

Economics

①

9/7/2018

- The word economics is derived from two greek words.

* oikos

* Nemein

- Which means "Management of Household"

Origin of economics :-

- Adamsmith : Father of economics

- According to Adamsmith economics is a study of wealth.

- He wrote a famous book "An enquiry into the nature and causes of wealth of nations"

- He defined economics as the practical science of production & Distribution of wealth

- The main ideas of Adamsmith are,

- * Human beings have wants to satisfy

- * The main concern of economics is the satisfaction of human wants

wants → efforts → satisfaction

Primary requirement of Human being

food, clothes, shelter

- Wealth satisfies Human wants

- Thus the study of economics shows how wealth is produced & spent.

- ② He wrote a book - "Principles of economics" in 1892.
- Marshall defined economics as a study of man and his welfare.
- According to him - man is primary & wealth is secondary
- He says that economics is not only a study of wealth But also study of welfare.
- * Lionel Robbins :- Scarcity Definition
- According to Lionel Robbins economics is the science which studies human behavior as a relation b/w ends and scarce means which have alternative uses.
- The main idea of Robbins are
- * Human wants are unlimited
- But the resources are scarce (limited)
- * So, the resources have to be put to no. of alternative uses
- Select one alternative / Best Alternative which is suitable.
- He wrote a Book on essay on the Nature & significance of economics science in 1932.

(3) Prof. A. Samuelson :- Growth definition.

- He is the Nobel prize winner of 1970
- He introduced time element

His definition is "growth oriented".

According to him economics is the study of how men & society choose with (or) without the use of money to employ scarce resources which have alternative uses, to produce various commodities & distribute them for consumption in the society.

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Managerial Economics:-

* Management :-

Management is the art of getting things done through others.

Managerial Economics:-

Economics concepts & principles, tools & techniques applied in the business by the manager is called Managerial Economics.

It refers to the application of principles of economics to solve the basic managerial problems such as,

- * minimization of costs &
- * maximization of production.

- ③ Managerial economics directs the utilization of Scarce resources, in a goal oriented manner
- ④ It seeks to understand & Analyze the problem of business decision making. Decision making means choosing one best alternative from several alternatives.
- ⑤ Managerial economics helps the manager to decide,
- * What to produce?
 - * How to " ?
 - * Where to " ?
 - * For whom to " ?
 - * Price to be fixed.
- * Nature of Managerial Economics :-
- 1) It is micro in nature
 - 2) Normative science what ought to do
 what ought not to do?
 - 3) Pragmatic science
 - 4) Goal-oriented
 - 5) Integrates theory into practice.

Manufacturing product → Cost

If includes profit → Price.

① Scope of Managerial Economics :-

② Demand Analysis and Forecasting

Demand \leftarrow Desire
 Demand \leftarrow willingness to purchase
 Demand \leftarrow Ability to pay

③ Cost and production Analysis.

\leftarrow Minimization of costs
 \leftarrow maximization of production

④ Pricing decisions.

\leftarrow manufacturing cost
 \leftarrow Competitors' prices
 \leftarrow Demand conditions in the market

⑤ Profit-related decisions

⑥ Capital management

⑦ Competition

* Law of Diminishing Marginal Utility:-

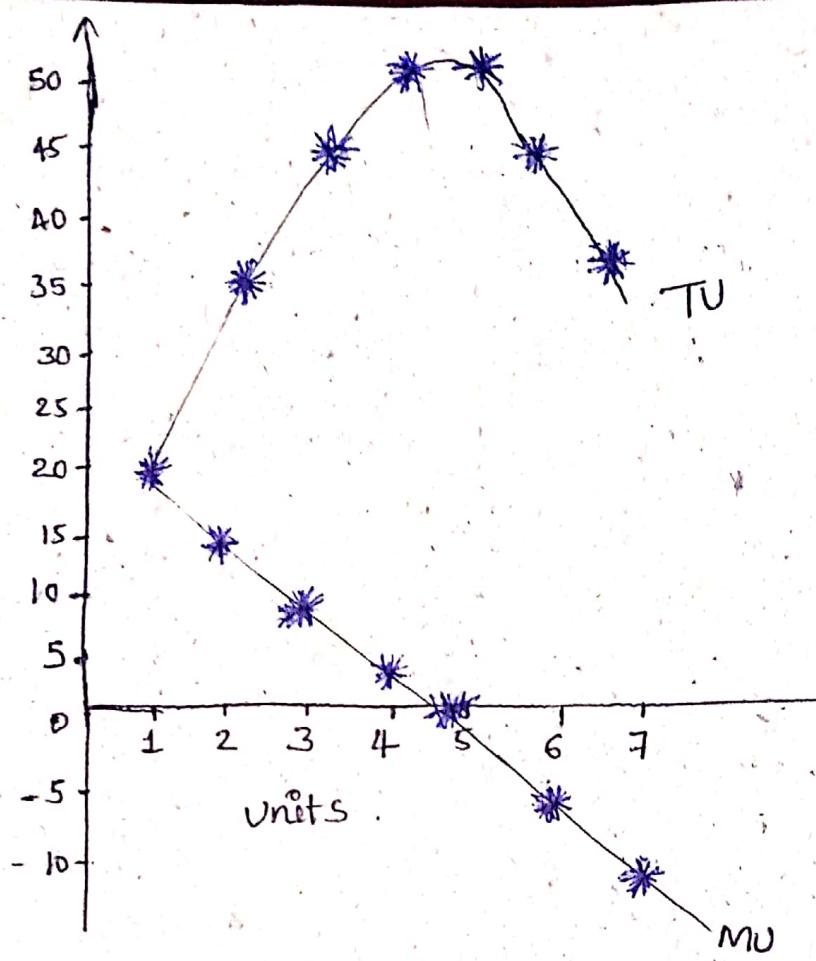
\rightarrow Profounded by Heinrich Grossen's

\rightarrow Hence Grossen's Law

\rightarrow Developed by Alfred Marshall

Units	Marginal utility (MU)	Total utility (TU)
1	20	20
2	15	35
3	10	45
4	5	50
5	0	50
6	-5	45
7	-10	35

MU: Decreasing TU: Increasing
 MU: Zero TU: Constant
 MU: Negative TU: Decreasing



- * $MU \downarrow \rightarrow TU \uparrow$
- * MU is zero $\rightarrow TU$ is constant
- * MU is negative $\rightarrow TU$ is decreasing

③ Law of Diminishing Utility :- 14/7/2018

- This law was profounded by "Hermann Heinrich Gossen" in 1854. Hence it is called Gossen's 1st law.
- But later it was popularised by Alfred marshall.
- The Law of Diminishing marginal utility is based on the fact that the Human wants are unlimited. But any particular want is satiable. This law analisers consumers behavior in case of a single commodity.

Definition of the Law :-

"The Additional benefit which a person derive from given increase of his stock of a thing diminishes with every increase in the stock already has." Alfred marshall.

Assumptions of the Law :-

- The consumption of a commodity should be in a continuous manner.
- Units of the commodity must be similar in quantity, shape, taste, color etc.
- Tastes & preferences of the consumer should be constant.
- Customer must get maximum satisfaction.
- Utility is measured in the form of numerical numbers even cardinal utility.

⑧ General terms :-

- * Utility :- The power of satisfaction of a commodity to the customer is called utility. It is measured in the form of util.
- * Total utility (TU) : The total amount of satisfaction which a person derives from the consumption of all units of a commodity.
- * Marginal utility (MU) / Marginal price :-
The additional benefit which a person derives from the consumption of additional units of a commodity is called marginal utility.

* Limitations of the law :-

- The consumption of commodity can't be in continuous manner.
- Units of the commodity may not be similar in quantity taste & colour etc.
- Tastes & preference of the customers may not be in a constant manner.
- Customer may not get maximum satisfaction.

Demand :-

- * desire
- * willingness to purchase
- * Ability to pay

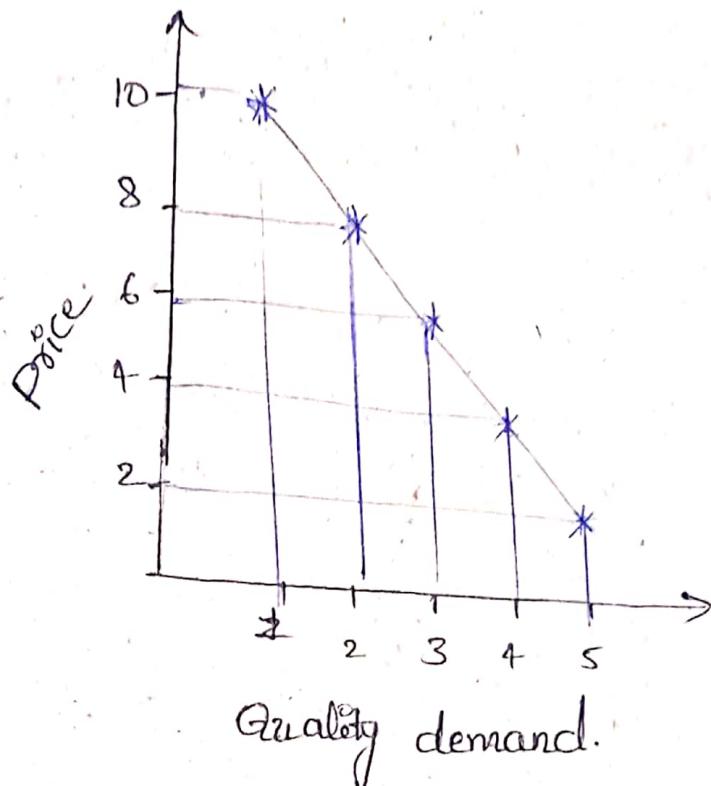
for a product to have demand there 3 conditions has to satisfy
If any 1 condition not satisfy there is no demand for product

① Law of Demand :-

- This is the 1st law of purchase, this law was developed by Alfred marshall.
- There is an inverse relationship b/w price & Demand.
- The relationship b/w price & Demand is negative relationship.
 - price ↑ - Demand ↓
 - price ↓ - Demand ↑
- According to prof. samelson, " Law Of Demand states that people will buy more at lower prices and buy less at higher prices, other things remaining constant".
- In the words of Alfred marshall "A rise in the price of commodity is followed by decreasing demand. And a fall in the price of a commodity is followed by an increase in demand, other things remaining constant".

Price of apples	Quantity Demand
10	1
8	2
6	3
4	4
2	5

(10)



* Main features of the law :-

- 1) Inverse Relationship b/w price & Demand
- 2) Demand is a depended variable and price is an independent variable.
- 3) Other things remaining constant
- 4) Pattern of change

* Determinants of Demand:-

- 1) Price of the product
 - Price \uparrow - Demand \downarrow
 - Price \downarrow - Demand \uparrow
- 2) Income of the consumer
 - Income \uparrow - Demand \uparrow
 - Income \downarrow - Demand \downarrow

} positive Relation
- 3) Population
- 4) Prices of complementary product (\downarrow product depending on other product)
 - Petrol price \uparrow - Demand for car \downarrow
 - Petrol price \downarrow - Demand for car \uparrow
- 5) Price of substitute product (when one product is replaced by the other product) eg:- Tea & Coffee
 - (Cross elasticity demand) Tea price \uparrow - Demand for coffee \downarrow
 - Tea price \downarrow - Demand for coffee \uparrow

* Weather conditions :-

- ⇒ Distribution of consumers over different regions.
- Advertising effects
- Tastes and preferences of customers.
- Prestigious goods.

* Exceptions to the Law Of Demand :-

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① Giffen Goods (or) Inferior Goods :-

- Also called as Inferior Goods
- These goods are mostly used by poor people
- The demand curve for these goods has a positive slope
- The consumer spends a large part of his income on these goods.

→ People will buy more when prices are high

→ This type of situation was first discovered by British economist Sir Robert Giffen

→ So goods of this type are known as Giffen's good

→ Most of the goods like rice, ~~wheat~~, jowar, bajra, and necessities of life used by the lower income groups come under this category.

② Prestigious Goods / Superior Goods / Veblen Goods :-

1) Veblen is an American socialist and economist. According to him, to commodity is sometimes

(13) brought not because of its worth but because of social status. In the society gold, diamond, jewellery, famous paintings, Sculpture comes under Veblen Goods.

- These Goods are mostly used by the rich people to display their wealth.
- The more expensive the Commodities become, the greater the demand for them.

(14) Expectation regarding future prices :-

- If the price of a commodity is rising and is expected to rise in future, the demand for that commodity will increase.

Emergency Situation :-

- At the times of tsunami, war, floods, earth quakes the consumers behave in different manner.
- If they expect shortage in goods, they would buy more goods even at higher prices.

Quality-Price Relationship :-

Some people assume that the expensive goods are of a higher quality than the low priced goods. Therefore high quality product are demanded even at higher prices.

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Elasticity of Demand :-

① Price Elasticity Of Demand :-

It explains the relationship b/w the proportionate change in price of a commodity & the proportionate change for demand for commodity. It refers to the quantitative demand of a commodity in response to a given change in price.

- Price elasticity is always -ve which indicates that the consumer buy more and more commodities with every fall in the price.

$$E_p = \frac{\text{Proportionate changes in the quantity demanded}}{\text{Proportionate changes in price of a commodity}}$$

② Income Elasticity of Demand :-

It refers to the quantity demanded of a commodity in response to the given change in income of consumer.

- Income elasticity is always +ve which indicates that the consumer buy more and more with every increase in the income.

$$E_I = \frac{\text{Proportionate changes in the quantity demanded}}{\text{Proportionate changes in income of consumer}}$$

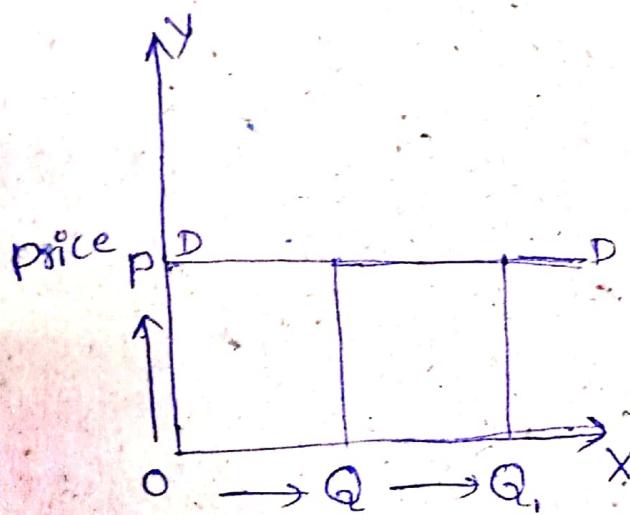
- ③ Cross elasticity of demand :-
- It refers to the quantity demand of a commodity in response to a change in price of related commodities which may be complementary.

(iv) Substitute products

$$E_c = \frac{\text{Proportionate changes in the quantity demanded}}{\text{Proportionate changes in prices of commodities. i.e. complementary/substitutes.}}$$

* Types of price elasticity of demand :-

1) Perfectly elastic demand :-

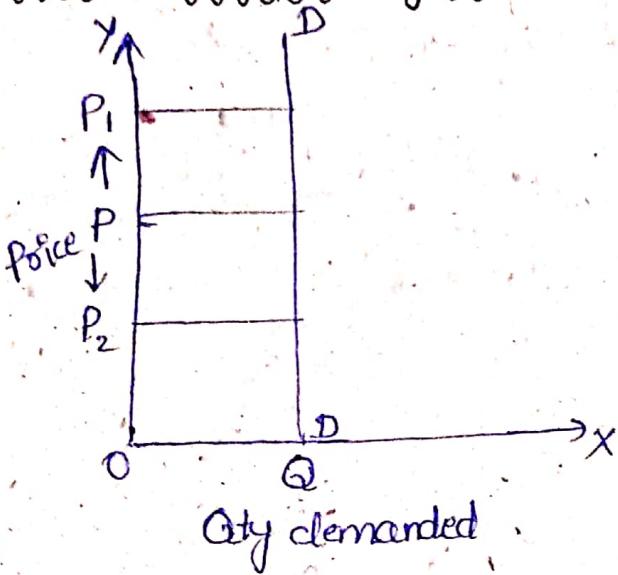


DD - Demand curve
Price - Y Axis
Quantity demanded - X axis

- In perfectly elastic demand even though there is a little change or no change in price level there is an infinite changes quantity demanded.
- From the diagram, there is no change in price level and it remains constant as OP, but there is an infinite changes in demand that is OQ to OQ₁.

⑥ In this demand curve is always parallel to X-axis. ex:- Bikes marketed in India

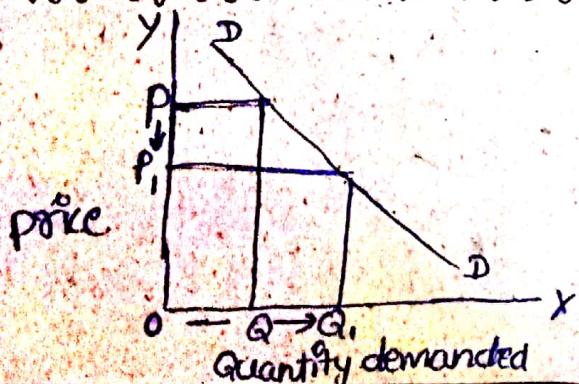
② Perfectly Inelasticity of Demand :-



- In this the change in price of commodity fails to influence the demand for that commodity i.e. Increase or decrease in price level has no impact on quantity demanded.
- In this demand curve is parallel to Y-axis
- From the above diagram, when the prices increase from OP to O₁P₁ or when the prices decrease from OP to O₂P₂ the quantity demanded is constant i.e OQ ex:- salt, emergency drugs etc.

③ Relatively Elasticity of Demand ($E > 1$):-

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④ It refers to a situation when a small change in price leads to big change in quantity demand i.e. the proportionate change in quantity demand is greater than the proportionate change in price of commodity

→ From the above diagram, when the price falls from $O P$ to $O P_1$,

$$O Q \rightarrow O Q_1$$

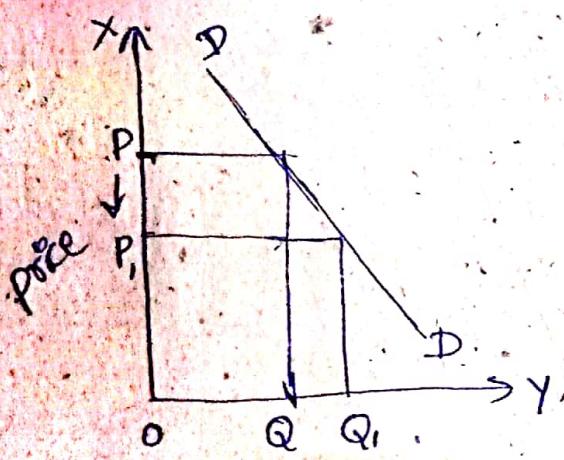
The quantity demanded increases from $O Q$ to $O Q_1$

→ In this, the changes in demand is more than the changes in price

Ex: When the bus fare increases, people prefer Railway transport

Ex: Coca-Cola price increases from Rs. 10 to Rs 15
People prefer pepsi

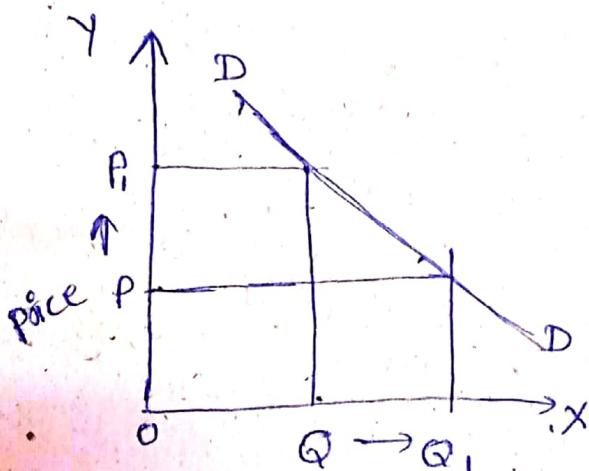
⑤ Relatively Inelasticity of Demand ($E < 1$)



Quantity demand

- (16) (18) → The proportionate change in quantity demanded is less than the proportionate change in price of the commodity
- (2) → From the above diagram when the prices decreases from P_1 to P , there is a small change in quantity demanded i.e., Q to Q_1
Ex:- Prestigious goods, petrol prices in India.

(5) Unitary Elasticity of Demand ($\text{E}_d = 1$) :-



- Quantity demanded
- → If the proportionate change in price of the commodity and the proportionate change in quantity demanded are equal then the demand curve is unitary elasticity of demand.
- (3) → In this case the demand curve is called Rectangular hyperbola
Ex:- If the prices of digital cameras increases by 10%. The demand also decreases by 10%.

⑨ Factors Governing Elasticity Of Demand :-

- 1) Nature of the product :-
- 2) Time Frame :-
- 3) Degree of postponement :-
- 4) Number of Alternative Uses

⇒ Types of Demand :-

- ① Consumer Goods v/s Producer Goods.
- ② Autonomous Demand v/s Derived Demand
- ③ Firm Demand v/s Industry Demand.
- ④ Durable v/s perishable Goods Demand
- ⑤ Total market Demand v/s market Segmentation Demand.
- ⑥ Shorten v/s long run Demand.

⇒ Classification of Demand :-

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⇒ Consumer's goods :-

- ⇒ Consumers' goods are directly used for final consumption.
- ⇒ Example : cloths, houses, food, bread, tea, scooters etc.
- ⇒ Consumers demand will depend on their income. Example : Demand for cloth.
- ⇒ Consumers' goods are also known as Direct Demand

* Producers' goods :-

- ⇒ Producers' goods are not used by consumers directly. They are used for further production of other goods. Ex : - Machines, tools, coal, raw materials etc.

→ Producers' demand, will depend on the demand for their final product. ex:- Demand for cloth for manufacturing ready made garments.

→ Producers' goods are also known as Derived Demand.

Goods

Perishable goods

- 1) Perishable goods are consumed.
- 2) Those goods which can be consumed only once are known as perishable goods.

3) Example

A Vegetables, fruits, bread, jam & milk are perishable Consumers' goods

5) Oil, raw materials & Coal are perishable Producers' goods

Durable goods.

- 1) Durable goods are used.
- 2) Those goods which can be used more than once over a period of time are known as durable goods.

3) Example

A car, refrigerator, ready made garments and furniture are durable consumers' goods

5) Industrial building, machine & tools are durable goods

Derived & Autonomous demand.

Derived

Autonomous.

1) When the demand for a good is associated with another parent good, it is called derived demand

2) Ex:- The demand for Steel is not for its own sake, but for satisfying the demand for Construction.

3) It may be observed that the demand for all producer's goods is derived.

1) Autonomous demand is wholly independent of all other demands

2) It is difficult to name a product which is fully autonomous.

3) Ex:- Multipurpose hospital, Iphone.

Firm and Industry Demand

Firm demand

Industry demand

1) Firm demand represents the demand for products of a single company

2) Ex:- Demand for Sony TV, Colgate paste

1) Industry demand refers to the demand of an industry

2) Ex:- Demand for TVs, paste.

Demand by total market and by market segments.

Demand by total market Demand by market segments.

The total market demand for a product refers to total market demand

1) Demand a rising from different segments of the market refers to demand by market segments.

Ex:- Demand for vanilla ice cream in India

2) Ex:- Demand for vanilla ice cream in Rajasthan or demand for vanilla ice cream by women.

Forecasting :-

Planning is the most important function of managing.

Planning is thinking before doing

It is done to minimize the risks arising out of an uncertain future

The risks associated with uncertain future can be negated if one tries to make reasonable assumptions about the course that the future is likely to take

Such an estimation of the future situation is known as forecasting

① Demand forecasting :-

- Demand forecasting essentially involves ascertaining the expected level of demand during the period under consideration.
- Sales is a function of demand. Likewise, even cost of production depends upon demand.
- Production of any commodity requires time and resources.
- In order to plan the level of production and make arrangements for the resources to be consumed, it is important to estimate future demand.

Stages in forecasting demand :-

- Specification of objective(s)
- Selection of appropriate technique
- Collection of appropriate data
- Estimation and interpretation of results
- Evaluation of the forecasts

Levels of forecasting :-

- Demand projections may not be 100 percent correct/accurate, more so when the scope of demand forecast is wide.

→ Different levels of demand forecast may be attempted by business firms.

Different levels :-

→ Micro level :-

Forecasting is restricted to a particular brand or specific product like, the demand for Oneida microwave oven or mixer grinders.

→ Meson Level :-

A firm attempts to project the demand for product group like the demand for washing machines.

→ Macro Level :-

When a firm attempts to examine the future demand for all customables in TV sets rather than the demand for a particular brand name or product group, it is known as macro level forecasting of demand.

Forecasting Technologies :-

→ Accuracy

→ Least possible cost

→ Minimum use of other resources

→ choice of technique depends on

→ Urgency

→ Availability of data

⑬ Classification of forecasting techniques :-

* Qualitative techniques :-

- Obtain information about the likes and dislikes of consumers.
- Suited for short term demand forecasting.
- Demand forecasts for new products can be made by only by qualitative technique.
- Demand for existing products can be forecast by using this method also.

* Quantitative techniques :-

- Forecast future demand by using quantitative data from the past and extrapolating it to make forecasts of future levels.
- This is suited for long term demand forecasting.
- Forecasts for new products, for which no past data is available, cannot be made by quantitative techniques as extrapolation is not possible.
- Demand for existing products can be forecast by using this method also.

③ Different types of Quantitative Techniques:

Expert opinion method:

Views of experts on the likely level of demand in the future are sought.

* Panel consensus:

If the forecasting is based on the opinions of several experts, then it is known as panel consensus. This kind of forecasting minimizes individual deviations and personal biases.

* Delphi method:

- This method seeks the opinion of a group of experts through mail about the expected level of demand
- The responses received are analysed by an independent body.
- This method thus takes care of the disadvantages of panel consensus where some powerful individual could have influenced the consensus.

Advantages of expert opinion method:

- Simple to conduct
- Can be used where quantitative data is not available.
- The forecast is reliable as it is based on the opinion of people who know the product very well.

→ It is inexpensive

→ Takes less time.

Disadvantages of using expert opinion method:-

- Results are based on mere hunch of one or more persons and not on scientific analysis.
- The experts may be biased.
- This method is subjective and forecast could be unfavorably influenced by persons with vested interests.

* Consumers Complete enumeration survey :-

- This method is based on a complete survey of all the consumers for the commodity under consideration.
- Interviews or questionnaires are used.

Advantages :-

- Quite accurate.
- Simple to use.
- Not affected by personal biases.

Disadvantages :-

- Costly.
- Time consuming.
- Difficult and impossible to survey all the consumers.

- ⑨ Open to faulty recording and wrong interpretation
- Can be used only for products with limited consumers.

* Consumer Sample Survey :-

- Miniature form of Complete enumeration method
- ⑨ Only few customers selected and their views collected.

Advantages :-

- An important tool especially for short term projections
- Simple; does not cost much
- Works quickly
- Gives excellent results, if used carefully

Disadvantages :-

- Conclusions are based on the view of only a few consumers and not all of them
- Sample may not be a true representation of the entire population.

* Sales Force Opinion Survey :-

- Employees of the company who are a part of the sales and marketing teams are asked to predict future levels of demand.

Advantages :-

- Simplest of the forecasting methods
- Less costly
- Easy to collect data.

Disadvantages :-

- Consumers tastes & preferences keep changing past trend may not continue in the future opinion of sales force may thus be erroneous.
- Sales force may give biased views as the projected demand affects their future job prospects.

* Consumers End use survey :-

- This method focuses on forecasting the demand for intermediary goods.
- The demand for the good in different uses is taken into consideration for forecasting.
Ex:- milk is a commodity which can be used as an intermediary good for the production of ice cream, powder & other dairy products
Cement may be used for constructing houses, hotels, bridges, roads, etc.

⑤ Advantages:-

- yields accurate predictions.
- Provides sector wise demand forecast for different industries.
- Especially useful for producers goods.

Disadvantages:-

- Requires complex & diverse calculations.
- Costlier.
- Time consuming.
- Industry data may not be readily available.

* Quantitative Techniques:-

- These are forecasting techniques that make use of historical quantitative data.
- A statistical concept is applied to the existing data in order to generate the predicted demand in the forecast period.
- These quantitative techniques are also known as, statistical methods.

* Trend projection method :-

- Assume that past trend will continue in future.
- Past trend is extrapolated.

Constant percentage method:-

It is assumed that the percentage growth rate of sales b/w the base year and the terminal year would remain unchanged.

⇒ Time series analysis :-

Sales of a commodity over the past 15 to 20 years are plotted on a graph.

The year to year oscillations are smoothed and a trend line is fitted using a statistical method.

Advantages :-

- very simple method.
- provides reasonably accurate forecasts.
- quick and inexpensive.

Disadvantages :-

- can be used only if past data is available.
- It is not necessary that past trend may continue to hold good in future as well.

* Barometric forecasting :-

- At times, a business concern may assign the task of demand forecasting to some expert agency.

→ It would attempt to forecast on the basis of signals received from the policies adopted or the events that had taken place within the country or in other countries.

* Advantages :-

- Simple method
- Predicts directional changes quite accurately

* disadvantages :-

- Does not predict the magnitude of changes very well.
- The method can be used for short term forecasts only.

* Econometric techniques :-

- It is assumed that demand is determined by one or more variables e.g; income, population, exports etc.
- Demand is forecast on the basis of systematic analysis of economic relation by combining economic theory with mathematical and statistical tools.

Advantages :-

- Produces reliable & accurate results
- forecasts not only the direction but also the magnitude of the change.

Q. 3 (a) Disadvantages:-

- Uses complex calculations.
- Costly & time consuming

* Significance of Demand forecasting :-

- = → Useful to following decision makers.

Producers:-

- To allocate various factors of production for maximization of profit
- To plan for expansion for of scale of operations.

* Policy makers & planners :-

- → To formulate economic policies through planning commission for allocating resources.
- → To ensure adequate supply of inputs for achieving the objectives of Industrial policy, import export policies, credit policy, public distribution system and other related policies.

Other groups of the society:-

- Useful to researchers, social workers & others with futuristic approach
- To understand the gap in supply & their impact on prices or the economy

Factors Governing elasticity of demand :-

Elasticity is governed by a number of factors. Change in any one of these factors is likely to affect the elasticity of demand the factors are

- @ Nature of Product :- Based on their nature, the products and services are classified into necessities, comforts and luxuries. Necessities imply the absolute or basic necessities such as food, clothing, housing. Comforts refer to TV, refrigerator and so on. By Luxuries, we mean sofa sets, marble flooring in a house and such others. The meaning and definition of these necessities, luxuries & comforts change from person to person, time to time and place to place. ex:- a scooter may be a comfort or luxury for a student but when he does a part time job, it may be a necessity for him.

The nature of product has a significant impact on the elasticity of demand. For instance if there is an increase in the price of rice, we still buy it because it is a necessity for us. This means that the demand is inelastic to price though there is an increase in price, we tend to buy the necessities such as petrol, diesel &

So on. In other words, the demand does not fall because of increase in price. From this, we can say that the necessities have inelastic demand. For comforts and luxuries, the demand is relatively elastic. It means that any increase in the price of comforts or luxuries will lead to moderate, to significant fall in their demand.

(b) Time frame:- The more the time available for the customer, the demand for a particular product may be elastic and vice versa. Take the case of vegetables. When you do not have time, you go to a nearby shop and buy whatever you want at the given price. Had you had little free time, you would have preferred to get the same from a vegetable market at lesser price.

(c) Degree of postponement:- Where the product of consumption can be postponed, the product is said to have elastic demand and where it cannot be postponed, it is said to have inelastic demand. The consumption of necessities cannot be postponed and hence they have inelastic demand.

d) Number of alternative uses :- If the no. of alternative uses are more, the demand is said to be highly & inelastic and vice versa. Take the case of power or electricity. It is used for a number of alternative uses such as running of machines in industries, offices, households, trains and so on.

e) Tastes and preferences of consumer :-

Where the customer is particular about his tastes and preferences the product is said to be inelastic for the customers who are particular or loyal to certain brands such as Colgate, Pata tea, Annapurna Atta and so on, price increases do not matter, they tend to buy that brand inspite of the price changes.

f) Availability of close substitutes :-

Where there are a good no. of close substitutes, the demand is said to be elastic and vice versa for gold, there is no close and literal substitute and hence the demand for gold is inelastic. If coffee & tea are equally good for me, If there is an increase in price of coffee, I may tend to switch over to tea. But this may not hold good when I am particular about coffee only. I may be prepared to pay higher price for coffee.

(g) In case of complementaries or joint goods:-

In case of complementaries or goods having joint demand, the elasticity is comparatively low.

- (h) Level of prices :- If the price is expensive (such as diamonds) or very cheap (such as salt), then the product is likely to have an inelastic demand. If the price is too high, a fall in it will not increase the demand much.

Similarly, if the price is too low, a further fall in its price is not likely to result in more demand. The demand of the relatively poor people is more sensitive to price changes. In order to derive maximum satisfaction from their limited income, they try to plan their purchases in response to changes in prices. The rich may not bother about price changes.

- (i) Availability of subsidies :- Subsidy refers to money paid by a government or other public authority in order to help a company financially or to make something cheaper for the public. There is need for subsidies in case of goods with inelastic demand such as LPG, sugar, wheat and soon.

j) Expectation of prices :- Where people expect a fall in the price, the demand for the product is likely to be inelastic.

k) Durability of product :- Where the product is durable in case of consume durables such as TV. The demand is elastic. In the case of perishable goods such as milk, the demand is inelastic.

l) Government policy :- Where the government policy is liberal, the product is likely to have elastic demand and vice versa. Government, in the interest of the lower income group consumers, closely monitors the prices of certain products (such as ration good as sold in fair price shops are likely to have inelastic demand). Also, Another example could be taxes. Government can raise tax collections with a little reduction in the tax rates.

Scarcity:-

- This is one of the fundamental concepts of managerial economics that influences decisions of business firms to a large extent.
- Scarcity is the root cause of all economic problems. It is a fact that the resources at the disposal of functional managers are limited.

For example:-

- Production manager may face - scarcity of quality raw material.
- The marketing manager may face - scarcity of sales force.

Other examples :-

i. The demand for jobs ~~is~~ ^{available} number of job seekers

* MARGINAL:-

Marginal is defined as a change in the dependent variable as a result of one additional unit change in the independent variable.

- For ex, a firm employed 10 units of raw material and produced 100 units of output. The same firm employed 11 units of raw material and produced

④ 105 units of output. Therefore marginal output = 5 units ($\frac{105-100}{2}$)

Incremental concept :-

- The main objective of every business is maximization of profit
- The marginal concept is not applicable in real world situations.
- For example a firm employed 100 workers and produced 1000 units of output.
In order to increase the profit, the firm increased the employment of workers to 200 and produced 1800 units of output.

Therefore incremental output = $\frac{800 \text{ units}}{(1800-1000)}$

Equi-marginal :-

- According to marginal concepts input either generate income or involve cost. But in reality input performs both the functions that is generate income & involve cost
- In such a situation a manager's decision to employ additional units of inputs in the production process depends on the comparison of marginal revenue & marginal cost

Discounting principle:-

- This is also known as discounting.
- This is borrowed from accountancy.
- With the help of this concept, one can find the present value of future income stream.
- For ex a firm sell goods on cash bases or credit bases.
 - If the firm sells a commodity for rupees 1000 on cash bases it will get the cash immediately. and the amount can be deposited in bank.
 - If the firm sells the commodity on credit bases, it sells for rupees 1100 (time perspective is taken into consideration)

* Price elasticity of Demand :-

$E_p = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$

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

$$E_p = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

- Q) A pen company sells 4200 units at Rs 12 per price. If price is lowered by Rs 2 the company would be able to sell 6500 units calculate the price elasticity of demand.

Sol:

Price (P)	Quantity Demanded (Q)
12	4200
10	6500

$$E_p = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} \Rightarrow \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

$$E_p = \frac{2300}{-2} \times \frac{12}{4200}$$

$$\therefore -3.28 \quad \text{price elasticity have always -ve result.}$$

② When the price of commodity increased from Rs 10 to Rs 15, the quantity demanded changed from 100 units to 50 units. Calculate the price elasticity of demand.

Sale	Price (P)	Quantity Demanded (Q)
	Rs 10	100
	Rs 15	50

$$\begin{aligned} \Delta E &= \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} \\ &= \frac{50 - 100}{15 - 10} \times \frac{100}{100} \\ &= -2 \end{aligned}$$

* Income elasticity of demand:

$E_Y = \frac{\text{Proportionate change in Qty demanded}}{\text{Proportionate change in Income or Consumer}}$

$E_Y = \frac{\text{Change in Quantity}}{\text{Original Quantity}}$

$\frac{\text{Change in Income}}{\text{Original Income}}$

① A consumer's purchase of commodity increase from 100 to 120 units due to increase in his income from Rupees 40000 to Rs 50000 lend out. Income elasticity of demand.

Income (Y) Quantity Demanded (Q)

40,000 100

50,000 120

$$E_Y = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta Y}{Y}} = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

$$= \frac{20}{10,000} \times \frac{40,000}{100}$$

$$= \underline{\underline{\frac{4}{5} = 0.8}}$$

(B) If consumer's daily income increases from RS 40,000 to RS 50,000 and his purchase of product 'X' increases from 2000 units to 3000 units what is his income elasticity.

Income	QD
40,000	2000
50,000	3000

$$E_Y = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

$$= \frac{1000}{2,000} \times \frac{50,000}{40,000}$$

$$= \underline{\underline{2.5}}$$

$$\frac{1000}{2000} \times \frac{10,000}{2000}$$

Cross elasticity of demand :-

E_C = Proportionate change in quantity demanded of X commodity
proportionate change in price of 'Y' commodity.

$$= \frac{\Delta Q_x}{Q_x} \times \frac{P_y}{\Delta P_y}$$

$$= \frac{\Delta Q_x}{\Delta P_y} \times \frac{P_y}{Q_x}$$

If Quantity demanded of coffee increases from 100 to 150 units due to rise in price of tea from Rs 70 to Rs 75 per 250 grams. Find out cross elasticity of demand.

Q_x P_y

100 70

150 75

ΔQ_x

ΔP_y

P_x

$$E_c = \frac{\Delta Q_x}{\Delta P_y} \times \frac{P_y}{Q_x}$$

$$= \frac{50}{5} \times \frac{70}{100}$$

$$= \underline{\underline{+}}$$

$$\frac{\Delta Q_x \times P_x}{Q_x \Delta P_y}$$

$$\frac{\Delta Q_x \times P_y}{\Delta P_y \cdot Q_x}$$

Law of Supply:-