Unit-II

Demand And Supply Analysis.

1) Q. Define elasticity of demand and explain the types of elasticity.

Ans:- Elasticity of demand refeers to the rate of responsiveness in the demand of a commodity for a given change in price or any other determine of demand It explains the extent of change in quantity demand because of a given change in the other determining factors, may be price or any other factors (s).

Elasticity of demand

$$(\varepsilon_d) = \frac{\%\text{ change in Q demanded}}{\%\text{ change in price.}}$$

% = percentage

Q = Quantity.

The concepts of elasticity is atually borrowed from physics, where it shows the reaction of one variable with respect to change in the other variable on which it depends.

The Types of Elasticity of Demand

1. price elasticity of demand
2. Income elasticity of demand
3. cross elasticity of demand
4. Advertising elasticity of demand.

1 price Elasticity of Demand (EDP) :-

price elasticity of demand refers to the ratio of proportionate change in quantity demanded for product X to the proportionate change in the price of X.

$$\text{price Elasticity of Demand} = \frac{\text{proportinate change in the quantity demand for product x}}{\text{proportionate change in the price of X}}$$

The Some is expressed as

$$Edp = \frac{(Q_2 - Q_1)/Q_1}{(P_2 - P_1)/P_1}$$

Q_1 = is the quantity demand before price change

Q_2 = is the quantity demanded after price change

P_1 = is the price before change

P_2 = is the price after change.

2) Income Elasticity of Demand (EDI):

Income elasticity of demand refers to the quantity demanded of a commodity in response to given change in income of the consumer.

It is measured as.

Income elasticity of demand

proportinate change in the quantity demanded for product x

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proportinate change in income

$$Edi = \frac{(Q_2 - Q_1)/Q_1}{(I_2 - I_1)/I_1}$$

where,

Q_1 = Quantity demanded before change

Q_2 = Quantity demand after change

I_1 = Income before change

I_2 = Income after change

3) Cross Elasticity of Demand:-

Cross elasticity of demand refers to the quantity demanded of a commodity in response to change in the price of related good, which may be substitute or complementary goods.

It is measured as.

$$\text{cross elasticity of demand} = \frac{\text{proportinate change in quantity demand for product X}}{\text{proportinate change in price of product Y}}$$

expressed as,

$$E_{dc} = \frac{(Q_2 - Q_1)/Q_1}{(P_2Y - P_1Y)/P_1Y}$$

Where

Q_1 = Quantity demanded before change

Q_2 = Quantity demanded after change

P_1Y = price before change

P_2Y = price after change.

In case of product Y.

4) Advertising Elasticity of Demand (Eda) :-

Increase in sales revenue because of change of in advertising expenditure. There is a There is direct relationship between the amount of money spent on advertising and its impact on sales.

$$\text{Advertising Elasticity} = \frac{\text{proportinate chang in quantity demanded for product x}}{\text{proportinate change in advertisement costs.}}$$

It can be expressed as.

$$Eda = \frac{(Q_2 - Q_1)/Q_1}{(A_2 - A_1)/A_1}$$

Q_1 = Quantity demanded before change

Q_2 = Quantity demanded after change

A_1 = Amount spent on Advertisement before change.

A_2 = Amount spent on Advertisement after change.

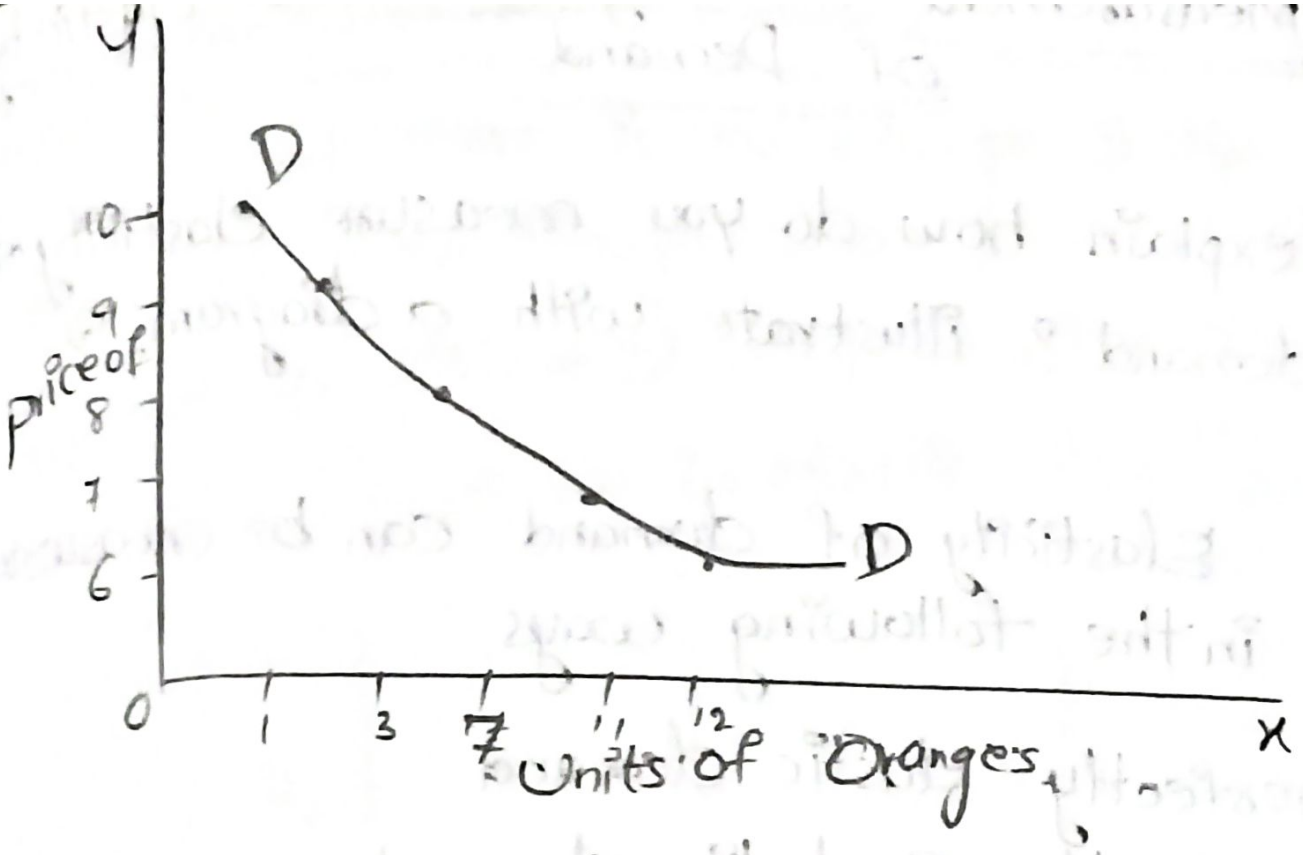
(2) Q: Law of Demand

Q) Define the law of demand. What are its exception explain?

Ans:- The law of demand states, other things remaining the same, the amount of quantity demanded raises with every fall price and vice versa. Her other things include income level of the consumer, tastes and preferences of the consumer, prices of related goods expectations about the prices or income in the future, size of population advertising efforts future, size of population, advertising capable of affecting demand.

$$Q_d \propto \frac{1}{P}$$

price of oranges (in Rs)	Q_d of oranges (dozens)
10	1
9	3
8	7
7	11
6	12



price effect = Income effect + [illegible]

exceptions to the law of demand.

1) Shortage of Necessities
2) expectations of changes in the price of the commodity
3) variables goods.

Measurement and Significance of Elasticity of Demand

Q 3)

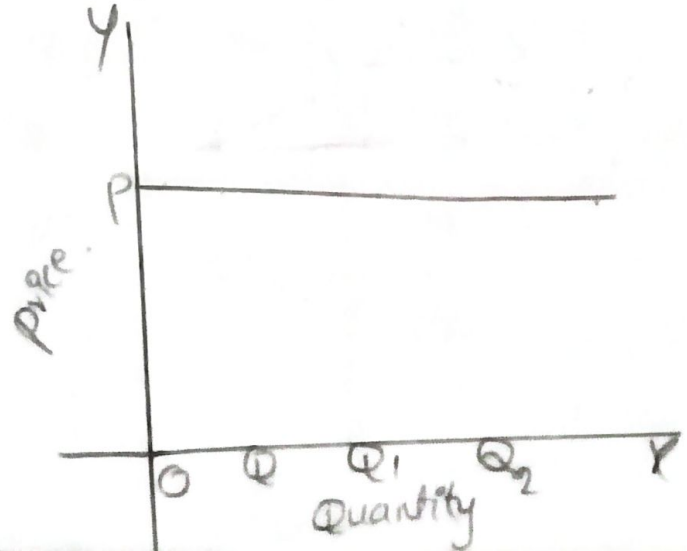
Q3. explain how do you measure elasticity of demand? illustrate with a diagram.?

Ans:- Elasticity of demand can be measured in the following ways.

(a) perfectly elastic demand
(b) perfectly inelastic demand
(c) Relatively elastic demand.
(d) Relatively inelastic demand
(e) Unity elasticity.

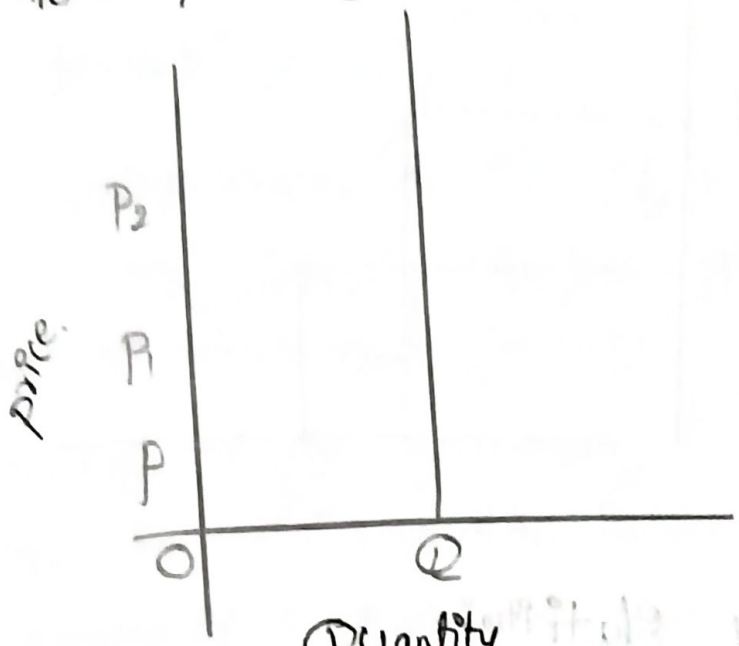
(a) **perfectly elastic demand:-**

Any quantity can be sold at given price and there is no need to reduce price, the demand is said to be perfectly elastic. A small increase in price will lead to complete fall in demand.



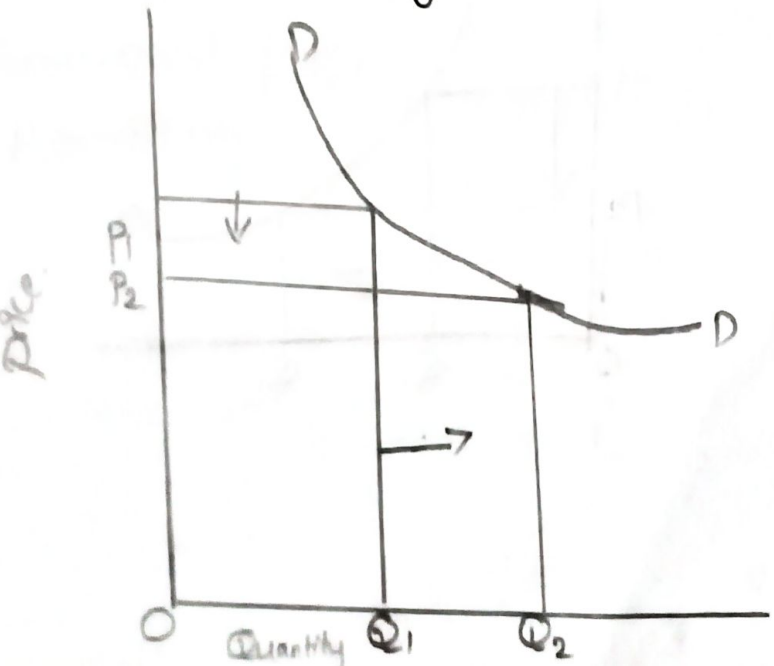
b) perfectly Inelastic Demand:-

Where there is no change in the quantity demanded even though there is a big change (increase or decrease) in price, the demand is said to be perfectly in elastic.



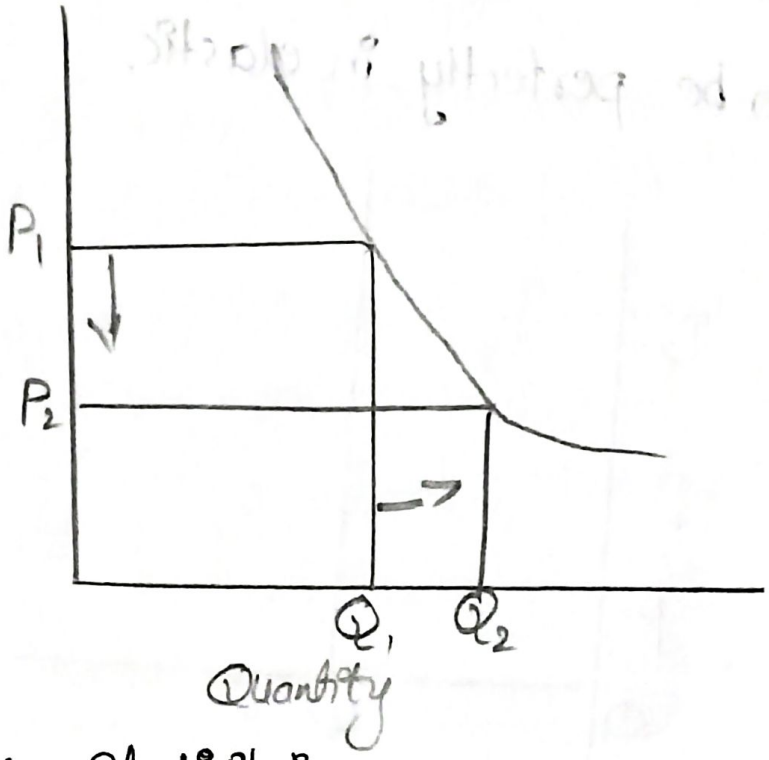
c) Relatively Elastic Demand:-

The demand is said to be relatively elastic when the change in demand is more than the change in price.



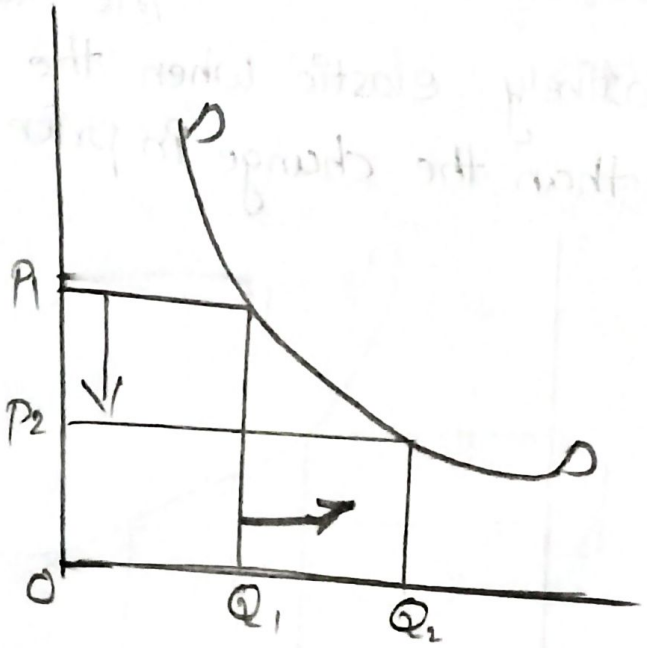
(b) Relatively Inelastic Demand:-

When the change in demand is less than the change in the demand is said to be relatively inelastic demand.



(c) Unity Elasticity:-

The elasticity in demand is equal to the change in price.



Factors Affecting Elasticity of Demand

Q) 4 - Explain the Factors affecting the elasticity of demand?

or

Discuss the determinates of elasticity of demand?

Ans:- Determinants of elasticity of Demand.

The following factors influence the nature of elasticity of demand.

1) Nature of the commodity
2) Time Frame / Time Distribution
3) Degree of postponement.
4) Number of Alternative Uses.
5) Taste & preferences of the consumers
6) Availability of close substitutes.
7) Level of prices
8) Durability of the product.
9) Government policy
10) Advertising.

1) Nature of the commodity:-

On the basis of the nature the products and services are classified in three categories i.e necessities, comforts & Luxuries Usually, the demand for luxury & comfort goods is price elastic, wheres the demand for neccessary goods is price inelastic. Necessary goods which are must on daily basis like rice, oil, clothes etc. is inelastic and luxury goods like cars ACs. TV etc.

2). Time Frame / Time Distribution:-

Usually the quantity demanded of a product is also determined by the time available with the consumer.

If the time period is short, then the demand is said to be inelastic and, where time period is long i.e enough time to accommodate the adjustments in the demand.

3) Degree of postponement:-

If there is a possibility of postponing the consumption of a particular product than the demand is said to be elastic and where the consumption of product.

4) Number of Alternative uses:

A commodity having large number of uses has high elasticity and the commodity with single use has less elasticity.

5) Tastes & preferences of the consumers:-

The commodities for which demand is inelastic because of loyal customers who stick to takes tastes and preferences and the demand is elastic for those commodities where the customer can shift his/her loyality from one product to another.

6) Availability of close substitutes:-

If the product has large number of close substitutes under the given price, the demand for that commodity is elastic and if the product has less number of substitutes, then the demand is said to be inelastic.

Ex:- tea or coffee.

7) Level of prices:- If the price is very expensive such diamonds or very cheap such as salt, then product is likely to have an inelastic demand. The demand of the relatively poor people, is more sensitive to price changes The rich may not bother about price changes.

8) Durability of the product:

Where the product is durable in case of consumer durables such as TV. furniture the demand is elastic. In the case of perishable goods such as milk, the demand is inelastic.

9) Government policy:-

Where the government policy is liberal, the product is likely to have elastic demand.

10) Advertising:-

The product goes through different stages called introduction, growth maturity decline and during these phases the time period also being considered as well as the advertising made by rivals.

Elasticity of Demand in Decision Making

Q 5: Explain the elasticity of demand in decision making.?

Ans:- Elasticity of demand can be a useful tool for business firms to make crucial decisions on deciding the price, quantity deamanded, supply and other factors.

1) Business decicisions.
2) Economic policies of government.
3) Determination of public Utilities.
4) Taxation policy
5) Determination of factor pricing.
6) International trade.

1) Business Decisions:-

Change in the price of a good brings change in quantity deamanded affects the total expenditure of the consumers and will affects the profits of the business. If price elasticity of demand is low, the business firm can fix up a higher price for the commodity to increase his revenue and profits. If elasticity of demand is less than one a reduction

2) Economic policies of government:-

The knowledge of elasticity of demand helps the government and economic planners in formulating its economic policies. It stabiles the price of agricultural goods by following a price policy in the event of increased production.

3) Determination of public Utilities:-

Elasticity of demand enables the government to decide which industry should be declared as public Utilities and controlled by state. The product like electronic gas, water transpotation have inelastic demand and these industrial should be taken over by government to avoid high prices.

4). Taxation policy:-

The government interested in raising its revenue can impose higher Indirect taxes (Excise duty, sales tax etc) on the commodities with inelastic demand and these products does not much fall, even when prices rose after the imposition of taxes.

5) Determination of Factor pricing:-

The government determine minimum wage policy on the basis of elasticity of demand of labour input. When the elasticity of demand for product is low, it may cause unemployment among workers due to restricted production.

6) International Trade:-

The Terms of Trade determined by measuring elasticity of demand in two countries for each other goods. A country earns more profit by importing the commodities, which have elastic demand and exporting the ones which have relatively less elasticities. elasticity of demand helps the government to maintain a proper rate of Foreign exchange for its currency in relation to other currencies.

Demand Forecasting Characteristics

Q.6) Define demand forecasting and explain the characteristics of good demand forecasting?

Ans:- Demand Forcasting is an essential exercise the manufactuer or trader has to undergo in the day to day routine. It is done by intuition and past experience. If demand is not forecasted accurately leads to loss of business, loss of revenue and in effective Utilisation of resource.

Based on the results of demand forecasting, the production capacity can be assessed and there by the need for raw material inputs, manpower, Finance advertising expenditure and other overheads.

1) Involves Future Events.
2) Based on past and present Events.
3) Uses Forecasting techniques.
4) Accuracy
5) Reliability
6) Timelines.

1) Involves Future Events:-

Forecasts are created to predict the future making them important of planning.

2) Based on past and present Events:-

Forecast are not based on opinion and institution but on facts, figures, and other relevant data of past happend to the business and are pertinent to predicting the future.

3) Uses Forecasting Techniques:-

Most business use the quantitative method particulaly in planning and budgeting.

4). Accuracy:-

Accuracy should be determined and stated so that comparison can be made to alternative forecasts.

5) Reliability:-

The Forecast must be reliable Simple and Understandable

6) Timeliness:- Certain amount of time is needed to respond to the forecast so the forecast horizon must allow for the time neccessary to make changes. Forecast must be suitable, economical and feasible to business firms.

Q7: a) What are the steps involved in demand forecasting?

The stepes involved in demand forecasting are.

1) Specifying the objectives.
2) period of Forecasting
3) Scope of Forecast.
4) Sub-Dividing the Task.
5) Identify the Variables.
6) Selecting the proper Method.
7) Collection and Analysis data.
8) competitor Activities.
9) preparing Final Results
10) Evalution.

1) Specifying the objectives:-

Determine the purpose, objective for which the forcast is used.

2) period of Forecasting:-

Before taking up forcasting, the company has to decide the period of casting whether it is a short term forecast or long-term forecast.

3) Scope of Forecast:-

Decide the scope of forecast It is for the products or for a particular area or total industry or at the national / International level.

4) Sub- Dividing the task:-

Sub- dividing the task in to homogeneous groups according to product, activities or consumers.

5) Identify the Variables:-

The different variables etc. or factors affecting the sales should be identified Soth due weight age may be given to those different factors.

6) Selecting the proper method:-

proper method is selected by the Company taking in to account all relev information, purpose and degree of accuracy requir

7) Collection And Analysis of Data.

Neccessary data for the forecast are collected, tabulated, analyzed and cross checked The data are interpreted by applying the statical or graphical techniques.

8) competitors Activities:-

Volume of Sales of a company is largely affected by the activities of competitors, the forcast must also study the competitors activities, policies, programmes and strategies.

9) Preparing Final Results:-

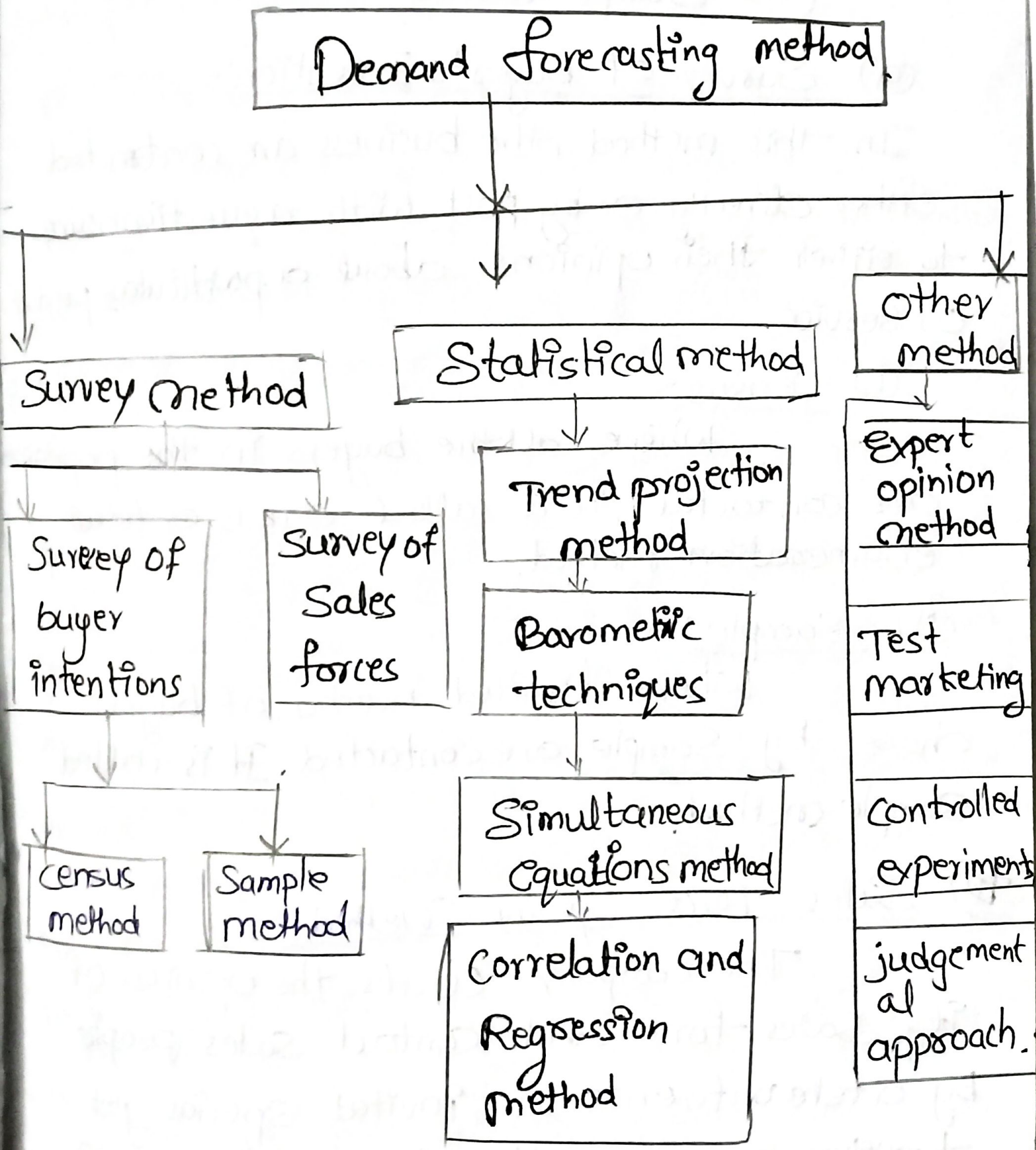
preliminary forecasts figure should be reviewed and Final Forecast figures should be arrived at after making all adjustments.

10) Evalution :-

The performance in the forth coming period should be reviewed and evaluated from time to time i.e monthly quarterly, half-yearly and soon.

Q9.

Explain the different Methods of Demand forcasting.



1) Survey method:-

Survey method include

a) Survey of Buyer's Intention
   (i) Census method
   (ii) Sample method

(a) Survey of Buyer's Intention:-

In this method, the business are contacted either directly or by post with a questionnaire to either their opinions about a particular product or service.

(i) Census:-

Where all the buyers in the population are contacted, it is called census or total enumeration method.

(ii) Sample:-

Where limited number of buyers chosen by sample are contacted. It is called sample method.

b) Sales Force opinion Method:-

The company elicits the opinion of its sales force and contact sales people by a teleconference or invited special get together regarding the future demand for the product give an outline for its features and price.

II Statistical Methods:-

For Forcasting the demand for goods and Services in the long-run statistical and mathematical methods are used considering the past data.

(a) Trend projection Method:

This method of forecasting is easy and quick, it involves of different time periods and it is also called as extrapolation, Trend projection method can be carried out by any of the following.

(b) Barometric technique:-

One set of data is used to predict another set Relevant Indicator is used as a barometer of future demand. The Utility of this method gets restricted where it is difficult to determine the time lag between the change in one Variable and change in the forcast Variable.

(c) Simultaneous Equation Method:-

All Variables are Simultaneously Consider, it assume every variable influence the other variables in an economic environment

(d) Correlation and Regression Method:-

The nature of relationship and extent of relationship respectively between two given variables, one is dependent and another is independent.

II

(B) Other method:-

(a) Expert Opinion:- An expert who is associated with insights of the industry is invited to suggest about the future of a product /service.

(b) Test Marketing:-

Releasing the product on a test basis by market representatives, based on the result of test market, manufacture can assess the success of the product.

(c) Controlled Experiments:-

Releasing product with different types of appeal (different prices packaging, model and soon)

(d) Judgemental Approach:- Different methods have different assumptions and criteria, it is desirable that management should supplement its judgement to the results of every method of demand forecasting.

Q10) Define Supply. Explain factors on which Supply of commodity depends.?

Ans:- The word Supply always means a Schedule of possible prices and amounts that would sold at each price. Supply refers to various quantities of commodity which a producer will actually offer for sale at a particular time at various corresponding price.

1) price Amount
2) price of Related Goods.
3) Cost of production.
4) State of Technology.
5) Goal of producer
6) Natural Factors.
7) Means of Transporatation.
8) Length of Time.
9) Other Factors

1) price Amount:- price is the most important determinant of Supply. The higher the price of the commodity more of the commodity will be offered for sale on account of rise its profitability and voice-versa. Relationship between price and supply of commodity is called law of supply

2) price of Related Goods:-

Supply of commodity also depends upon the prices of the related goods by affecting its relative profitability.

Example:- If rise in the price of petrol, will reduce the supply of the commodity ie cars

3) Cost of production:-

prices of factors of production (raw materials, labour, capital etc) used in the production of a commodity constitute the cost of production. If the price of these factors rise the total cost of production goes up. Goods produced on large scales, reduce the cost of production and better organisation and management is one cause to reduce the cost of production

4) State of Technology:-

Improvements in the method of production or technology reduce the cost of production and increase the profits.

Example:- Discoveries, Innovation, adapting new technology) new machines etc.

5) Goal of producer:-

The objective of producer is also affects the Supply of commodity. The goal of producer may be to maximise total profits or to maximise Sales to capture the markets with low prices, improve Status good will prestige in market.

6) Natural Factors:-

The supply of agricultural goods depends upon the natural conditions.

Example:- Factors like rain, fertility of land, Improved Seeds, irrigation facilities, climate are favourable Supply will increase. on the other hand earth quacks, heavy rains, floods, droughts affect agricultural production.

7) Means of Transportation, communication, Banking and Insurance:-

Development of infrastructure ensure adequate Supply of the commodities.

Example:- In case of short Supply, goods can be brought from suplus areas to the deficit areas.

8) Length of Time:- Length of time also affects the supply of commodity.

Example:- perishable goods have long period of time than non-perishable goods.

9). Other Factors.

Some other factors which affect the Supply of commodity are.

1) changes in price.
2) Taxation
3) policies of government
4) Fear of war
5) Strike
6) Lock out
7) Business conditions
8) Degree of competition
9) Subsidies
10) Number of firms.

(Q1) State and explain the law of Supply Illustrate with the help of a Supply Schedule and a Supply curve How the market Supply curve?

Ans:

The law of Supply

Law of Supply States that other things remaining the quality. quantity of any commodity that firm will produce and offer for Sale rises with rise in price and fall with fall in price.

Supply Schedule and Supply curve.

Supply schedule shows a tabular representation of law of Supply. It present the different quantities of a product that a Seller is willing sell at different price levels of that product.

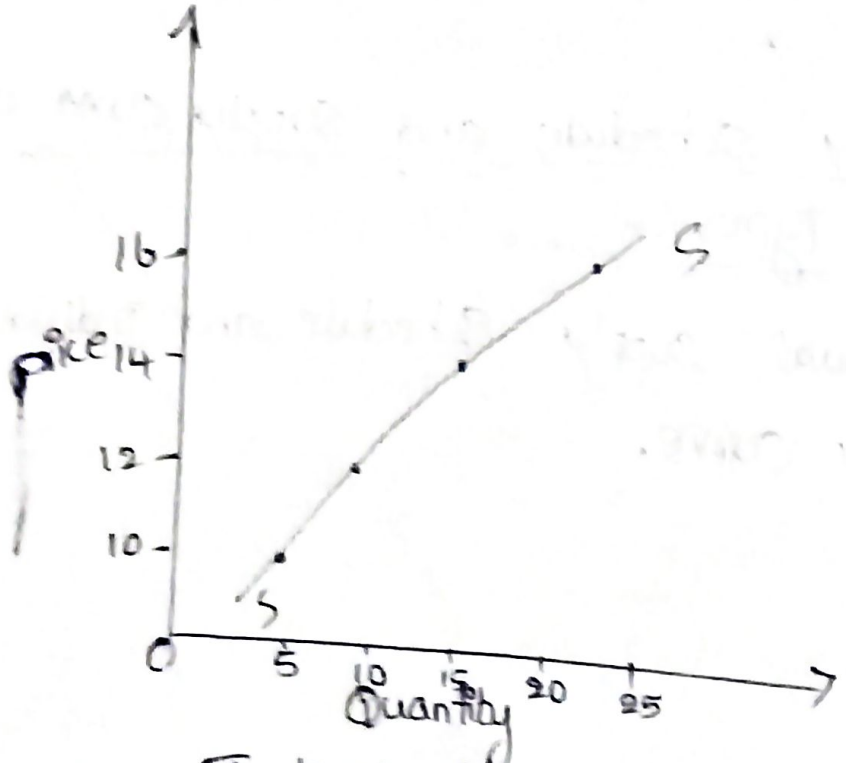
Supply schedule and Supply curve are of Two Types:.

1) Individual Supply Schedule and Individual Supply curve.

Market supply Schedule & market Supply Curve.

Refers to supply schedule that represents different quantities of a product that all the suppliers in the market are willing to supply at different prices.

price of milk	Quantity
10	10
12	15
14	20
16	25



Individual supply curve.

2) Market supply Schedule and Market supply Curve

price of product	Individual supply			Market Supply
X	A	B	C	
100	750	500	450	1700
200	800	650	500	1950
300	900	750	650	2300
400	1000	900	700	2600