

Q = Is the slope of indifference curve at particular point known as marginal rate of substitution? Justify with graph. If good 1 is a neutral what is its MRS for good 2?

A =

Introduction

Indifference curve plays vital role in determining consumer equilibrium. It shows different combinations of goods or services that yield same level of satisfaction to the consumer, so that consumer becomes indifferent to these combination of goods.

In consumer equilibrium analysis, equilibrium is established at the point where indifference curve becomes tangent to budget line. In other words,

slope of indifference \equiv slope of
curve \equiv Budget line

Slope of Indifference Curve

The slope of indifference curve is known as Marginal rate of substitution.

Definition

The rate at which consumer is willing to substitute one good for another good is termed as marginal rate of substitution.

Negative Slope of indifference curve

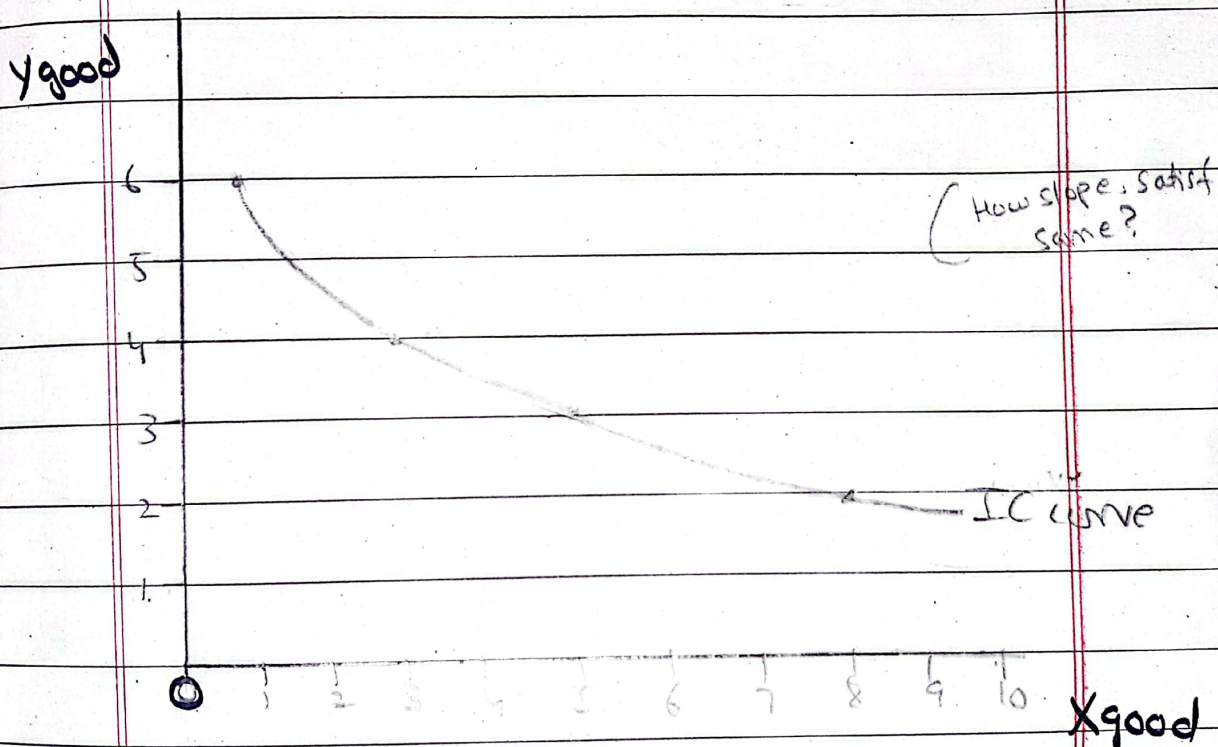
Indifference curve is negatively sloped due to marginal rate of substitution. Because in order to get more of one good, consumer has to give up some quantity of another good for keeping satisfaction level constant, within limited income level.

Explanation

Suppose there are two goods X and Y which a consumer can purchase with the help of his

limited income level.

Good X	Good Y
1	6
3	4
5	3
8	2



Above graph manifests that for getting more units of good X from 1 to 3, he has to give up units of good Y from 6 to 4. Same

process continues for each successive unit of good X. Any point on indifference curve either it is a or b or c or d, all gives same satisfaction level to consumer.

As we know that

slope of indifference curve = Marginal rate of substitution

$$MRS_{XY} = - \frac{\Delta Y}{\Delta X}$$

It shows that quantity of good Y which consumer is willing to give up for getting an additional unit of good X.

So, the slope of indifference curve at particular point known as marginal rate of substitution.

Neutral Good

A good is said to be neutral good if its consumption is independent of income level

Date: _____

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Neutral Good

A good is said to be neutral good if its consumption is independent of income level or it does not alter consumer

utility level

The marginal rate of substitution for good 2 is zero if good 1 is a neutral good.

Reason

The marginal rate of substitution for good 2 is zero because consumer does not want to change the quantity of good 2 by changing quantity of neutral good. As, neutral good does not give utility to consumer so, he will not substitute it with good 2.

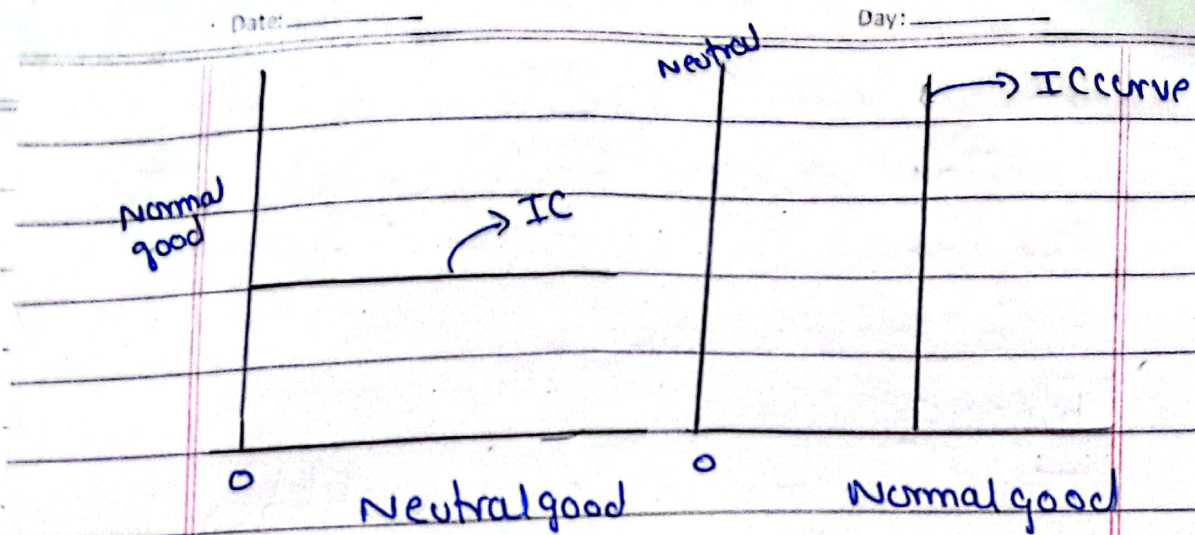
$$MRS_{12} = -\frac{MU_1}{MU_2}$$

As Marginal utility of good 1 is zero so

$$MRS_{12} = -\frac{0}{MU_2}$$

$$MRS_{12} = 0$$

Hence, marginal rate of substitution for good 2 is zero.



If neutral good is on X-axis, then indifference curve is horizontal shaped while it is vertical if neutral good is on Y-axis.

Conclusion

The slope at any point on indifference curve is marginal rate of substitution. While, marginal rate of substitution for good 2 is zero if good 1 is neutral good.