantity demanded is so common that economists have called it the law of demand:

- What is Supply and law of supply?

Supply

The total amount of a product (good or service) available for purchase at any specified price is called supply.

The Law of Supply

The law of supply demonstrates the quantities that will be sold at a certain price. But unlike the law of demand, the supply relationship shows an upward slope. This means that the higher the price, the higher the quantity supplied.

A, B and C are points on the supply curve. Each point on the curve reflects a direct correlation between quantity supplied (Q) and price (P). At point B, the quantity supplied will be Q2 and the price will be P2, and so on. (To learn how economic factors are used in currency trading, read

- Write down determinants of supply

Supply is determined by:

1. **Price**: producers will try to obtain the highest possible price whereas the buyers will try to pay the lowest possible price both settling at the equilibrium price where supply equals demand.

2. **Cost of inputs**: the lower the input price the higher the profit at a price level and more products will be offered at that price.

3. **Price of other goods**: lower prices of competing goods will reduce the price and the supplier may switch to switch to more profitable products thus reducing the supply.

**Causes of change in supply**:

1. Change in price of the inputs.
2. Change in technology.
3. Change in the price of the other goods that can be produced with the resources.
4. Change in number of sellers in the market.

• How is the market equilibrium determined? Show using the demand-supply framework.***

**Market equilibrium with demand and supply framework.**

Market equilibrium is attained when the price of a market adjusted so that the quantity demanded at that price is equal to the quantity supplied. When an equilibrium is attained the forces of demand and supply balances so that there is no tendency of the market price or quantity to change over a given period. When the quantity supplied is equal to the quantity supplied the market is said to be clear.

<table>
<thead>
<tr>
<th>Price per dozen</th>
<th>Demand</th>
<th>Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 $</td>
<td>1000</td>
<td>9000</td>
</tr>
<tr>
<td>1 $</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>0.5 $</td>
<td>7000</td>
<td>3000</td>
</tr>
</tbody>
</table>

Above we have drawn a hypothetical demand and supply schedule for eggs as well as the corresponding demand and supply curve on the same set of axes.

When the price is 2 $ per dozen then the weekly supply is 9000 dozen but demand is 1000 dozen. So there is a surplus of 8000 dozen and thus it is not the equilibrium. Again if the price is 0.5 $ per dozen then the demand in 7000 dozen but the supply is 3000 dozen. So there is a shortage of 4000 dozen and therefore it cannot be the equilibrium. Now if the price is 1 $ per dozen then the demand and supply will be equal, that is 5000 dozen and thus the market will be in equilibrium position.

If we put a glance at the graph we will find the demand and supply curve intersecting at point ‘E’ and at the same point the horizontal line ME corresponding to ‘1 $’ touches both the curve. So graphically market equilibrium can be considered as the intersecting point of demand and supply curve.

So we can conclude saying that the market will be at equilibrium position when the price is 1 $ per dozen.

• Explain what happens if the market price is above or below equilibrium price. ***

**Excess Supply (when price is above)**

If the price is set too high, excess supply will be created within the economy and there will be allocate inefficiency.

**Excess Demand (when price is below)**

Excess demand is created when price is set below the equilibrium price.

• D < S when price P1. Because the market price is high from equilibrium price.
D > S when price P1. Because the market price is low from equilibrium price.

- What is market demand? Draw a market demand curve.

**Market demand**
The market demand consists of the total quantity demanded by each individual in the market.

**Draw a market demand curve.**
Conceptually, the market demand curve is formed by computing the horizontal summation of the individual demand curves for all consumers. The diagram below illustrates this process. This diagram illustrates a simple case in which there are only two consumers, Person A and Person B. Notice that the total quantity demanded in the market is just the sum of the quantities demanded by each individual. In this diagram, Person A wished to buy 10 of this commodity and person B wishes to buy 15 units when the price is $3. Thus, at a price of $3, the total quantity demanded in the market is 25 (=10+15) units of this commodity.

Sum of all individuals demand is called Market demand.

- From the following two equations price, you are required to determine market equilibrium demand and equilibrium supply: \( Q_d = 25 - 5p \); \( Q_d = 7 + p \) ****

\[
\text{Demand Curve: } Q_d = 6 - \frac{3}{2}p \\
\text{Inverse Demand Curve: } P = 12 - 2Q_d
\]
There are 10,000 identical individuals in the market for commodity X, with a demand function given by \( Q_d = 12 - 2p \) and 1000 identical producers of commodity X, each with a supply function given by \( Q_s = 20p \).

i) Find the market demand function and market supply function for commodity X.

ii) Find the market demand schedule and market supply schedule of commodity X and from them find the equilibrium price and quantity.

iii) Plot on the set of axes the market demand curve and market supply curve for commodity X and show the equilibrium point.

iv) Obtain the equilibrium price and quantity mathematically.

\[
\begin{align*}
Q_D &= 10,000(12 - 2p) \text{ cent. par.} \\
&= 120,000 - 20,000p \text{ cent. par.} \\
Q_S &= 1000(20p) \text{ cent. par.} \\
&= 20,000p \text{ cent. par.}
\end{align*}
\]

<table>
<thead>
<tr>
<th>( P ) ($)</th>
<th>( Q_D )</th>
<th>( Q_S )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>120,000</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>100,000</td>
<td>20,000</td>
</tr>
<tr>
<td>2</td>
<td>80,000</td>
<td>40,000</td>
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<tr>
<td>4</td>
<td>40,000</td>
<td>80,000</td>
</tr>
<tr>
<td>5</td>
<td>20,000</td>
<td>100,000</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>120,000</td>
</tr>
</tbody>
</table>

\[
Q_D = Q_S, \quad 120,000 - 20,000P = 20,000P, \quad 120,000 = 40,000P, \quad P = 3 \text{ (equilibrium price)}.
\]

\[
Q_D = 120,000 - 20,000(3) \quad \text{or} \quad Q_S = 20,000(3) = 60,000 \text{ (units of X)}.
\]

- Define Law of Demand. Why demand curve is downward sloping? Describe.

The inverse relationship between price and quantity demanded is called **law of demand**. An inverse relationship exists between the price of a good and the quantity demanded in a given time period, *ceteris paribus*.

- Why demand curve is downward sloping? Describe.

Generally a demand curve slopes downward from left to right. Because when price falls new purchasers enter in the market and old purchaser will probably buy more. Again since the particular commodity has become cheaper it will be buy more by some purchasers in preference to other commodity. Only in a curve of this shape we will find the shorter price line cutting the longer price line in the quantity axis. The curve must be slope downward from left to right because only then the phenomenon of increasing price with falling price can be represented.

- What do you mean by “movement along a demand curve”?

A movement refers to a change along a curve. On the demand curve, a movement denotes a change in both price and quantity demanded from one point to another on the curve. The movement implies that the demand relationship remains consistent.
A movement along the supply curve means that the supply relationship remains consistent.

- **What are the factors which can shift a demand curve?**
- **See:** Describe Increase and Decrease of Demand

- What do you mean by elasticity? What do the price elasticity of demand, the income elasticity of demand and cross price elasticity of demand measure in general?****

Elasticity refers to the ratio of the percentage change in one variable to the percentage change in another variable.

Elasticity of demand refers to the ratio of the percentage change in demand to the percentage change in price

\[
\text{Elasticity of demand} = \frac{\text{The percentage change in demand}}{\text{The percentage change in price}}
\]

\[= \frac{\Delta Q}{\Delta P} \times 100\]

\[= \frac{\text{The original demand (Q)}}{\text{The original price (P)}} \times 100\]

Symbolically, we can be denoted by elasticity of demand as bellows:

\[E_d = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} \times 100\]

If elasticity is greater than or equal to one, the curve is considered to be elastic. If it is less than one, the curve is said to be inelastic.
Elasticity of supply works similarly. If a change in price results in a big change in the amount supplied, the supply curve appears flatter and is considered elastic. Elasticity in this case would be greater than or equal to one.

On the other hand, if a big change in price only results in a minor change in the quantity supplied, the supply curve is steeper and its elasticity would be less than one.

Price elasticity of demand
If we divide the percentage change in quantity demanded by the percentage change in its price then we get a negative ratio that ratio is called elasticity of demand. We can be denoted by elasticity of demand as bellows:

\[
\text{Price elasticity of demand} = \frac{\text{The percentage change in quantity demanded}}{\text{The percentage change in price}}
\]

Symbolically, we can be denoted by elasticity of demand as bellows:

\[
E_p = \frac{\frac{\Delta Q}{Q} \times 100}{\frac{\Delta P}{P}} = - \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = - \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}
\]

The income elasticity of demand
If we divide the percentage change in quantity demanded by the percentage change in consumer income then we get a ratio that ratio is called income elasticity of demand. We can be denoted by elasticity of demand as bellows:

\[
\text{Income elasticity of demand} = \frac{\text{The percentage change in quantity demanded}}{\text{The percentage change in income}}
\]
The change in quantity demanded (ΔQ)

\[ \Delta Q \]

\[ \times 100 \]

The original demand (Q)

\[ \frac{\Delta Q}{Q} \times 100 \]

The change in income (ΔY)

\[ \Delta Y \]

\[ \times 100 \]

The original income (Y)

Symbolically, we can be denoted by elasticity o demand as bellows:

\[ E_d = \frac{\Delta Q}{Q} \times 100 = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q} \]

Cross elasticity of Demand

The concept of cross elasticity explains the degree of change in demand for X as a result of change in price of Y. This can be expressed as:

\[ EC = \frac{\text{Percentage Change in demand for X}}{\text{Percentage change in price of Y}} \]

The relationship between any two goods is of two types. The goods X and Y can be complementary goods (such as pen and ink) or substitutes (such as pen and ball pen). In case of complementary commodities, the cross elasticity will be negative.

- Explain the terms E=1; E>1; E<1.E=o, E= ∞ (demand & Supply)***

Types of Price Elasticity: The concept of price elasticity reveals that the degree of responsiveness of demand to the change in price differs from commodity to commodity. Demand for some commodities is more elastic while that for certain others is less elastic. Using the formula of elasticity, it possible to mention following different types of price elasticity:

1. Perfectly inelastic demand (ep = 0)
2. Inelastic (less elastic) demand (e < 1)
3. Unitary elasticity (e = 1)
4. Elastic (more elastic) demand (e > 1)
5. Perfectly elastic demand (e = ∞)

This describes a situation in which demand shows no response to a change in price. In other words, whatever be the price the quantity demanded remains the same. It can be depicted by means of the alongside diagram.

The vertical straight line demand curve as shown alongside reveals that with a change in price (from OP to Op1) the demand remains same at OQ. Thus, demand does not at all respond to a change in price. Thus ep = O. Hence, perfectly inelastic demand. Fig a

1. Perfectly inelastic demand (ep = 0)
2. Inelastic (less elastic) demand ($e < 1$)

In this case the proportionate change in demand is smaller than in price. The alongside figure shows this type.

In the alongside figure percentage change in demand is smaller than that in price. It means the demand is relatively less responsive to the change in price. This is referred to as an inelastic demand. Fig e

3. Unitary elasticity demand ($e = 1$)

When the percentage change in price produces equivalent percentage change in demand, we have a case of unit elasticity. The rectangular hyperbola as shown in the figure demonstrates this type of elasticity. In this case percentage change in demand is equal to percentage change in price, hence $e = 1$. Fig c

4. Elastic (more elastic) demand ($e > 1$)

In case of certain commodities the demand is relatively more responsive to the change in price. It means a small change in price induces a significant change in demand. This can be understood by means of the alongside figure.

It can be noticed that in the above example the percentage change in demand is greater than that in price. Hence, the elastic demand ($e > 1$) Fig d

5. Perfectly elastic demand ($e = \infty$)

This is experienced when the demand is extremely sensitive to the changes in price. In this case an insignificant change in price produces tremendous change in demand. The demand curve showing perfectly elastic demand is a horizontal straight line. Fig b

• What will happen to total revenue when price change in case of price inelastic and unit elastic demand?***
  - Total revenue is increasing when demand is elastic,
  - Total revenue is Maximum when demand is unit elastic, and
  - Total revenue is decreasing when demand is inelastic.

• State perfect elasticity and zero elasticity of demand. (see , $E=\infty, E=0$)
Determinants of Elasticity

1. Nature of the Commodity:
2. Number of Substitutes Available:
3. Number Of Uses:
4. Possibility of Postponement of Consumption:
5. Range of prices:
6. Proportion of Income Spent:
7. According to Taussig, unequal distribution of income and wealth makes the demand in general, elastic.
8. In addition, it is observed that demand for durable goods, is usually elastic.
9. The nature of demand for a commodity is also influenced by the complementarities of goods.

- Expansion and Contraction of Demand
- Describe Increase and Decrease of Demand
- What do you mean by consumer surplus? State the practical importance of consumer surplus.