UTILITY ANALYSIS

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UTILITY

Utility is a term in economics that refers to the total satisfaction received from consuming a good or service. Want satisfing quality of a product.

- The Cardinal Measurability of Utility
- The constancy of the Marginal Utility of Money
- The Hypothesis of Independent Utility

Types of Utility

Utility are of three kinds:

(i)Total Utility: Total utility refers to the total satisfaction obtained from the consumption of all possible units of a commodity.

TUn = Total utility from n units of a given commodity

U1, U2, U3,……. Un = Utility from the 1st, 2nd, 3rd nth unit

n = Number of units consumed

(ii) Average Utility: Per unit utility = TU/Q

Types of Utility

Marginal Utility (MU):

Marginal utility is the additional utility derived from the consumption of one more unit of the given commodity.

MU can be calculated as: $MU_n = TU_n – TU_{n-1}$

Where: MU_n = Marginal utility from nth unit; TU_n = Total utility from n units;

TU_{n-1} = Total utility from n – 1 units; n = Number of units of consumption

$MU_n = \Delta TU/\Delta Q$

LAWS OF UTILITY ANALYSIS

1. Law of Diminishing Marginal Utility
2. Law of Equi-Marginal Utility.

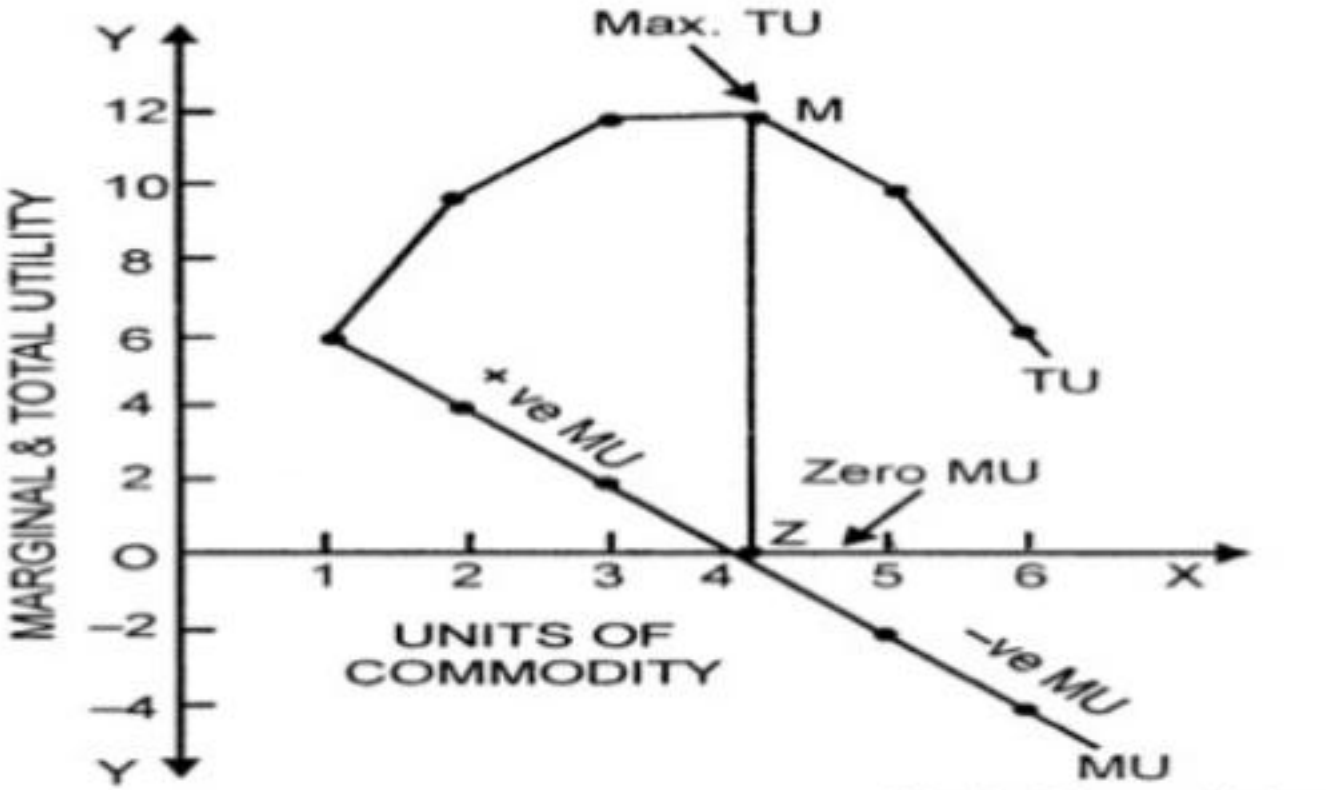
1. Law of Diminishing Marginal Utility

Law of Diminishing Marginal Utility is the fundamental law of utility analysis. All of us experience this law in our daily life. The law of Diminishing Marginal Utility explains the **relation between utility and quantity of a commodity**.

According to Dr. Marshall, "The additional benefit which a person derives from a given increase of his stock of a thing diminishes with every increase in the stock that he already has."

Diminishing Marginal Utility

Unites of Good Consumed	MU	TU
1	6	6
2	4	10
3	2	12
4	0	12
5	-2	10
6	-4	6



Relationship between MU and TU

Diminishing Marginal Utility

Relation between Total Utility & Marginal Utility:

with the consumption of goods

TU increases reaches maximum point and diminishes.At the same time MU decreases through out the consumption process.

- TU increases, MU decreases but (+VE)
- TU maximim, MU equal to zero (MU=0)
- TU decreases, MU decreases but (- VE)

Law of equi-marginal utility

The law of equi-marginal utility states that the consumer will distribute his money income between the goods in such a way that the utility derived from the last rupee spend on each good is equal. In other words, consumer is in equilibrium position when marginal utility of money expenditure on each goods is the same.

Conditions:

1. **Maximum satisfection of consumer**
2. **MUx/ Px= MUy / Py or MUx/MUy=Px/Py**

(Mux/Px= Marginal utility of money spent on X & Muy/y= Marginal utility of money spent on X)

Equi-marginal utility Table

Income is given 35

Price of X (Px)= 4 & Price of Y (Py)= 5

The consumer is getting maximun satisfection by consuming **5 units of X and 3 units of Y.**

The equations are

- MUx/ Px= MUy / Py = 6

Px*X + Py*Y = Income

4*5+ 3*5= 35

- The consumer is getting maximim satisfection.

Number of Units	MUx	MUy	MUmx(Marginal utility money spent on X)	MUmx(Marginal utility money spent on X)
1	40	40	10	8
2	36	35	9	7
3	32	30	8	6
4	28	20	7	4
5	24	15	6	3
6	20	5	5	1

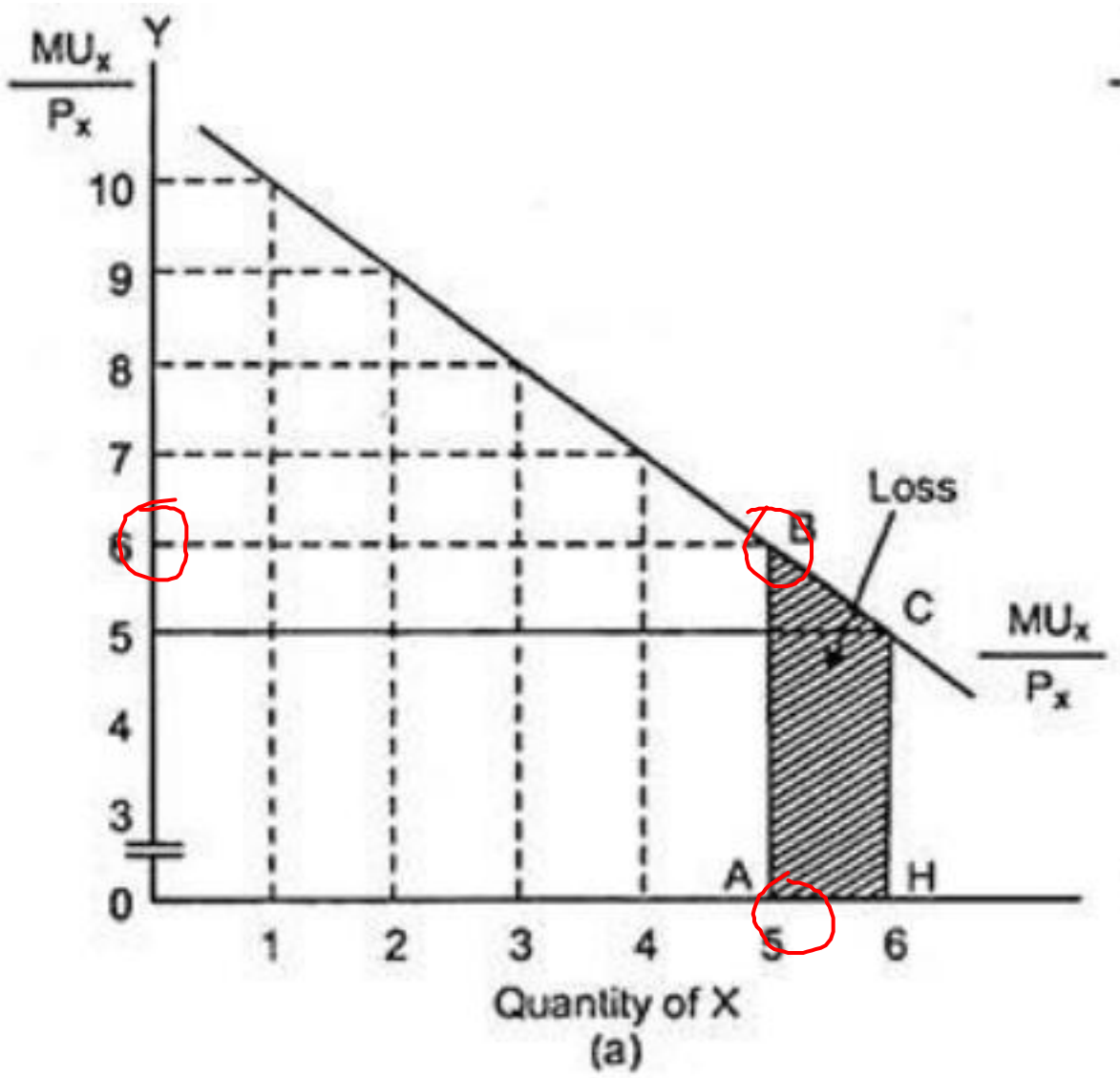
Equi-marginal utility Table

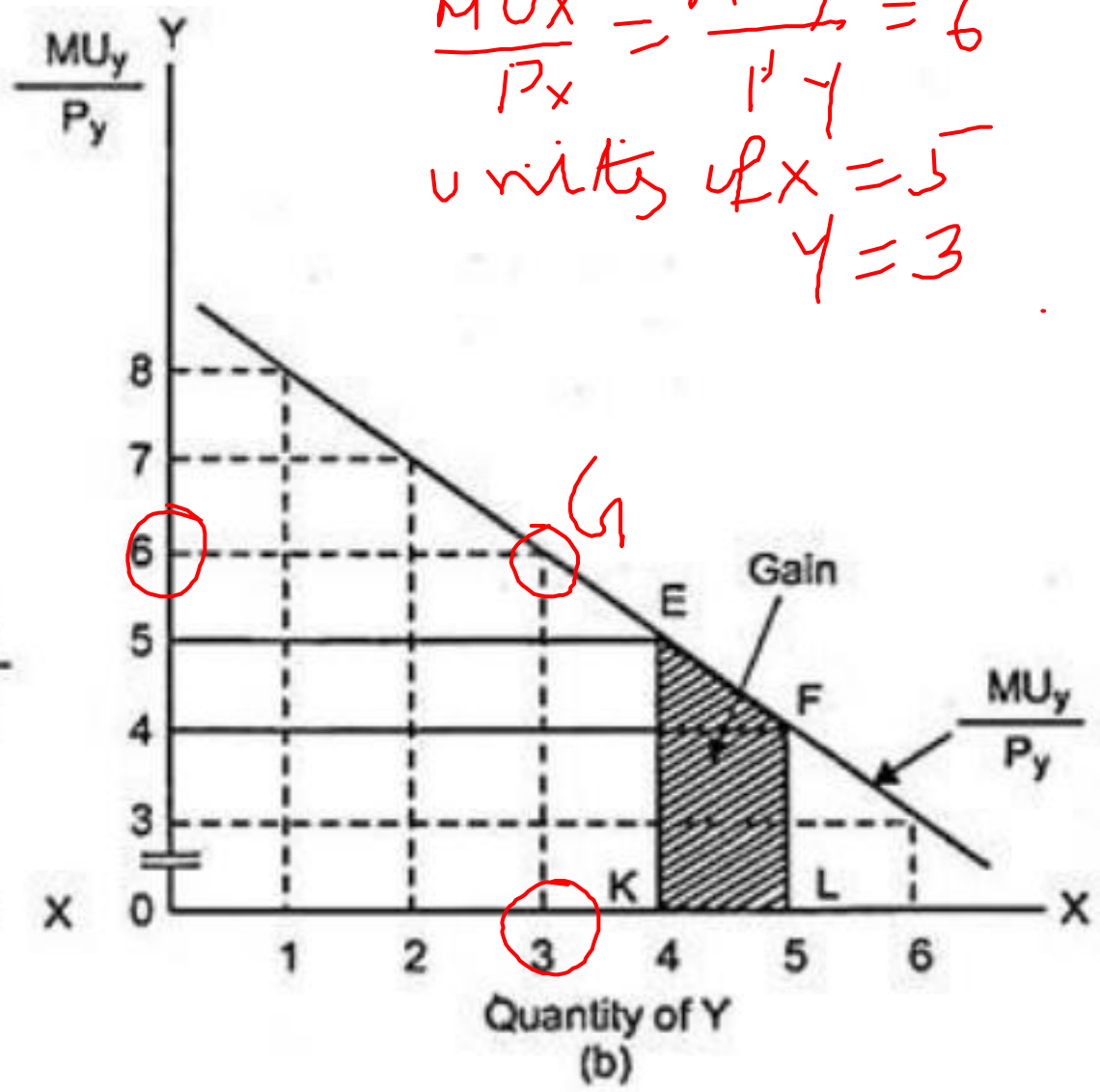
we have shown marginal utility schedule of X and Y from the different units consumed. Let us also assume that prices of X and Y are Rs. 4 and Rs. 5, respectively.

MUX and MUY schedules show diminishing marginal utilities for both goods X and Y from the different units consumed. Dividing MUX and MUY by their respective prices we obtain marginal utility or marginal utility of money expenditure.

MUX/PX and MUY/PY are equal to **6** when **5** units of **X** and **3** units of **Y** are purchased. By purchasing these combinations of X and Y, the consumer spends his entire money income of Rs. 35 (= Rs. 4 x 5 + Rs. 5 x 3) and, thus, gets maximum satisfaction [10 + 9 + 8 + 7 + 6] + [11 + 10 + 6] = 67 units. Purchase of any other combination other than this involves lower volume of satisfaction or not according to the income of the consumer.

Equimarginal Utility





$\frac{MUx}{Px} = \frac{MUy}{Py} = 6$

units of X = 5

Y = 3