MANAGERIAL ECONOMICS (MB 105)

Q.1 What is Managerial Economics?

Managerial economics is the study of economic theories,logic and tools of economic analysis that are used in the process of business decision making. Economic theories and techniques of economic analysis are applied to analysebusiness problems, evaluate business options and opportunities with a view to arriving at an appropriate business decision.

Managerial Economics is Economics applied in decision making in a unit or a firm.

-A link between abstract theory and material practices.

-Economics is concerned with the problem of allocation of scarce resources.

-Provides a number of concept & analytical tools to understand & analysis a problem.

Q2. What is relationship between managerial economics & other disciplines?

It has gained by interaction among by economics, mathematics statistics& has drowned upon management theory& accounting concepts.

Managerial Economics is a part of normative economics as its focus is more on prescribing choice & action. Managerial Economics draws on positive economics by utilizing the relevant theories as a basis for prescribing choices, System of logic. Managerial Economics uses come from economic theory.

Micro & Macro Economics

Micro Economics- theory of firm &the behavior &problems of individuals

Macro Economies- behavior of the economy as a whole & the theories about its operation.Thus the study of the level determination of National Income, employment &prices &analysis of agg. Consumption & balance of payment belong to Macro Economics.

Operational Research- after Second World War, in U.S. interdisciplinary research was conducted to solve the complex operational problems of planning and resources allocation in defence and key industries. Team developed models & tools, which has since grown as operational research, linier programming, and inventory models. Economist focuses on maximizing profit minimizing the cost while operational research focus on concept of optimization.

Management Theory& Accounting- Maximisation of profit has been regarded as a central concept in the theory of firm in Micro Economics, Organisation theories in recent years have talked about “satisfying” as oppose to Maximizing as an objective of the enterprises.

Accounting data &statements constitute the language of business cost revenue information their classification are influenced considerable by the accounting profession.

Mathematical Tools- Business man deals with concept that is essentially quantitative in nature ex. Demand, price, cost, product, capital, wages, inventory. The use of mathematical logic in the analysis of economic variables provides not only clarity of concepts but also a systematic framework with in which quantitative relationships may be explored.

Statistics- these tools are a great aid in business decision-making. Statistical techniques are used in collecting, processing &analysising data, testing the validity of economic issues with the real economy phenomenon before they are applied to business analysis.

Q3. What is demand? What are its types?

Demand for a commodity implies

A- desire to acquire it

B- Willing to pay for it

C- ability to pay for it

Types of Demand

A- Demand will be ex. A govt. deficit will reduce unemployment &cause an increase in prices.

Normative- concern with what ought to be ex. In setting policy, unemployment ought to matter than inflation.

Managerial Economics is concerned with for consumer's good's & producers goods

B- Perishable goods &Durable goods

C- derived&Autonomous goods

D- Firm &Industry Demand

Consumer's goods and Producers goods Demand

Consumer's goods are goods used for final consumption e.g. food items, readymade cloths it is also known as direct demand. Demand for producer's goods is derived demand, for these goods are demanded not for final consumption but for the production of other goods. E.g. steel is used for kitchens utensils, Consumer's demand depend upon consumer income, producer's goods demand depend upon demand of final product.

Perishable and Durable goods Demand

Both consumer's and producer's goods are further divided into perishable goods and durable goods.

Perishable goods are those, which can be consumed only once, while durable goods are those goods, which can be used more than once over a period. Bread, milk is perishable. Car, fridge is durable. Perishable

goods demand are current demand depends on market conditions. Durable goods demands depend on replacement of old product and expansion of total stocks.

Derived and Autonomous Demands

When the demand for a product is tied to the purchase of some parent product, its demand is called derived. E.g., cement for house. Autonomous is independent but such type good hard to find. All goods depend on other goods and degree of dependence varies e.g. battery tightly tied up with car sugar loosely with soft drinks. Thus, distinction is more of a degree than of a kind.

Company and Industry Demands

Company demands denotes the demand for the products of a particular company while industry demand means the demand for the product of a particular industry .e.g. TISCO demand for steel is a company demand while all companies accumulated demand is known as industry demand.

The important market structures are distinguished based on product differentiation and the number of sellers:

Q. 4 What are different determinants of demand?

-Demand analysis usually deals with the demand for consumer goods. A consumer's demand for a commodity or service depends on several factors the most important of which are following:

A Consumer's Income

B Price of the commodity or service

C Prices of related goods or services

D Consumer tastes and preference

E Population and it's distribution

F Consumer's Expectations for a consumer's goods

Q5. What is demand demandfunction ?

It states the dependence relationship between the demand for a commodity and the factors (f) affecting it.

Dx = f (I,Px,Ps,Pc,T,U)

Dx – Demand for x, I – Consumer's Income, Px- Price of x, Ps- Price of substitute, Pc – Price of complements of x, T- measure of taste include advertisement, U – any other factor

Q. 6 What is elasticity of demand?

Elasticity measures the responsiveness of one variable to the variations in another variable. Thus, the elaticity of x with respect to y, elasticity defined as

E =% change in x / % change in y

DEMAND ELASTICITIES- The contribution of the concept of elasticities lies in the fact that it not only tells us that consumers demand responds to price changes but also the degree of responsiveness of consumers to a price change.

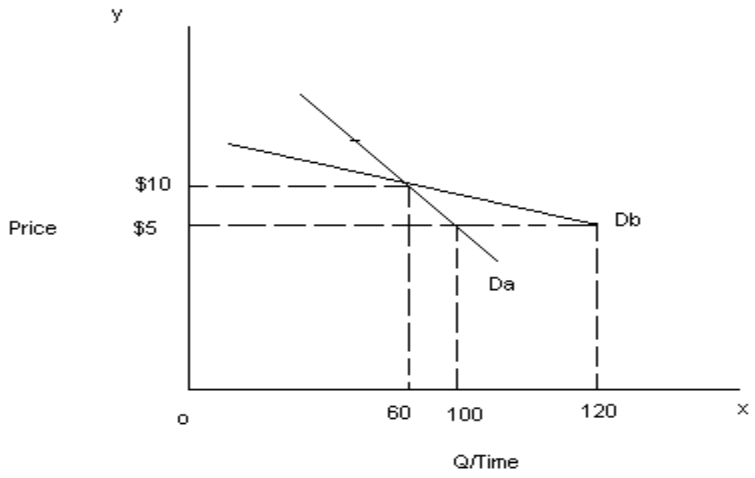


Figure shows two Demand curves let Da be the demand for cheese in switzerland and Db be the demand for cheese in England. At price $10 quantity demanded in both countries is 60. When price falls $10 to $5 quantity demanded increased more in England than Switzerland. We can say demand for cheese is more elastic in England than Switzerland. Elasticity of demand is important as indicator of how total revenueTR changes when a change in P induced changes in Q along the demand curve. The total revenue of the firm will equal the price changed times the quantity sold (Total revenue = Price x Quantity).Total revenue received by the firms are equal to total spending by consumers. By simple multiplication, total revenue can always be calculated for each point in a demand schedule.

CLASSIFICATION OF DEMAND CURVES ACCORDING TO THEIR ELATICITIES

Depending on how total revenue changes, when price changes we can clasify all demand curve in five categories:

1 PERFECTLY INELASTIC DEMAND CURVES

2 INELSTIC DEMAND CURVES

3 UNITARY ELASTIC DEMAND CURVES

4 ELASTIC DEMAND CURVES

5 PERFECTLY ELASTIC DEMAND CURVES

Q.7 what is demand forecasting? What are its different methods?

A forecast is the prediction of a future situation. Aim of demand forecasting is to reduce risk and in planning for firm's long term growth.It start with macro economic forecast. Demand and sales of most goods and services are strongly affected by business conditions e.g. sales of automobiles, new houses etc.

TYPES OF DEMAND FORECASTING

PASSIVE- based on assumption that firm doesnot change it's course of action.

ACTIVE- forecast is done under the conditions likely changes in future.

FORECASTING STEPS

A Identification of objective

B determining the nature of goods

C selecting a proper method of forecasting

D Interpretation of results

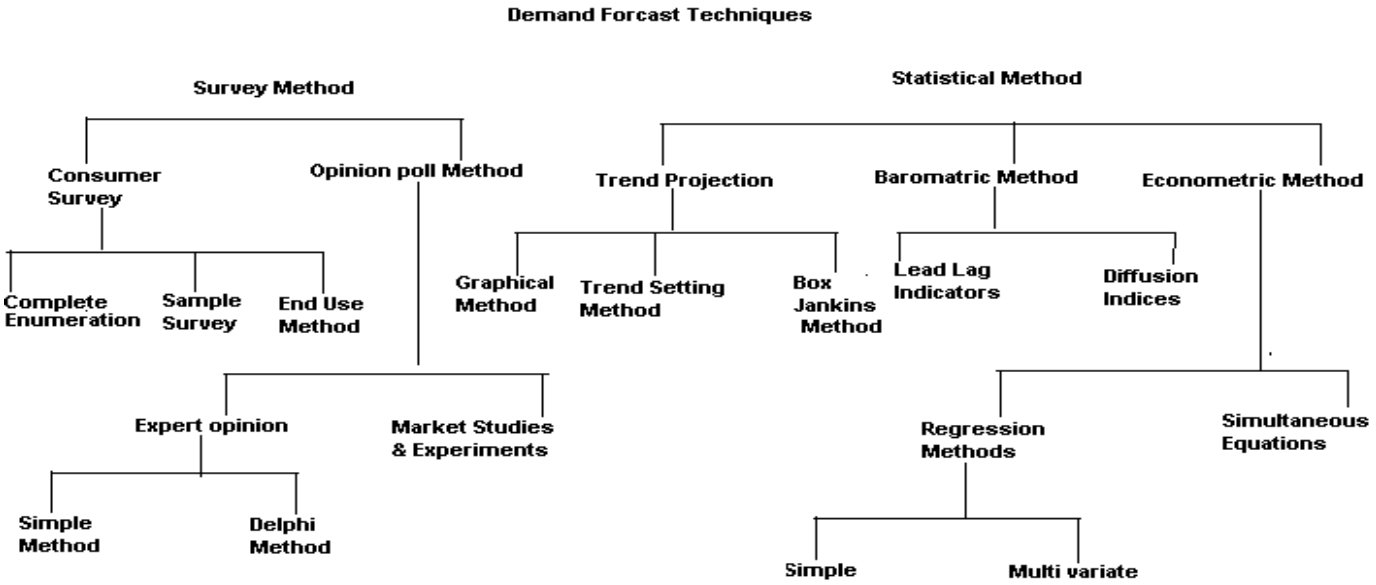
METHODS OF FORECASTING

Fundamentally two approaches

A **SHORTRUN**- to obtain information about the intentions of consumers by means of market research, survey, economic intelligence etc.

B **LONGRUN**- to use past experience as a guide and by exploiting past trends, to estimate the level of future demand.

NEW PRODUCT--- SURVEY METHOD used because no historical data is available.



Q. 8 What is regression method of demand forecasting?

Regression analysis denotes method by which the relationship between quantity demanded and one or more independent variables (like income,price, advertisement) is estimated.

Simple regression analysis is used when the quantity demanded is estimated a function of a single independent variable, such as price. Multiple regression analysis is used to estimate demanded as a function of two or more variables simultaneously.

SIMPLE REGRESSION METHOD (SINGLE VARIABLE)

A single independent variable is used to estimate a statistical value of dependent variable

that is , the variables to be forecast.

QUARTERLY CONSUMPTION OF SUGER

Year	Population (millions)	Sugar consumed 000 Tons
1985-86	10	40
1986-87	12	50
1987-88	15	60
1988-89	20	70
1989-90	25	80
1990-91	30	90
1991-92	40	100

suppose we have to forecast demand for sugar for 1994-95 on the basis of 7year data given in table. This can be done by estimating a regression equation

$$Y = a + bX$$

Y is sugar consumed, x is population anaa &b are constants.

Like trend fitting method above equation can be estimated by using least square method. The parameter a and b can be estimated by solving the following two linier equations:

$$\sum Y1 = na + b\sum X1 \quad \text{----------} \quad 1$$

$$\sum XiYi = \sum Xia + bXi \quad \text{----------} \quad 2$$

Calculation of terms in linier equations

YEAR	POPULATION X	SUGER CONSUMED Y	X^2	XY
1985-86	10	40	100	400
1986-87	12	15	144	600
1987-88	15	60	225	900
1988-89	20	70	400	1400

1989-90	25	80	625	2000
1990-91	30	90	900	2700
1991-92	40	100	1600	4000

$\sum n = 7$ $\sum x1 = 152$ $\sum Y1 = 490$ $\sum x^2 = 3994$ $\sum xy = 12{,}000$

by substituting value in equation 1 and 2 we get

$$490 = 7a + 152\,b \quad \text{---------- 3}$$

$$12{,}000 = 152a + 3994b \quad \text{---------- - 4}$$

by solving equation 3 and 4 we get $a = 27.42$ $b = 1.96$

by substituting values for a and b in equation

$$Y = a + bx$$

$$Y = 27.44 = 1.96\ X$$

Given the regression equation, the demand for sugar for 1994-95 can be easily projected if population for 1994-95 is known. Suppose population is projected 70 million, the demand for sugar in 1994-95 may be estimated as

$$Y = 27.44 + 1.96\ (70)$$

$$=164{,}640 \text{tonnes.}$$

Q9.Discuss selling costs role under perfect competition, monopoly and imperfect competition.

Perfect competition – Product is homogeneous so industry can give a common advertisement of all firms known as promotional advertising as compared to competitive adversity.

Monopoly – No close substitute of product so no competition hence advertisement is informative and promotional.

Monopolistic and Oligopoly – Product differentiation so advertisement and other selling costs become important as a competitive weapon at the disposal of firms to increase its sales at expense of others. Product close substitute so each firm try to convince the buyers that its product is better than others. This is known as competitive advertisement. This shift demand curve to right means at a given price, a greater quantity of product can be sold.

Q.10 what is meaning and nature of indifference curve?

The locus of points, each representing a different combination of two substitute goods, which yield the same utility or level of satisfaction to the consumer. Therefore, he is indifferent between any two combinations of goods when it comes to making a choice between them.

Consumers consume a large number of commodities and services. One commodity may substitute by another and combinations gave him same satisfaction when such combinations plotted graphically the

resulting curve is known as indifference curve also called iso utility curve or equal utility curve. Let us suppose that a consumer makes fine combinations a to e. All these combinations yield him the same level of satisfaction.

Combination	**Units of commodity y**	**Units of commodity X**	**Total utility**
A	25	5	U
B	15	7	U
C	10	12	U
D	6	20	U
E	4	30	U
Combination	**Units of commodity y**	**Units of commodity X**	**Total utility**
A	25	5	U
B	15	7	U
C	10	12	U
D	6	20	U
E	4	30	U

Q 11. What are PROPERTIES OF INDIFFERENCE CURVE?

1 Indifference curve have a negative slop that implies-

a two commodities substituted for each other

b if quantity of one commodity decreases quantity of another commodity must increase so that consumer stays on same level of satisfaction.

2 Indifference curve are convex to origin implies-

a two commodity are substitute to each other
b Marginal rate of substitution decreases

3 Indifference curve neither intersect nor be tangent to each other.
4 Upper indifference represent a higher level of satisfaction than the lower ones.

Q 12. What is isoquant curve ?

Isoquant curve means equal quantus means quantity. Therefore also known as equal product curve or production indifference curve. An isoquant curve is locus of points representing various combinations two inputs capital and labor yielding the same output. To illustrate curve let us assume
(I) There are only two factors of production labor L capital K to produce a commodity.
(ii) The two factors can substitute each other but at a diminishing rate.
(iii) The technology of production is given.
Given these conditions, it is always possible to produce a given quantity of commodity x with various combinations of capital and labor. The factor combinations are so formed that the substitution of one factor for the other leaves the output unaffected. This technological fact is presented through an isoquant curve IQ = 100. The curve IQ1 all along its length represent a fixed quantity 100 units of product x. This quantity of output can be produced with a number of labor capital combinations for e.g. point A,B,C,D on the isoquent iq1 show four different combinations of inputs K.L.

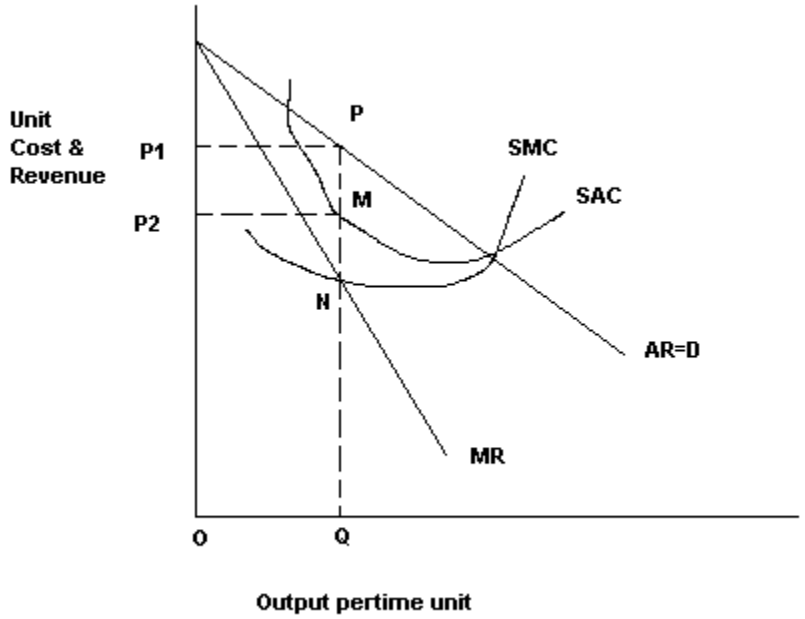
Q 13. What is Price Discrimination?
selling the same or slightly differentiated product to different sections of consumers at different prices. Consumer discriminated on the basis of their income or purchasing power, geographical location, age, sex, marital status, quantity purchases, time of purchase etc. When consumers are discriminated based on above factors in regard to prices charged from them, it is called price discrimination. Another kind of discrimination is that the same price is charged from the consumers of different areas while cost of production in two different plants located differently is not the same ex. Doctors, Lawyers, Consultants. Charges on the basis of ability to pay. Merchandise sellers sell goods to relative and friends at lower price, Railway charge lower from children and students.

Necessary conditions for price discrimination –

1 Different market must be separate

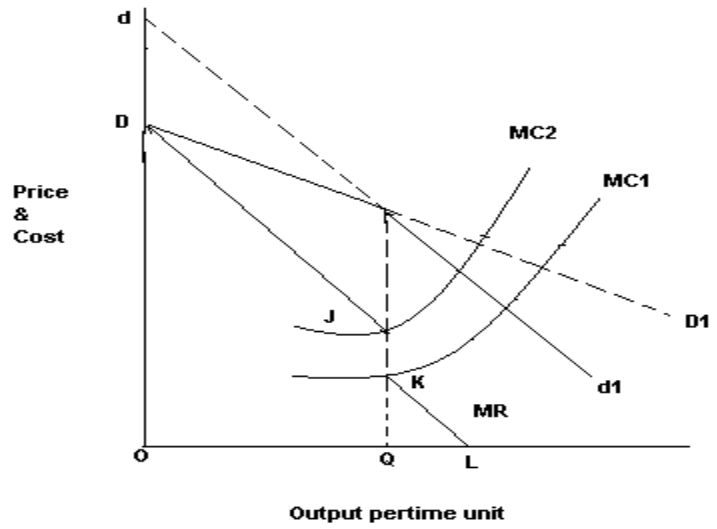
2 Elasticity of demand must be different in different markets

3 there must be imperfect competition in the market



Q.14 KINKED DEMAND CURVE ANALYSIS OF PRICE STABILITY: SWEEZY'S MODEL

This model does not deal with price and output determination. Rather it seeks to establish that once a price –quantity combination is determined, an oligopoly firm will not find it profitable to change it's price in respond to a moderate change in cost of production. Firms believe that if it reduces price of its product, rival firms would follow and neutralise the expected gain from price reduction. However, if it raises its prices, rival firms either would maintain their prices or may even cut their prices down. In either case, the price raising firms stands or loose, at least a part of its share in the market. All the firms in respect of others make these behavioral assumptions.



Q 15.COST PLUS PRICING OR MARKS UP PRICING- also known as Average cost pricing or Full Cost Pricing. It is the most common method of pricing a product by the manufacturing firms. General practice under this method is to add a fair % of profit margin to the average variable cost (AVC). The price is set as

$$P = AVC + AVC\ (m)$$

where m is markup %.AVC (m) = gross profit margin (GPM)

The markup % (m) is fixed to cover average fixed cost (AFC)& a net profit margin (NPM). Thus

$$AVC\ (m) = AFC + NPM$$

The procedure for arriving at AVC & price fixation may be summarised as follows: First step is to estimate the average variable cost. For this, the firm has to ascertain the volume of it's output for a given period of, time usually one accounting year. To ascertain the out put, the firm uses its figure of planed budgeted out put or takes into account it's normal level of production. The next step is to compute the total variable cost (TVC) of the standard out put. The TVC includes direct cost i.e. cost of labor and raw materials and other variable costs. This cost added together give the total variable cost. The average variable cost AVC is then obtained by dividing the total variable cost TVC by the standard out put QS i.e. AVC = TVC/QS. After AVC is obtained a mark so some % of AVC is added to, it for profit and the price is fixed.

Limitations – 1 it assumes that firm's resources are optimally allotted and the standard cost of production is comparable with the average of the industry. In reality it is not so.

2 historical cost is used rather than current cost data it led under pricing.

3 Variable cost fluctuates frequently and significantly.

4 It ignores demand side of the market.

Q. 16 PRICING IN LIFE CYCLE OF A PRODUCT

Life cycle five stages

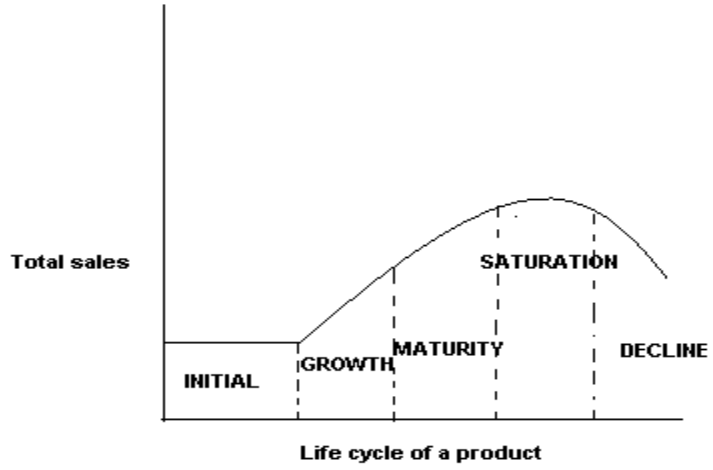
1 Introduction or initial stage

2 Growth

3 Maturity

4 Saturation

5 Decline



1 **Introduction** –to the customer through advertisement.Trial of the product.Sale constant.

2 **Growth** – After successful trial.Product gain popularity.Sale increasing at increasing rate. Result of cumulative advertisement.

3 **Maturity** –sale continue to increase at lower rate and eventually become constant.

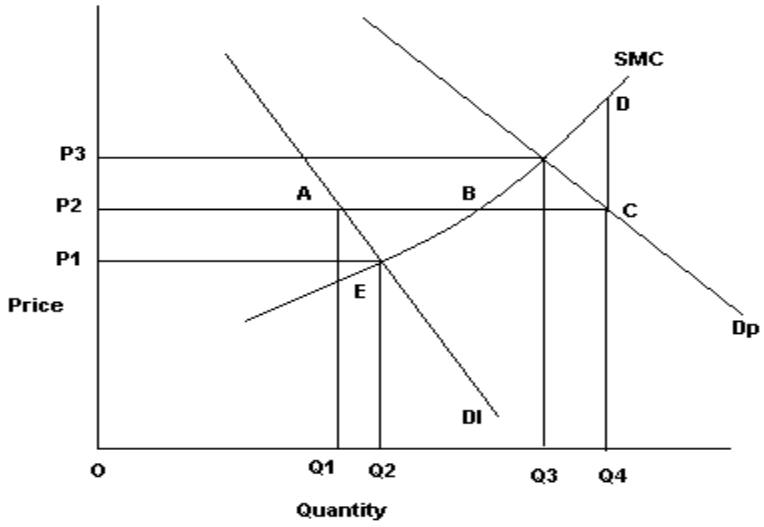
4 **Saturation**- sales do not saturate nor increase nor decrease becomes constant. After the saturation decline stage comes.

5 **Decline** – A decline trend for such reasons as (I) increase in the availability of substitutes (ii) the loss of distinctiveness of the product.

Q.17 PEAK LOAD PRICING

Electricity & Telephone, demand varies in day &night, consumption of electricity reaches its peak in daytime, Peak load time. In night peak off time and reduce consumption. Unique and technical features of such product are that it cannot be stored. Production has to increase in peak load time and reduce in peak

off time. Besides, given the installed capacity, their production can be increased but at an increasing marginal cost.



PROBLEMS IN PRICING

Pricing of goods as if electricity is problematic.Short run setting in fig. DP – peak load demand curve DL – off load demand curve, short run marginal cost curve is SMC. P3 Peak load price change. It is unfair consumer will be charged for what they do not consume. Govt. will face public opposition. P1 off load if charged production will fall to OQ2 and there will be acute shortage of power. If P2 is charged it will have demerits of both peak load and off load and extent of AB excess production will go waste, during peak load shortage to extent BC which can be produced only at an extra marginal cost of CD.

DOUBLE PRICING SYSTEM

For the above reason generally a double pricing, system is adopted. A higher price P3 during peak load and P1 during off load. Production also gets increase and decrease.

ADVANTAGES

Peak load pricing has two advantages-

1-Day business pay higher rates

2 Billing system is greatest problem; consumer has to install two meters, which increase theft.

Q. 18 BREAKEVEN ANALYSIS

Break Even Analysis also known as profit contribution analysis important analytical techniques used to study the relationship between total cost, total revenue & total profit & losses own the whole range of stipulated output.

Breakeven point - Linear cost & revenue functions

E.g. Let us assume Fixed cost = Rs. 100 and its variable cost varies at a constant rate of Rs. 10 per unit in response to increase output. We assume a short run linier cost function of the form

$$TC = 100 + 10\ Q$$

Let us also assume that price for the firm's product is given in market at Rs. 15 i.e. we assume a linier revenue function of the form

$$TR = 15\ Q$$

The firm now needs for breakeven analysis of its business operations is to make a chart of its total fixed cost, total variable cost, total cost, and the total revenue and graph them to find out breakeven point B. Line TR shows the total revenue Q X P. Line TR intersect the TC at B where output Q = 20. Below B TC is higher than TR i.e. loss ahead TC is lower than TR i.e. profit. Algebraically calculation: We know that at breakeven point TR = TC That is, in terms of TR & TC function

$$15Q = 100 + 10\ Q$$

$$5Q = 100$$

$$Q = 20$$

Q. 19 National Income

According to **Marshall** "the labor and capital of a country acting on it's natural resources produce annually a net aggregate of commodities, material and immaterial including services of all kinds".

According to **Pigou,**" National dividend is that part of the objective income of the community including of course income derived from abroad which can be measured in money.

According to **Fisher** "National income consists solely of services as received by ultimate consumers whether from their material or human environment.

Keynes's approach to national income- Earlier definitions do not throw light on the factors which determine the level of income and employment at a particular time in an economy. According to him, aggregate income of an economic system lies somewhere between the value of gross national and the net national product. Gross national product refers to the money value of final goods and services at a particular time. Keyne'stake into account depreciation and obsolesce changes to arrive at national income.

Net Income= A-U-V A- Gross National Income U- User cost—depreciation of machines
V-Supplementry cost –other type of depreciation

Modern definitions- According to **Simon Kuznets** "It is the net output of commodities and services flowing during the year from the country's production system in the hands of the ultimate consumers.

National Income Commission of India- National Income estimate measures the value of commodities and services turned out during a given period counted without depreciation.
Different Concepts of National Income-

Q. 20 CLASSICAL THEORY OF EMPLOYMENT

Classical economists used the term full employment to signify a situation in which only all those people who are willing to work at the prevailing wage rate get work. Full employment means absence of involuntary unemployment. Involuntary unemployment means a worker is ready to work at exiting rate but does not get work.

According to classical economist, following kinds of unemployment could be possible-

1. **Voluntary unemployment** – Existing level of wages unacceptable to labor.
2. .**Frictional unemployment** – Due to shortage of raw material/ special skilled job.
3. **Seasonal unemployment**– Ice business in winter.
4. **Structural unemployment** – changes in country's export trade.
5. **Technical unemployment** – change in technique of production.

Assumptions –

1. Full employment
2. Perfect competition
3. Laissez faire (no interference of Govt. in economy)
4. Closed economy (no effect of foreign trade on economy

5. Techniques of production remain unchanged in short period)
6. Money medium of exchange (limited role of money)
7. Rationality (man is rational)
8. Efficiency (use of resources, no wastage)
9. Equality between savings and investment
10. Production is subject to law of diminishing marginal returns.

Q 21.RELATIVE INCOME HYPOTHESIS (J.Duesenberry)

He states that

1) Every individual consumption behavior is not independent but interdependent of the behavior of every other individual and

2) That consumption relations are irreversible and not reversible in time.

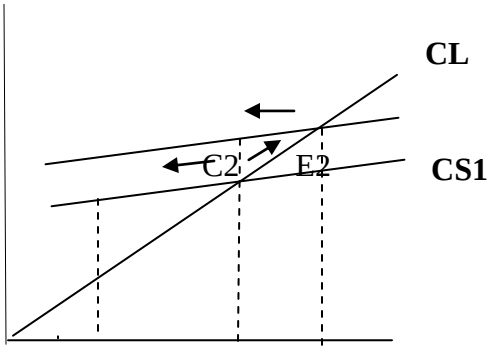
Consumers has the tendency is to strive constantly toward a higher consumption level and to emulate the consumption pattern of one's rich neighbors and associates. Thus, consumer preferences are independent. A rich person has lower APC (consumption income ratio) because he spends a lower portion of income to maintain but a poor have higher APC because he is to keep up standard of neighbour. This provides constancy of long run APC because lower and higher APC would balance out in aggregate. If absolute size of incomes in a country increases, the APC for economy as a whole at the higher level of income would be constant.

The second part is "Past peak of Income" states that during a period of prosperity consumption will increase and attain gradually a level or standard is attained. People become accustomedto this standard they will not reduce their consumption in recession. **Dussenbery** combined his two hypothesis related in the following form:

$$Ct/ Yt = a-b\ Yt/ Yo$$

C - consumption Y – income t - current period o - previous peak period a is constant relating to positive autonomous consumption b - consumption function CL– long run consumption function Cs & Cs2 – short run consumption function.

Consumption



Q. 22 CHANGE IN AGGREGATE DEMAND AND MULTIPLIER

Aggregate Demand may increase in either aggregate demand for consuming goods(C) or (I) aggregate demand for capital goods or both. Let us assume the agg. Demand

Increase due to increase in capital goods (I). The increase in investment Δ I may be result by a firm and Govt. Let us suppose that the aggregate demand increased from C+ I to C+I+Δ I,

When agg. Demand increase, National Income increase in some multiple of ΔI due to multiplier. The numerical value of a multiple is known as multiplier. Thus multiplier is a number which multiplied by the addition investment ΔI gives the additional increase in national income. If m is multiplier then

$\Delta Y = \Delta I \times m$ and $m = \Delta Y/\Delta I$.

The multiple increases in National Income as a result of ΔI depend on the mpc. When ΔI take place, it generates income ΔY will lead to increase in consumption ΔC depending on mpc. If mpc = b then ΔC = bΔY. Those who supply goods & services to the tune of ΔC, earn an income equal to bΔY in the second period. They would consume b times bΔY their consumption = b2 ΔY. this process continues until ΔY = .0 in this process a series of new incomes are generated leading to increase in National Income. The whole series of new incomes ΔYs over n period may be summarized as follows:

$\Delta Y = \Delta Y + b\Delta Y + b^2\Delta Y + b^3\Delta Y$----------$+ b^{n-1}\Delta Y$

$= \Delta Y (1/ 1-B)$

Once change Δy calculated multiplier could be obtained as

$M = \Delta Y/\Delta I$

The whole process is known as dynamic multiplier.

ASSUMPTIONS

1 ΔI am one injection investment.

2 It remains constant.

3 Economic systems is closed one.

4 There is autonomous investment in economy.

5 There is excess capacity in economy and out put is responsive to changes in aggregate demand.

6 There is no time lag between receipt of income and its disposal in form of consumption. Given an investment multiplier 6, invest worth Rs.50 cores will raise income by Rs.300 cores without any time lag between investment and income.

$\Delta Y = M \times \Delta I$

$= 6 \times 50$

= 300 cores

The investment multiplier m can be derived from Keynes psychological law of consumption. The basic proposition of this law is that marginal propensity to consume is less than unity.

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