

Chapter-2

Theory of Demand

Q.1 short note on concept of utility:-

Ans:-Introduction:-

The consumer has a Pivotal Place in the economic activity. He consume goods and services for the satisfaction of his wants. Satisfaction of wants is the beginning and end of all economic activities. Thus, economic analysis always begins with the understading of the consumer behaviour. The concept of utility is in centre of consumer behaviour. The concept of utility is the base in understading of consumer behaviour.

Meaning of utility:-

Prof. Stanley Jevons a noted classical economist has originated the concept of utility, as the fundamental basis of consumer demand for a commodity. The term utility refers to the want satisfying power of a commodity or service. In the word of Prof. Erich roll utility expresses a relationship between a subject and object from the point of view of problem of want satisfaction.

Characteristics of utility:-

(1)Utility is a introspective phenomena because it is purely a subjective concept and relates to the inner sentiments and emotion Thus, it is a matter of experience.

(2)The utility is a relative concept because it depends on time, place and person. The same commodity may have different degree of utility for different person at different place and time.

(3)The utility has no moral or legal consideration. A commodity which satisfies any kind of want whether morally good or bad has utility.

For Example:- Knife has utility to a housewife but it has also utility to a killer for stabbing some one.

(4)A utility is not necessarily equated with usefulness. A commodity may not be useful and yet it may have utility for a particular person.

For Example:- cigarette has utility to the smoker but it is injurious to his health. Therefore, it is not useful commodity.

(5)The utility is not measurable utility begin an introspective concept can not be measured directly in a precise manner. Therefore a direct numerical expression of utility is not possible.

(6)The term utility is however distinct from satisfaction. Utility implies potentiality of satisfaction in a commodity. it serve as basis to induce the consumer to buy the commodity but the real satisfaction is the end result of the consumption of a given commodity.

Q.2 .Difference between OR Short note on the total utility and Marginal utility.

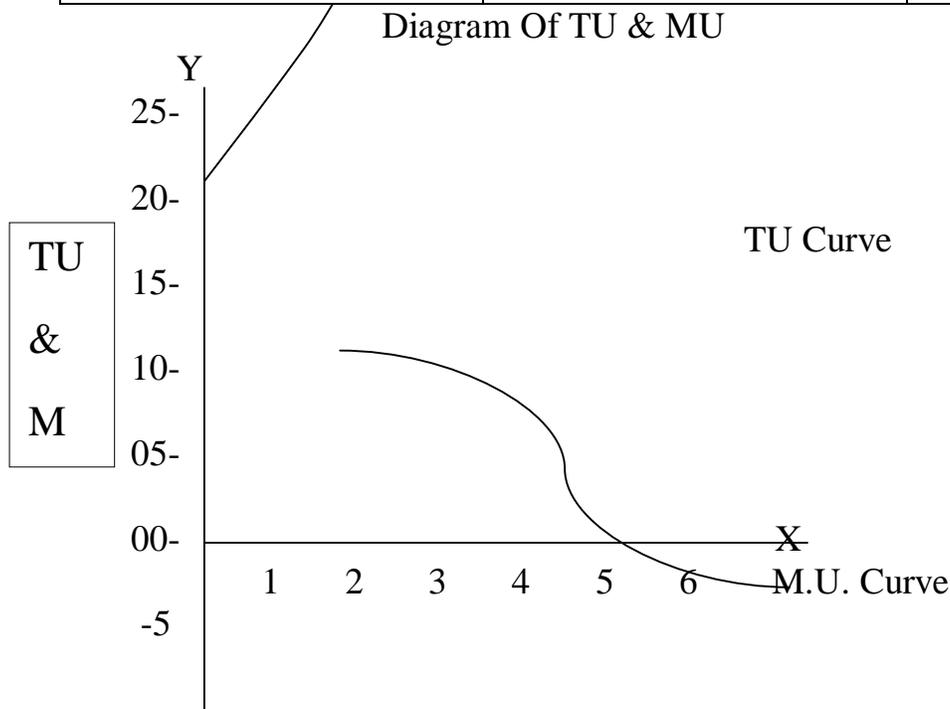
Ans:-Introduction:- The total utility and marginal utility are basis concept in the cardinal measurement of utility.

- Total utility means the total satisfaction experienced by the consumer regarding all the unit of a commodity taken together in consumption. In this way total utility refers to the sum total of utility derived by a consumer from the different unit of a commodity.

For. Example:-If the first apple gives 10 unit of utility to a consumer and the second apple gives 5 unit of utility, the total utility of 2 apple would be $10+5=15$ units.

- Marginal utility on the other hand refers to a change (addition or subtraction)in the total utility caused by the consumption of an additional unit of the commodity. In this way marginal utility indicates the successive increment in total utility made by taken separately each unit of a commodity. In, short, marginal utility refers to the utility of the marginal unit of consumption .Marginal unit is not fixed, it change with the change in the stock of commodity. It is the last unit in the sequences of consumption.
- Schedule of Total Utility and Marginal Utility

Unit of commodity	Total utility	Marginal Utility
0	00	----
1	10	10
2	18	8
3	24	6
4	25	1
5	25	0
6	24	-1



Relationship between total utility and Marginal utility:-

(I) When more and more units of a commodity are consumed total utility increases up to a point and then falls. The increases in total utility is a diminishing rate.

(II) Marginal utility on the other hand continuously falls till it moves to zero and then becomes negative.

(III) Total utility is maximum when marginal utility is zero.

(IV) when marginal utility becomes negative, total utility diminishes.

Q.3 Discuss the law of diminishing marginal utility with its exception:-

Ans:-This law express the mode of consumer's satisfaction of a commodity. The Law indicate that as the stock of goods for consumption increases the utility derived from it decreases. It is just a nature tendency in us that the more of a thing we have the less we want. Thus,infact the law of diminishing marginal utility is based on the satiability characteristic of human wants, that a single want taken separately at a time can be fully satisfied.

For Example:- The want of a hungry man for food may be intense. But when he takes the first bread he finds that it gives him very high satisfaction. But after the intensity for the second, third and forth units of bread diminishes till it becomes zero.

Statement of the law:-

Prof. Boulding:-

As a consumer increases the consumption of any one commodity keeping constant the consumption of all other commodities, the marginal utility of the variable commodity must eventually decline.

Prof Marshall:-

The additional benefit which person derived from a given increase of his stock of a thing diminishes with every increase in the stock that he already has.

Briefly, we may say that other things being equal with the increase in the stock of a commodity consumed or acquired its marginal utility diminishes. In other words each additional unit of consumption adds relatively less and less to the total satisfaction derived.

In mathematical terms the law implies a decreasing functional relationship between the quantity of commodity consumed and the marginal utility derived.

Illustration of the law:-

The law of diminishing marginal utility may be explained with help of schedule as follows:-

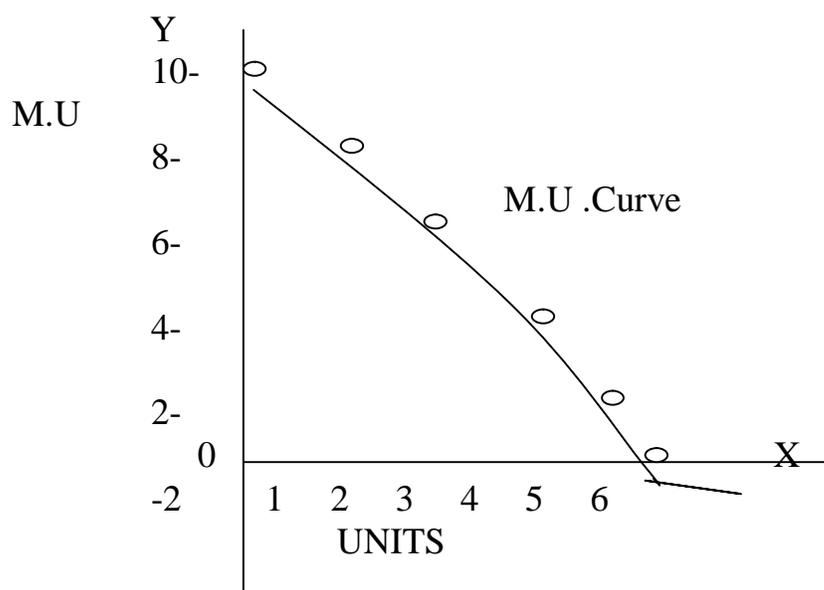
Unit of commodity	Total utility	Marginal utility
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1	10	10
2	18	8
3	23	5
4	25	2
5	25	0
6	24	-1

When the person consumes the first unit of X-he gets utility equal to 10. The second unit gives him utility equal to 8 in this way marginal utility declines up to the fourth unit and at the fifth unit it becomes zero and then he gets negative utility.

With the help of schedule we can say the marginal utility derived from each successive unit tend to diminished-eventually the M.U. May become zero and ultimately negative. The zero M.U. implies the point of satiety. Where the want is fully satisfied.

Graphical Presentation of the law:-



When the Marginal Utility Schedule is represented on a graph, we have a diagrammatic representation of the law.

In this diagramme the X_axis represents the unit of commodity x and M.U. Is measured on the Y-axis-.Marginal Utility curve slopes down ward from left to right. It Indicates an inverse relationship between M.U. and the stock of the commodity Marginal Utility curve intersects at a certain point on the x-axis -That is the satiety point

where Marginal Utility is zero. After this the curve sloped down further denoting negative values.

Assumption of the law:-

The law of diminishing marginal utility is conditional. Its validity is attributed to the following assumptions.

- (1)The consumer behaves in rational manner. He is trying to maximise his satisfaction.
- (2)The income of consumer remains unchanged.
- (3)The different unit of the commodity are homogeneous in character like quality size, taste flavour, color etc.
- (4)The consumption process should be continuous without any interval of time. There is no gap between consumption of one and another unit.
- (5)The utility can be measured in cardinal numbers. The consumer can express how much utility he gets from different unit.
- (6)The units of consumption should be of reasonable size. It should be normal standard unit

For Example:-We should think of glass of milk and not a spoon of milk.

Exception to the law:-

Under the above stated conditions the law is deemed to be universal. But in certain case however it has been observed that a consumer tends to attain increasing marginal utility. Such cases are treated as exception to the law but a careful observation shows that the exceptions are not very genuine.

(1)Hobbies:-

It has been said that certain hobbies like stamp collection, collection of antique goods, collection of old coins etc. every additional unit gives more pleasure. The M.U. tends to increase no doubt this is true but it is not a genuine exception of the law because such a case homogeneity condition of the law is violated, and each time a new variety of stamp or coin or antique is collected by a person and not the same variety.

(2)Consumption of liquor:-

It is said that the marginal utility of liquor rise with increased consumption. But in this case also we find that after a certain stage even the marginal utility of liquor to the drunkard will start declining and ultimately become negative. If that were not so the drunkard would continue to drink for indefinite time. Here rationality condition of the law is violated.

(3)The love of music:-

In the case of music it is commonly experienced that a repeat hearing gives a better satisfaction than the first one. Hence we can say that the law does not be applicable here. But even here also a person would certainly like a change after repeatedly hearing the same music.

(4)Reading habit:-

Since more reading gives more knowledge a scholar would get more and more satisfaction with every additional book . but here also we point out it is not real exception to the law-because the homogeneity condition is violated here. Knowledge and satisfaction increase by reading different books.

Criticisms of the law OR Limitations of the law:-

- 1.The law is based on unrealistic assumption homogeneity-continuity and rationality condition. all together at a time are very difficult to full filled in a practice.
- 2.The law does not apply in the case of indivisible commodity like T.V, Scooter, house etc.
- 3.The law unrealistically assumed constant Marginal Utility of Money.
- 4.The law presumes that the M.U. Is measurable in the Cardinal term -but it is unrealistic.

Q.4 Explain the law of equi-marginal utility with illustrations

OR

show how does consumer attain an equilibrium at different purchasing.?

Ans:-Introduction:-

The principle of equi -marginal utility occupies an important place in the utility analysis .This law is an extension of the law of dimi-marginal utility. This law is also called the law of substitution or the law of maximum satisfaction.

It is obvious that the law of dimi-marginal utility is applicable only to single want with a commodity but in reality there may be a number of wants to be satisfied at a time and this various wants are to be satisfied with several goods. To analyse such a situation the law of equi-marginal utility is useful.

- Statement of the law:-

The law of equi-marginal utility states that other things being equal a consumer gets maximum total utility from spending his given income when he allocates his expenditure to the purches of different goods in such a way that the marginal utility derived from the last unit of money spent on each item of expenditure tend to be equal.(That is to say the consumer maximize his satisfaction when he obtains equi-marginal utility from all the goods purchased at a time.)

In other words we can say that a consumer should allocate his limited income in such a way that the marginal utility of the different commodity which he purchases is the same.

According to Prof. Marshall-”The law of equi-marginal utility is on the base of proportionality rule. The proportionality rule states that when the ratio of marginal utility to price of different goods are equal. The consumer derives maximum total utility.

In symbolic term, the proportionality rule may be stated as under-

$$\frac{M_{ua}}{P_a} = \frac{M_{ub}}{P_b} = \frac{M_{uc}}{P_c} = \dots\dots\dots \frac{M_{un}}{p_n}$$

Mu = Marginal utility

p = price

abc = Refer to different commodity.

- Illustration of the law:-

let us assume that :-

- (i) A consumer has a given income of rs. 24.

(ii) He wishes to spend his income on three different goods-a,b.

(iii) The price of a commodity is rs.2 pr unit ,b commodity is rs.3 pr unit and c commodity is rs. 5 per unit.

Marginal Utility Schedule

Unit of commodity	marginal utility of A commodity	marginal utility of B commodity	marginal utility of C commodity
1	30	24	15
2	20	15	10
3	16	9	8
4	8	6	5
5	6	3	1
6	4	1	0

Now, question is that how would consumer spend his rs. 24 so that he derives maximum satisfaction .

As per the proportionality rule of the law of equi-marginal-utility . we may solve the problem as under.

computation of the ratio of marginal utility to price

unit of commodity	Mua pa	Mub Pb	Muc Pc
1	$\frac{30}{2} = 15$	$\frac{24}{3} = 8$	$\frac{15}{5} = 3$
2	$\frac{20}{2} = 10$	$\frac{15}{3} = 5$	$\frac{10}{5} = 2$
3	$\frac{16}{2} = 8$	$\frac{9}{3} = 3$	$\frac{8}{5} = 1.6$
4	$\frac{8}{2} = 4$	$\frac{6}{3} = 2$	$\frac{5}{5} = 1$

	2	3	5
5	$\frac{6}{2} = 3$	$\frac{3}{3} = 1$	$\frac{1}{5} = 0.2$
6	$\frac{4}{2} = 2$	$\frac{1}{3} = 0.33$	$\frac{0}{5} = 0$

As per the law, the consumer would get maximum total satisfaction when:-

$$\frac{6}{2} = \frac{9}{3} = \frac{15}{5} = 3$$

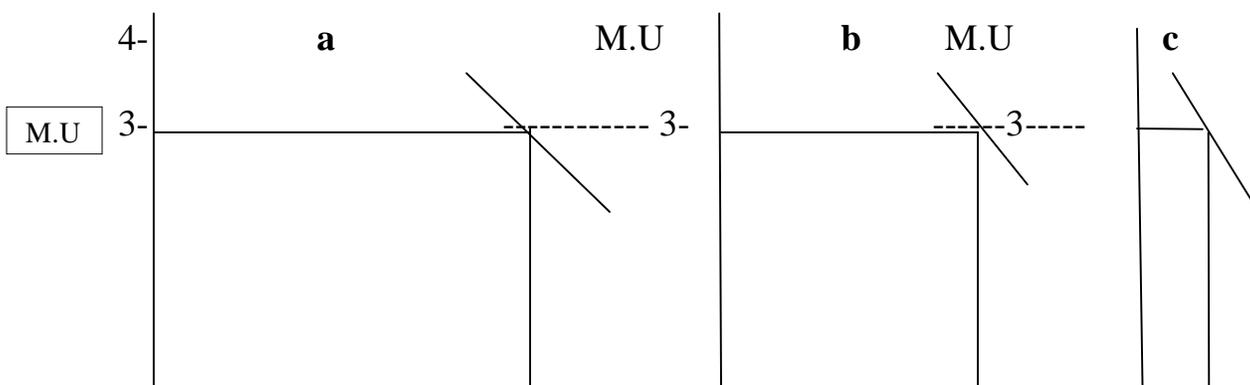
In this case, the consumer will get the maximum satisfaction when he spends rs. 10/- on a commodity, rs. 9/- on b commodity, rs.5/- ON C commodity. by spending his income in this way he gets 5,3 and 1 unit of the commodities A, B & C respectively.

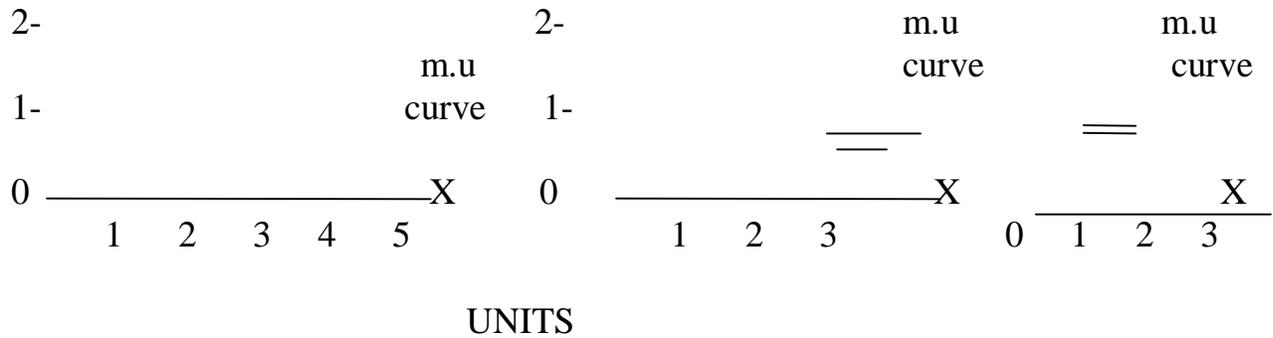
It follows that total utility so derived tends to be:-

$$\begin{aligned} T_{ua} &= 30+20=16=8=6 = 80 \\ T_{ub} &= 24+15+9 = 48 \\ T_{uc} &= 15 = 15 \\ \hline \Sigma Tu &= 143 \end{aligned}$$

Therefore, Tu=143 is the maximum aggregate satisfaction. Here consumer will be in equilibrium.

The law of equi-marginal utility can also be expressed graphically as below:-





In above diagramme , unit of commodity purchased by consumer is denoted on X-axis The Y-axis represents utility. m_{ub} , m_{uc} , m_{ua} are the marginal utility curve for the assumed commodity A, B, & C respectively.

In diagramme we can see that consumer will purchase 5 units of commodity A, 3 units of commodity B & one unit of commodity C. It is easy to see that by purchasing different commodity in this way the consumer equalizes the marginal utility of each commodity.

Assumption of The Law:-

The law of equi-marginal utility is based on the following:-

- (i) The consumer is a rational economic man. He wants to maximize his total satisfaction.
- (ii) Utility is measurable in cardinal term.
- (iii) Prices of a commodities are given & unchanged.
- (iv) Income of the consumer is given & unchanged.
- (v) The marginal utility of money is constant.
- (vi) The wants & commodities are substitutable.
- (vii) The consumer has a given scale of preference .

OR

He has a perfect knowledge of utility derived.

