CONSUMER THEORY

Cardinal Utility Theory

Utility can be defined as the want satisfying powers of a commodity.

Under the Cardinal approach, utility was thought to be objectively measurable.

- William Stanley Jevons, Carl Menger, Leon Walras and Alfred Marshall believed that utility was measurable just as water or milk in litres, heights in centimetres and so on.

* Some economists belonging to the Cardinalist school maintained that utility can be measured in terms of monetary units, by the amount of money the consumer is willing to sacrifice for another unit of a commodity.

- Others suggested the measurement of utility in terms of subjective units called utils.

* Marginal Utility

Marginal utility is defined as the increase in total utility as a result of the consumption of an additional unit of a commodity.

. In terms of symbols we can write

$MU_n = TU_n - TU_{n-1}$

where MU_n is marginal utility of nth unit

TU_n is total utility of n units

TU_{n-1} is total utility of (n-1) units.

Alternatively, marginal utility can be defined as follows

$$MU = \frac{\partial(TU)}{\partial Q}$$

i.e change in total utility when the quantity of the commodity (Q) increases by a small amount.

* TOTAL UTILITY

If some person has more than one unit of a commodity in his stock, the sum of utilities which he derives from the individual units of the commodity will be called total utility

For ex:— let us suppose that a consumer has three shirts and he derives utility worth Rs. 200, Rs. 180 and Rs 150 from the first, second and third shirts respectively.

Taking sum of these MUs.

$(200+180+150) = 530 = TU$

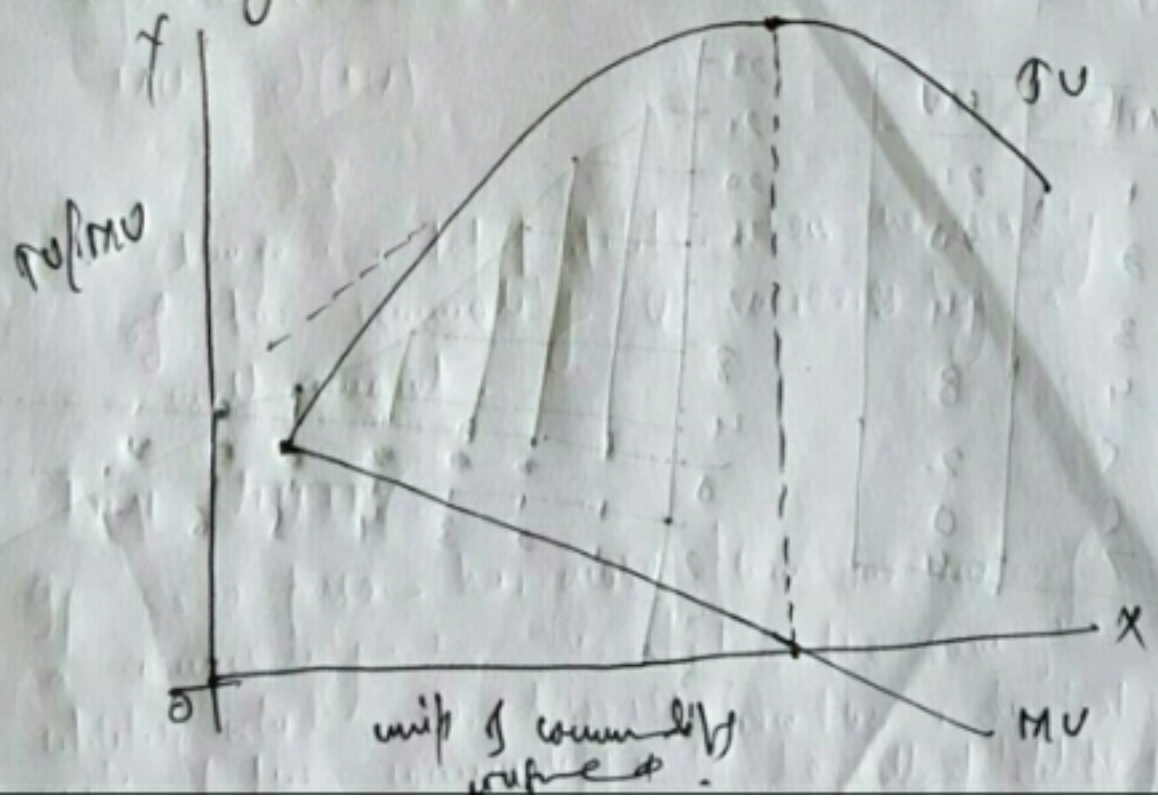
$\therefore TU_n = MU_1 + MU_2 + MU_3 + \dots + MU_n$

Relationship between MU & TU

Units of oranges	MU		TU
1	6		6
2	5		11
3	4		15
4	3	Positive	18
5	2		20
6	1		21
7	0.5		21.5
8	0	zero	21.5 (Point of satiet
9	−1	negative	20.5
10	−2.5		18

The point where MU becomes zero is called the point of satiety.

- Before this point is reached though MU tends to decline, it always remains positive. TU in this situation increases, the rate of increase, however, declines.
- As the point of satiety is reached, MU falls to zero and TU stops rising. At this stage total utility is maximum.
- If consumption is expanded beyond the point of satiety, MU turns negative and as a result TU declines. At this stage total utility declines at an increasing rate.



THE LAW OF DIMINISHING MU

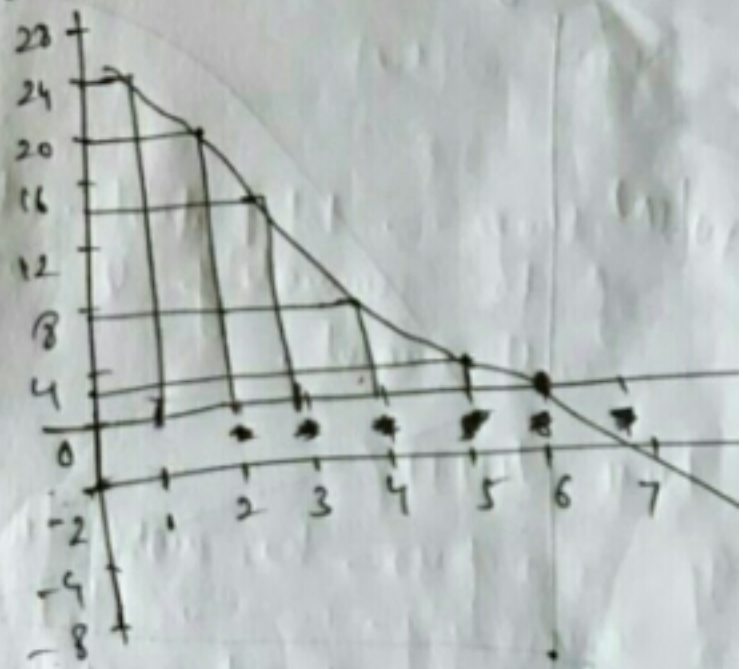
The marginal utility that any consumer derives from successive units of a particular product diminishes as his or her total consumption of that product increases while holding constant the consumption of all other products.

* The law of diminishing MU operates because of the following two reasons.

(i) The commodities are imperfect substitutes

(ii) All wants are satiable

MILK	MU
1	24
2	20
3	14
4	8
5	2
6	0
7	-4



ASSUMPTIONS OF THE LAW

(i) The behaviour of the consumer is rational.

(ii) Cardinal measurement of utility is possible.

(iii) MU of money is assumed to be constant.

(iv) Units of commodity consumed are normal and uniform both quantitatively and qualitatively.

(v) Consumption process is continuous. The consumer's income, tastes, habits and fashions should not change.