What is Indifference Curve Theory?

By : Ms. Rutuja Budhe

Theory of Consumer Behavior

- The demand of a commodity depends on the utility of that commodity to a consumer.
- The want satisfying capacity or power of a commodity is called utility.
- The utility differs from person to person, place to place and time to time.
- Economics is not just statistics and graphs. It also deals with human behavior and human wants.
- The theory of consumer behavior in particular deals with how consumers allocates and spend their income among all the different goods and services.
- This theory is used to analyse and predict how individuals make decisions about consumption of goods and services.

Marginal Utility Analysis :

Marginal Utility analysis helps us understand the behavior of a consumer by looking at the way he spends his income on different goods and services to attain maximum satisfaction i.e how a consumer reaches equilibrium.

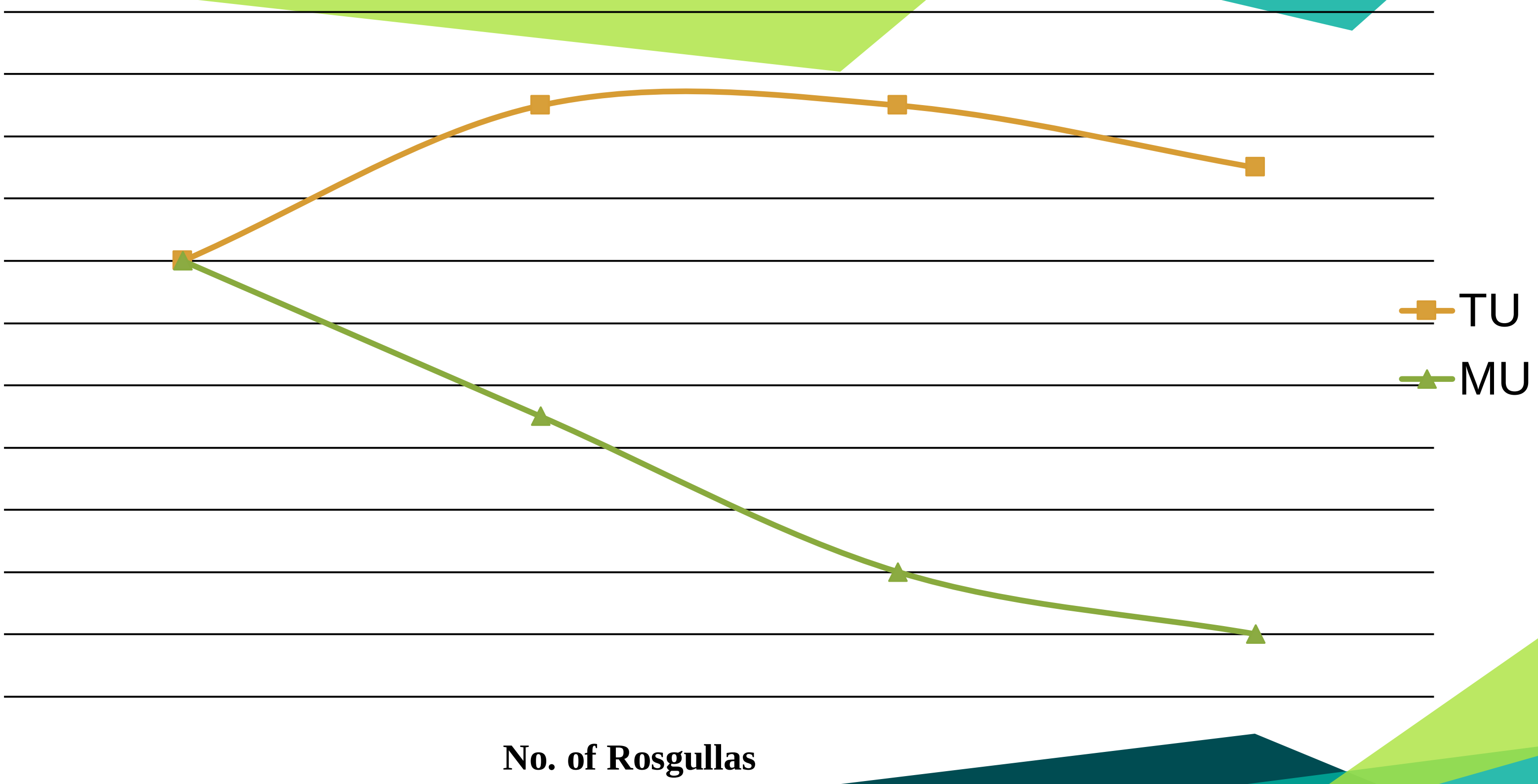
The Law of Diminishing Marginal Utility :

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

This law is based on the fundamental tendency of human nature. Human wants are virtually unlimited. However, every single want is satiable. Hence, as we consume more and more units of a good, the intensity of our want for the good decreases. Eventually, it reaches a point where we no longer want it.

Utility Schedule

Units of Rosgulla's Consumed	Total Utility	Marginal Utility
1	10	10
2	15	5
3	15	0
4	13	-2


TU
MU
No. of Rosgullas

Assumptions of Diminishing Marginal Utility

- All units of commodities are homogenous.
- Consumer is assumed to be rational.
- No time interval between consumption.
- Utility is measurable.
- Tastes of consumers should remain constant.
- Fixed price and income.

Ordinal Utility Approach

- A consumer can rank various combinations of goods and services in order of his preference.
- *For eg : if a consumer consumes two goods i.e Sandwich and Burger, then he can indicate whether he prefer Sandwich over Burger or Burger over Sandwich or both are equally preferable and both of them give him same level of satisfaction.*
- This approach does not use cardinal values like 1,2,3,4 etc rather it makes use of ordinal numbers like 1^{st},2^{nd},3^{rd} etc., which can be used for ranking. Hence, this utility is expressed in ranks.
- If a consumer likes burger more than sandwich then he will give 1^{st} rank to burger and second rank to sandwich.

Indifference Curve Analysis

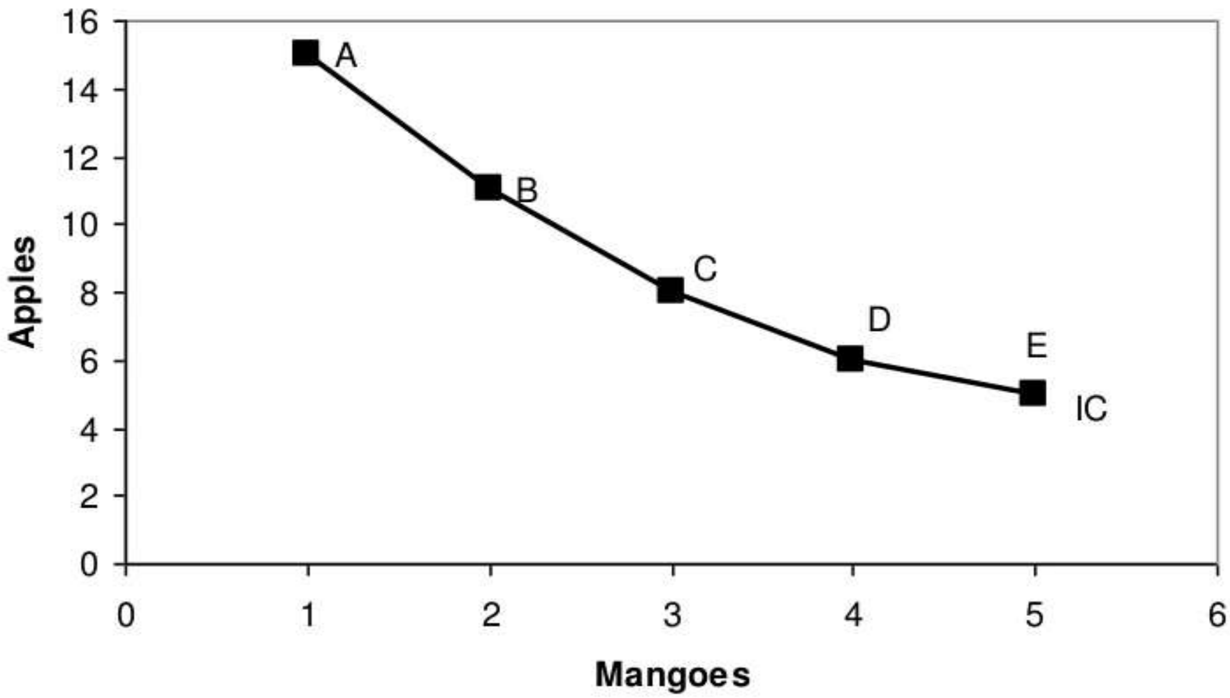
- When a consumer consumes various goods and services then there are some combinations which gives exactly the same satisfaction.

- An indifference curve shows combinations of goods between which a person is indifferent. An indifference curve is the locus of points representing all the different combinations of two goods which yield equal level of utility to the consumer.

Indifference Schedule:

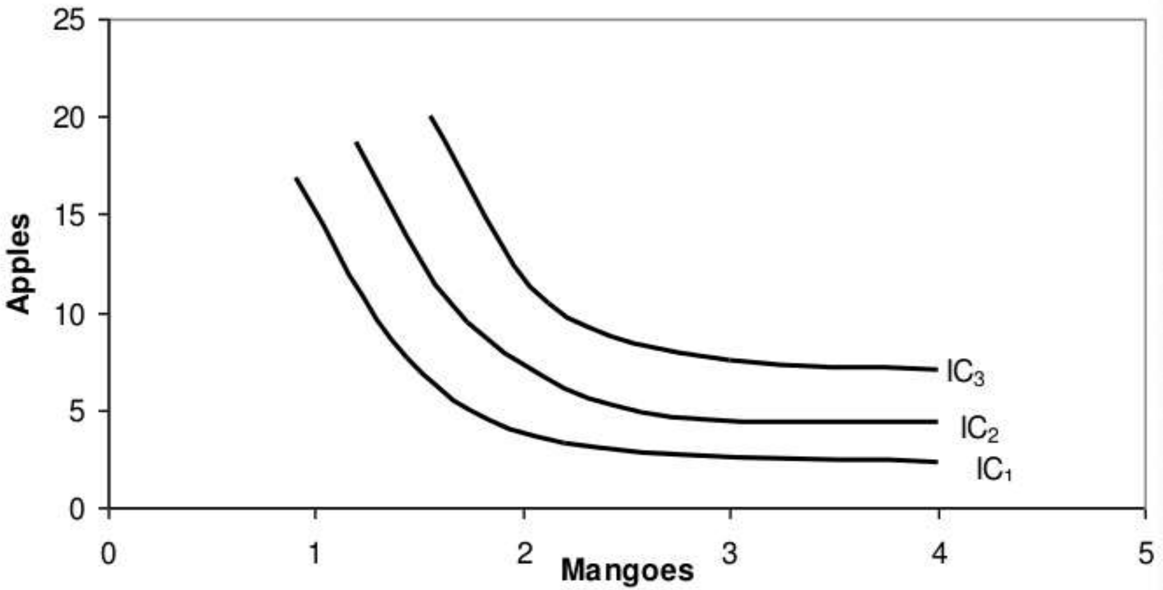
Combinations	Apples	Mangoes
A	15	1
B	11	2
C	8	3
D	6	4
E	5	5

Indifference curve IC shows all possible combinations of apples and mangoes between which a person is indifferent. Point A shows consumption bundle consisting of 15 apples and one mango. Moving from point A to Point B, we are willing to give up 4 apples to get a second mango (total utility is the same at points A and B).



Indifference Map :

A graph showing a whole set of indifference curves is called an indifference map. All points on the same curve give equal level of satisfaction, but each point on higher curve gives higher level of satisfaction.



Assumptions of Indifference Curve

The indifference curve theory is based on few assumptions as follows :

- **Two commodities :**

  It is assumed that the consumer has fixed amount of money, all of which is to be spent only on two goods. It is also assumed that prices of both the commodities are constant.

- **Non satiety :**

  Satiety means saturation. And, indifference curve theory assumes that the consumer has not reached the point of satiety. It implies that the consumer still has the willingness to consume more of both the goods. The consumer always tends to move to a higher indifference curve seeking for higher satisfaction.

- **Ordinal utility :**

  The theory assumes that a consumer can express utility in terms of rank. Consumer can rank his/her preferences on the basis of satisfaction yielded from each combination of goods.

- **Diminishing marginal rate of substitution :**

  Diminishing marginal rate of substitution states that the rate by which a person substitutes X for Y diminishes more and more with each successive substitution of X for Y. As indifference curve theory is based on the concept of diminishing marginal rate of substitution, an indifference curve is convex to the origin.

- **Rational consumers :**

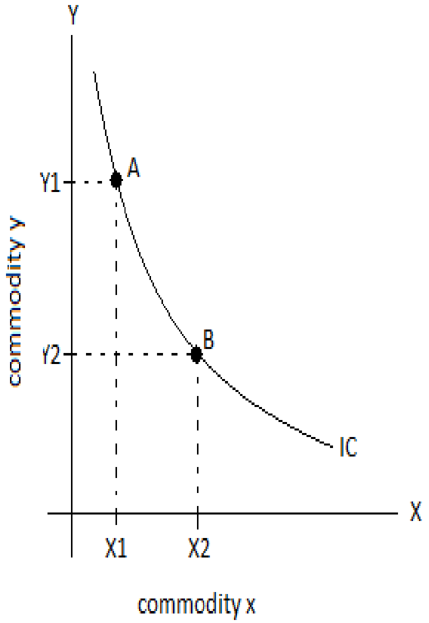
  According to this theory, a consumer always behaves in a rational manner, i.e. a consumer always aims to maximize his total satisfaction or total utility.

Properties of Indifference Curve

There are four basic properties of an indifference curve. These properties are :

- **Indifference curve slope downwards to right :**

When a consumer wants to have more of a commodity, he/she will have to give up some of the other commodity, given that the consumer remains on the same level of utility at constant income. As a result, the indifference curve slopes downward from left to right.

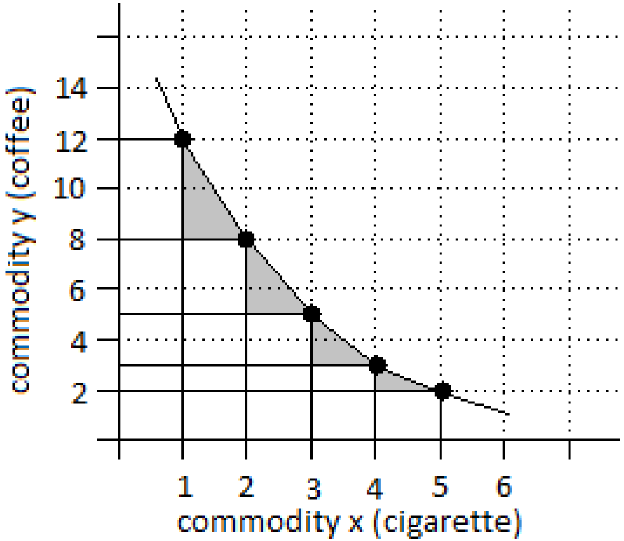


In the above diagram, IC is an indifference curve, and A and B are two points which represent combination of goods yielding same level of satisfaction.

- **Indifference curve is convex to the origin :**

According to diminishing marginal rate of substitution the rate of substitution of commodity X for Y decreases more and more with each successive substitution of X for Y. Also, two goods can never perfectly substitute each other.

Therefore, the rate of decrease in a commodity cannot be equal to the rate of increase in another commodity.



Indifference curve cannot intersect each other :

Each indifference curve is a representation of particular level of satisfaction.

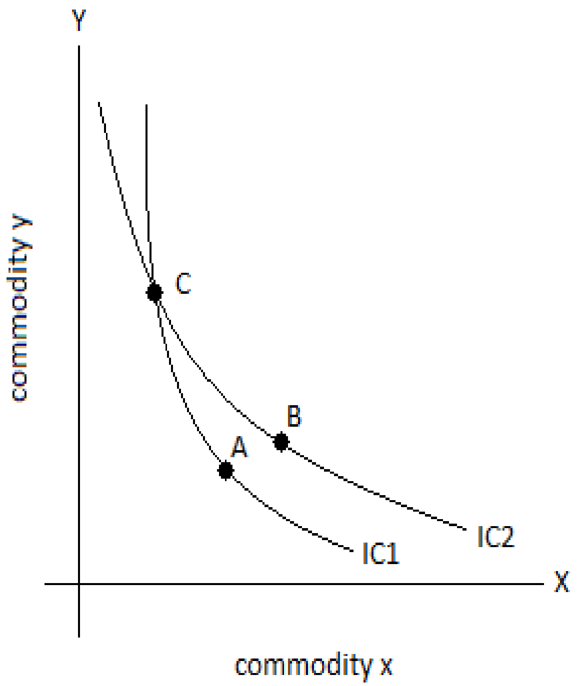
The level of satisfaction of consumer for any given combination of two commodities is same for a consumer throughout the curve.

Thus, indifference curves cannot intersect each other.

Satisfaction at point C = Satisfaction at point A

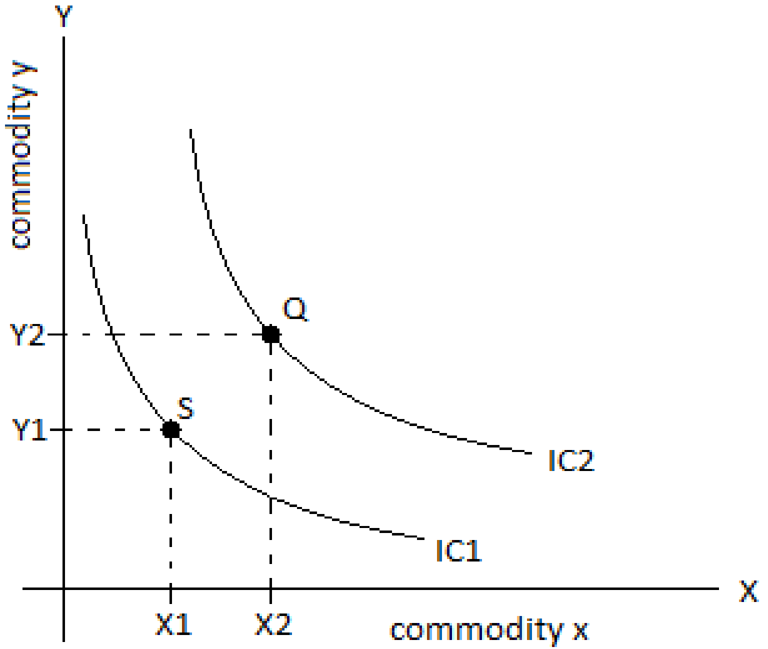
Satisfaction at point C = Satisfaction at point B

But, B ≠ A.



Higher indifference curve represents higher level of satisfaction :

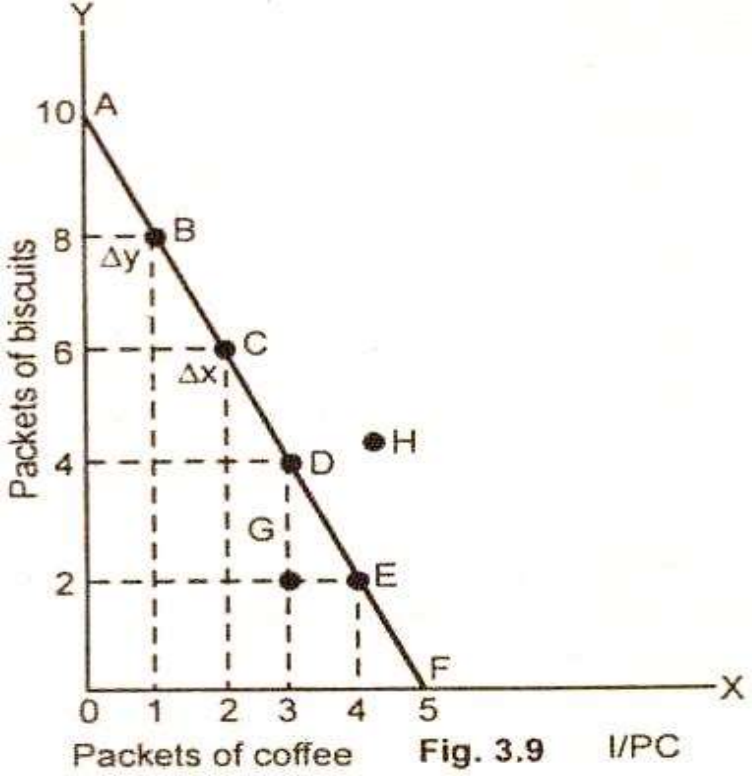
Higher the indifference curves,
higher will be the level of satisfaction.
This means, any combination of
two goods on the higher curve give higher level of satisfaction to the consumer than the combination of goods on the lower curve. In the figure,
IC1 and IC2 are two indifference curves, and IC2 is higher than IC1.



Budget Line

- The budget line is an important element analysis of consumer behavior. The indifference map shows preferences for the combination of two goods. The actual choices they will make, however, depends on their income. The budget line is drawn as a continuous line.

It identifies the options from which the consumer can choose the combination of goods.



Consumer Equilibrium

- Equilibrium means a state of maximum satisfaction. Consumer's equilibrium is a situation when he spends his given income on the purchase of one or more commodities in such a way that he gets maximum satisfaction and has no urge to change this level of consumption, given the prices of commodities.

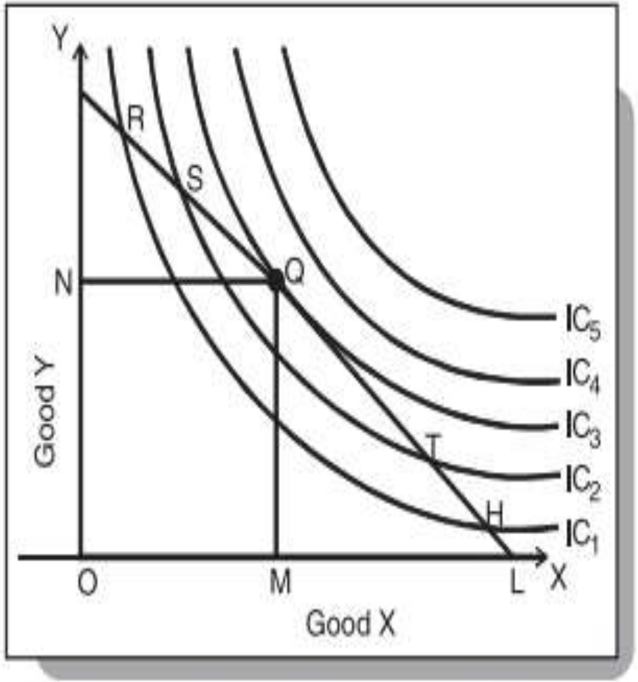


Fig. 1 : Consumer's Equilibrium

Thank you!