UNIT-II

CONSUMER'S EQUILIBRIUM

- **Introduction**

A consumer is one who buys goods and services for satisfaction of wants.

The objective of a consumer is to get maximum satisfaction from spending his income on various goods and services, given prices.

We start with a simple example. Suppose a consumer wants to buy a commodity. How much of it should he buy? One of the approaches used for getting an answer to this question is 'utility' analysis. Before using this approach, we would like to familiarize ourselves with some basic concepts used in this approach,

- **Concepts**

The term **utility** refers to the want satisfying power of a commodity. Commodity will possess utility only if it satisfies a want. Utility differs from person to person, place to place, and time to time.

Marginal Utility is the utility derived from the last unit of a commodity purchased. It can also be defined as the addition to the total utility when one more unit of the commodity is consumed.

Total Utility is the sum of the utilities of all the units consumed.

As we consume more units of a commodity, each successive unit consumed gives lesser and lesser satisfaction, that is marginal utility diminishes. It is termed as the Law of Diminishing Marginal Utility.

The following utility schedule will make the Law clear.

Units of a commodity	Total (utils) Utility	Marginal (utils) Utility
1	4	4 (=4-0)
2	7	3 (=7-4)
3	9	2 (=9-7)
4	10	1 (=10-9)
5	10	0 (=10-10)
6	9	-1 (=9-10)

Here we observe that as more units are consumed marginal utility declines. This is termed as the **law of diminishing marginal utility.** The law states that with each successive unit consumed the utility from it diminishes.

Assumptions

The utility approach to consumer's equilibrium is based on certain assumptions.

1. Utility can be cardinally measurable, i.e. can be expressed in exact units.
2. Utility is measurable in monetary terms
3. Consumer's income is given
4. Prices of commodities are given and remain constant.

Equilibrium

(a) One commodity case

Suppose the consumer wants to buy a good. Further suppose that price of goods is Rs. 3 per unit. Lel the utility be expressed in utils which are measured in rupees. We are given the marginal utility schedule of the consumer.

Quantity	Price	Marginal Utility
1	3	8
2	3	7
3	3	5
4	3	3
5	3	2

When he purchases the first unit, the utility that he gets is 8 utils. He has to pay only Rs. 3/- for it. Will he buy the 1st unit? Obviously, yes, because he gets more than what he gives. Similarly, we compare the utility received from other units with the price paid. We find that he will buy 4 units. At the 4th unit, MU equals price. If he buys the 5th unit, he is a looser because the utility that he gets is 2 utils and what he has to pay is Rs. 3. Therefore, the consumer will maximize his satisfaction by buying 4 units of this commodity. The condition for maximization of satisfaction if only one commodity is purchased then is:

MU = Price.

(b) Two commodities case

Suppose a consumer consumes only two goods. Let these goods be X and Y. Given income and prices (Px and Py), the consumer will get maximum satisfaction by spending his income in such a way that he gets the same utility from the last rupee spent on each good. This is satisfied when

$$\frac{MUx}{Px} = \frac{MUy}{Py} = \text{M.U. of a rupee spent on a good.}$$

We can show that in order to maximise satisfaction this condition must be satisfied. If it is not satisfied what difference will it make. Suppose the two ratios are:

$$\frac{MUx}{Px} > \frac{MUy}{Py}$$

It means that per rupee MUx is higher than per rupee MUy. It further means that by transferring one rupee from Y to X, the consumer gains more utility than he looses. This prompts the consumer to transfer some expenditure from Y to X. Buying more of X reduces MUx, Px remaining unchanged, MUx/Px, i.e. per rupee MUx, is also reduced. Buying less of Y raises MUy. Py remaining unchanged it raises, per rupee MUy. The change continues till per rupee MUx becomes equal to per rupee MUy. In other words :

$$\frac{MUx}{Px} = \frac{MUy}{Py} = \text{per rupee MU}$$

CONCEPTS OF DEMAND AND DEMAND SCHEDULE

Demand for a good is the quantity of that good which a buyer is willing to buy at a particular price, during a period of time.

Demand schedule is a tabular presentation showing the different quantities of a good that buyers of that good are willing to buy at different prices during a given period of time.

Demand schedule of a commodity

Price (Rs. per unit)	Quantity demanded (in units)
50	50
40	100
30	150
20	200
10	250

This schedule indicates that more is purchased as price falls. This inverse relationship between price and quantity demanded, other thing remaining the same is called the **law of demand.**

RELATIONSHIP BETWEEN PRICE ELASTICITY OF DEMAND AND TOTAL EXPENDITURE

At this stage of learning it is sufficient to know the following about this relationship:

1. When demand is elastic, a fall (rise) in the price of a commodity results in increase (decrease) in total expenditure on it. Or, when a fall (rise) in the price of a commodity results in increase (decrease) in total expenditure on it, its demand is elastic.

2. When elasticity is unitary, a fall (rise) in the price of the commodity does not result in any change in total expenditure on it, **or** when a fall (rise) in price results in no change in total expenditure then its elasticity is unitary.

3. When demand is inelastic, a fall (rise) in the price of a commodity results in a fall (rise) in total expenditure on it, **or** when a fall (rise) in the price of a commodity results in decrease (increase) in total expenditure on it, its demand is inelastic.