

**INSTITUTE OF ENGINEERING,
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**Microeconomics Applied to Plants &
Industrial Undertakings
UNIT-V BE 8sem
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MICROECONOMICS APPLIED TO PLANTS AND INDUSTRIAL UNDERTAKINGS

Both macro and micro-economics have two types of approach:

1. Positive Approach:

Positive Approach involves either straightforward description (like operation of ABC chemical industry) or positive economic Theory, i.e., a theory which explains how ABC chemical industry operates and why it got developed in a particular way.

2. Normative Approach:

Normative Approach includes two aspects, i.e., what to do and how to do it. For example what an industrial undertaking should do in order to take good decisions.

It is the normative micro-economics which is most useful to plants and industrial undertakings. In other words, normative micro-economics will tell how to take business decisions so as to reach preset objectives and policies. At micro-economic level, on the basis of recent thinking's, managerial economics, now helps decision-taking in plant management. Managerial economics maybe defined as management's application of economic principles in the decision-making process.

In a plant or industrial undertaking it may be required to take decisions on the following goals or objectives:

(1) The Inventory Goal:

The main aim is to have optimum inventory at all times. Large inventory will tie up a big working capital, whereas less inventory will involve hazards of running out of stock. The inventory level is decided by striking a balance between the cost of running out of stock and the cost of holding stock. Besides inventory group, other sections connected with such a decision are sales, production and finance.

(2) The Production Goal:

It involves decisions on setting the level of output, low production costs, and maintenance of a stable work force.

(3) The Market Goals:

They are considered while taking decisions on sales strategy, i.e., when, deciding a level (amount) of sales and the (market) share of a particular concern in the total market sale.

(4) The Profit Goal:

In simple words profit may be defined as the revenue that is left over after all costs are subtracted. Profit is actually a measure of performance and an excellent indicator of the general efficiency of a plant or industrial undertaking. The decision involved in profit goal is the determination of the aspiration level of the concern with regard to profits. Taking from shareholders to the workers everybody is interested to maximize the profits.

There is continuous search process to optimize all the goals described above and solve problems connected with them (if they arise). A decision taken with regard to one goal will naturally affect the other goal/goals.

The following concepts of economics play a major role in decision-making:

(1) Demand:

It is a schedule which shows the amount or number of goods that would be sold at various prices in a pre-decided place and on a preset date. Demand describes the relationship between prices and quantities. The demand of a particular item can be estimated from the income and tastes of consumers, prices of similar items in the market and the market characteristics.

(2) Types of Market:

There can be the following five types of markets:

- (i) A monopolist seller and a monopolist buyer,
- (ii) A monopolist buyer and a group of oligopolist sellers,
- (iii) A monopolist seller and a group of oligopolist buyers,
- (iv) A group of oligopolist buyers and another group of oligopolist sellers, and
- (v) A monopolist or a group of oligopolists as buyers and a monopolistically competitive industry as seller.

A monopolist (selling) firm is one which has no close substitutes for its products. For example, a large chemical concern may have its monopoly over a few specific chemicals or drugs. Monopoly means only one producer whereas oligopoly means a small number of producers. Oligopoly involves much less impersonal competition as compared to that in monopoly and thus a price reduction by one producer will exercise a significant effect on the market share of one or more of the other producers or sellers.

(3) Costs:

Cost implies various elements of expenses incurred in different plant activities like production, distribution, etc. The various costs in business decisions are implicit or explicit costs, fixed or variable costs, book costs or out of pocket costs, long run or short run costs, controllable or non- controllable costs, incremental or sunk costs, etc.

(4) Discounted Cash Flow:

Money is invested on a plant or industrial unit in the present with a hope to get profits in future. The sum of money invested today and that received afterwards in future cannot be taken at their face values. The money after two years is not worth the same as money today. The buying power of the money changes with time. Such problems can be handled with the use of discounted cash flow techniques.

(5) Probability and Expected Value:

Concepts of probability and statistical theory are used to take decisions under uncertainty. Uncertainty means that there is a chance that some of the events may or may not occur at all or they may not occur as thought of. Under such conditions the likelihood of occurrences of those events can be presented in the form of probabilities. In actual business decision problems uncertainty plays a significant role.

The various business problems on which a plant or industrial unit has to take decisions are as follows:

(i) Resource Allocation Problems:

Such problems involve loading, routing and scheduling of men, materials and machines. Allocation problems also include transportation problems which are solved by using Linear Programming methods.

(ii) Queuing Problems:

Such problems occur wherever a queue forms. For example, a plant manager may have to decide about the additional powered trucks (material handling equipment) required (to be purchased) so that the in-process inventory, waiting to be shifted from one work station to another is neither too small nor too large.

(iii) Inventory Problems:

The decision required on inventory problems is as regards the optimum level of stocks of raw inventories or finished products (for an industrial unit) to hold at a time.

(iv) Pricing Problems:

The plant or industrial unit has to decide the selling price of the products and the amount which it has to pay for materials and labour. Pricing problems are also associated with allocation, marketing, inventory and queuing problems.

(v) Investment Problems:

Investment problems involve decisions such as the amount of money to be spent on a new plant building and machinery, or to decide even the source from where to collect funds, etc.