

Ch $\Rightarrow$ 2

Consumer Equilibrium.

① What do mean by utility?

Utility is the power of any product that can satisfy human wants. It ~~me~~ can be measured in terms of utils. In other words the amount of satisfaction a product gives on consumption is known as utility.

② What do you mean by ~~mao~~ marginal utility?

It is ~~the~~ addition to the total utility by consuming one more unit of commodity is known as marginal utility. foreg $\Rightarrow$ A consumer consuming apples getting 100 utils from 10 apples he consumes 11 & total utility increases to 115. The 15 utils is known as marginal utility. So ~~the~~

$$MU = \frac{\Delta TU}{\Delta N} \quad \text{or} \quad MU = TU_N - TU_{N-1}$$

ΔN
Change.

$TU \Rightarrow$ Total utility $N \Rightarrow$ No. of units consumed
 $MU =$ Marginal utility.

③ What is Total Utility?

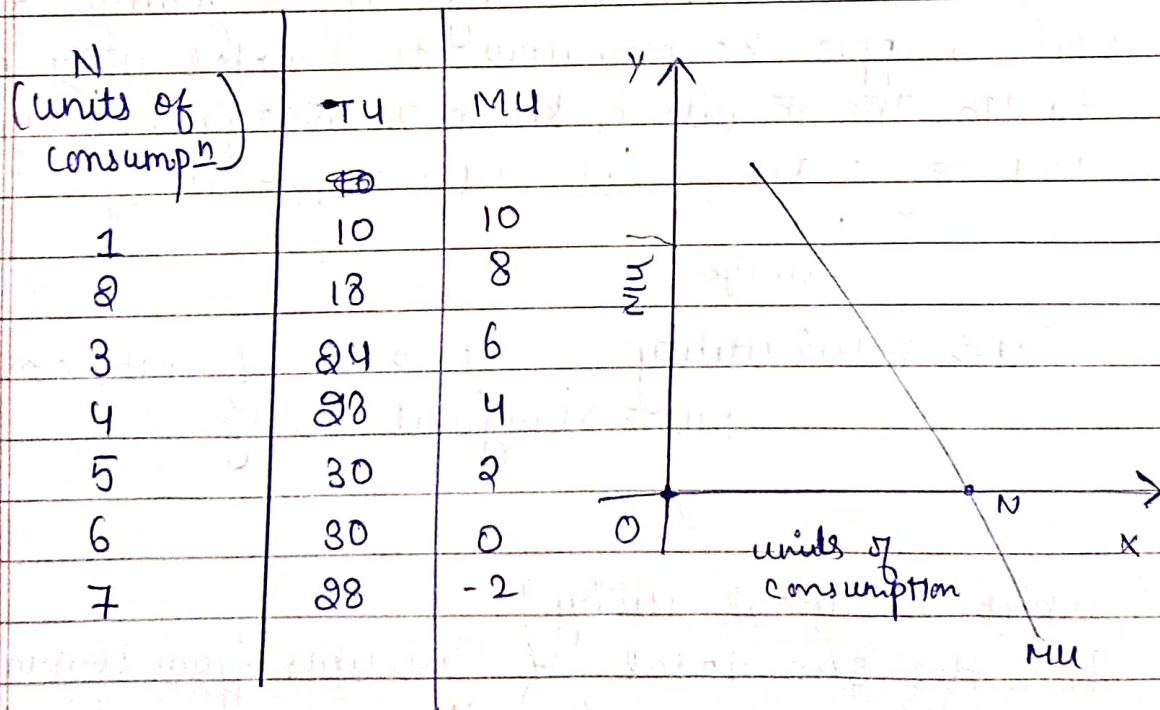
It is the sum total of all utils from consumption of ~~some~~ certain number of ~~utils~~ units by a consumer. It can be calculated by adding all the marginal ~~utils~~ utility.

foreg: A consumer consumes one ice-cream & gets 10 utils he consumes another & gets 8 utils. The Total utility from both ice-cream is 18 ~~utils~~ ~~utils~~ utils.

④ what is law of diminishing marginal utility? (DMU).

Ans $\Rightarrow$ This law states that when a consumer keeps on consuming more and more units of a commodity the utility which he derives from next consumption keeps on diminishing.

- for eg: A consumer consumes first ice cream & get 10 utils as satisfaction. At the time of second ice cream his want is satisfied to some extent so he gets lesser satisfaction say 8 utils. This goes on & marginal utility ~~yes~~ reaches even at negative level. This explain through following schedule & diagram.



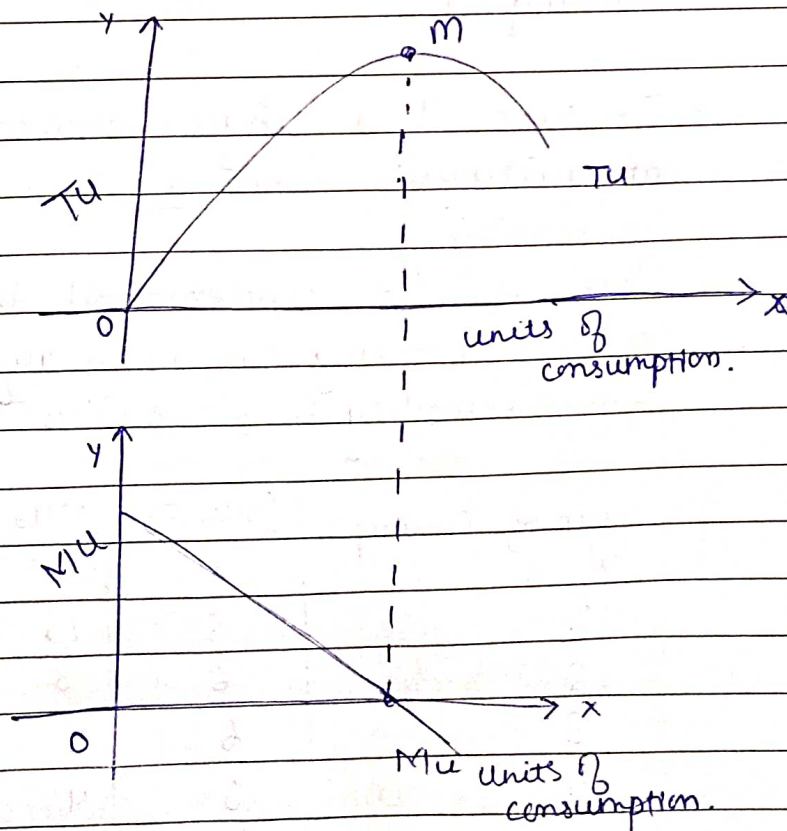
Q Explain the relationship b/w total utility & marginal utility.

TU ~~Total utility~~ : It is the sum total of all utility generated from consumption of all possible units of commodity. In other words it is the total satisfaction from consumption of certain no. of units.

MU ~~Marginal utility~~ : It is addition to total utility due to change in units of consumption by one unit. Their relationship can be understood through following schedule & diagram:

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N	Tu	MU
1	10	10
2	18	8
3	24	6
4	28	4
5	30	2
6	30	0
7	28	-2



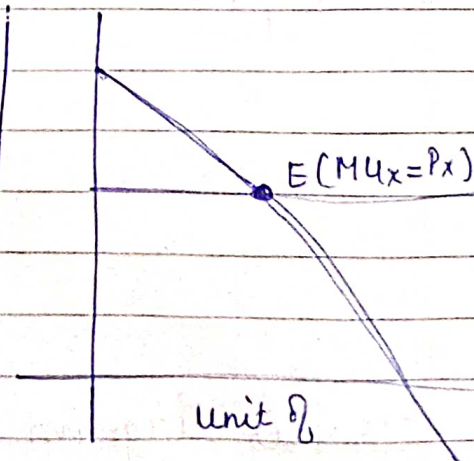
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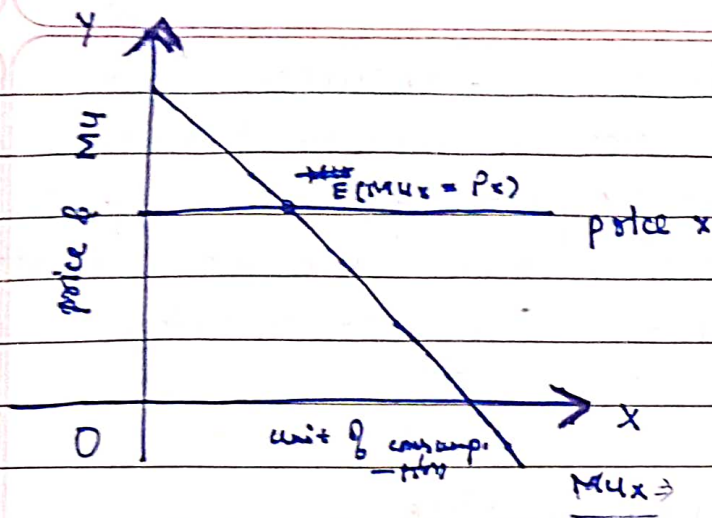
In this diagram Tu & MU represent total utility & marginal utility curves. Initially Tu increases & MU falls but remain positive (i) when Tu reaches at its maximum as shown by point M in the diagram

- (iii) MU become 0 & it intersects point T on OX axis when TU starts falling beyond point M. MU become negative as we can see on 7th unit of consumption TU falls to 28 & MU becomes -2.
- (iv) MU can be derived from TU as $MU = \frac{\Delta TU}{\Delta N}$

- Q Explains consumer equilibrium using utility analysis for a single commodity.
- Ans:- • Equilibrium means a state of balance of position of no state change. A consumer is said to be at equilibrium level when he gets maximum satisfaction within his limited income & has no intention to change his or her consumption.
- If case of a single commodity a consumer reaches at equilibrium when MU is equal to price paid for that commodity.
- This can be understood through following schedule or diagram-taking an imaginary illustration or eg of commodity X whose price is fixed at ₹6 per unit.

Unit of Consump ⁿ of X	Price of 'X'	MU of 'X'
1	6	10
2	6	8
3	6	6
4	6	4
5	6	2
6	6	0





In this diagram price line is represented by straight line parallel to x axis since the price is constant for good x . MU_x represents the marginal utility curve it is sloping downward from left to right because of operation of law of diminishing marginal utility. E is the point of equilibrium where $MU_x = P_x$ i.e. consumer is getting satisfaction equal to price paid for product.

In the above approach utility of money is not considered, since that can also affect the consumer equilibrium state as utility of money is different for different people the condition of consumer equilibrium changes to

$$\left(\frac{MU_x}{P_x} = MU_m \right) \rightarrow \text{single commodity}$$

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y} = MU_m$$

Q Explain consumer equilibrium using utility analyses in case of multiple commodity.

Ans. $\Rightarrow$ In real life a consumer consumes multiple commodities in such a situation law of equi marginal utility helps in determination of consumer's equilibrium for multiple commodity to simplify we are taking a case of two commodities only a & b

According to this law a consumer gets maximum satisfaction when ratios of marginal utility of two commodities & their respective prices are equal. And MU falls as consumption increases. We know that equilibrium condition for single commodity

$$\frac{MU_A}{P_A} = MU_M \text{ \& } \frac{MU_B}{P_B}$$

both of them we get condition of two commodities i.e. $\frac{MU_A}{P_A} = \frac{MU_B}{P_B} \Rightarrow MU_M$

- The second condition for consumer equilibrium is that MU falls with further increase in consumption

Q - This equilibrium condition can further be explained with the help of following schedule of two commodities A & B.

units	MU _A	MU _B
1	20	15
2	16	12
3	14	10
4	10	7
5	8	5

$$\frac{MU_A}{P_A} = \frac{10}{1}$$

$$MU_B = \frac{10}{1}$$

- As per this schedule consumer is said to be at equilibrium when consumes 4 units of A & 3 units of B assuming that the price of A & B is ₹ 1 per unit each

Q: What will happen if $\frac{MUA}{P_A}$ is not equal to $\frac{MUB}{P_B}$.

⇒ In this condition there are two possibilities.

Case I (-i-)

$$\frac{MUA}{P_A} > \frac{MUB}{P_B}$$

↳ greater than

In this case consumer is getting more marginal utility per rupee in case of good A as compared to good B. Here he will buy more of A & less of B & this will continue till he reaches at the equilibrium state i.e. $\frac{MUA}{P_A} = \frac{MUB}{P_B}$.

Case II

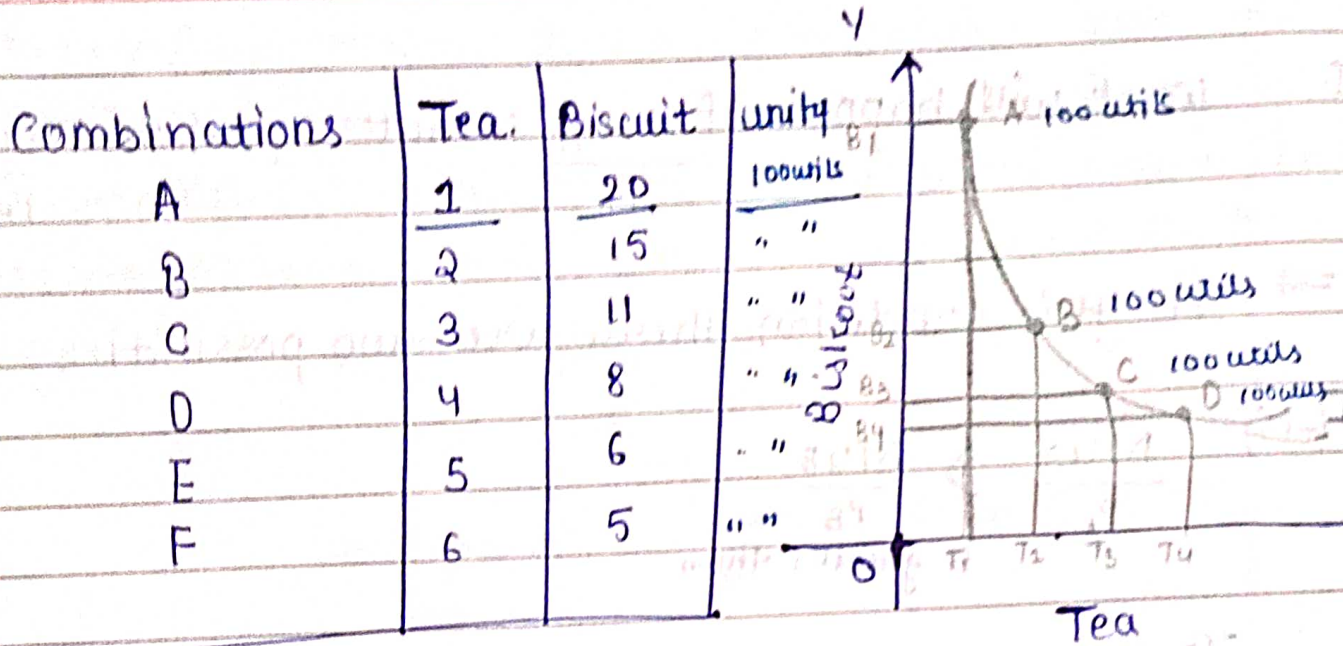
(-ii-) $\frac{MUA}{P_A} < \frac{MUB}{P_B}$

In this case consumer is getting more marginal utility per rupee in case of good B as compared to good A. ∴ he will buy more of B & less of A & will continue this till he reaches at the equilibrium state

$$\text{i.e. } \frac{MUA}{P_A} = \frac{MUB}{P_B}$$

Q Explain the term indifference curve.

Ans. ⇒ An indifference curve is locus points that show combination of two goods in such a way that all combination give similar level of satisfaction to the consumer. To explain it further let us take any example of two goods tea & biscuit & understand the concept through following diagram.



In this diagram quantity of tea is shown on ox & that of biscuit on oy axis. IC represents a sloping downward indifference curve showing similar level of utility at all its point i.e 100 utils on A, B, C or D. $\therefore$ A consumer is indifferent in choosing any of these combination hence the curve is known as an indifference curve.