

CHAPTER 1

INTRODUCTION

Introduction

Pharmaceutical Administration is not a new subject; it is basically the application of administration theory and techniques to pharmaceutical industry. Pharma industry is normally divided into two main activities like:

1. Technical or plant activities, and
2. Commercial activities, which mainly involve marketing, purchase, finance and legal aspects like compliance to company's act etc.

The scope of this book extends to only the first part, that is, Technical or plant administration.

Let us first try to understand the title of the book i.e. "Pharmaceutical Plant Administration". **Pharmaceutical means** related to medicinal drugs i.e. a manufactured medical product or drug. **Administration** means running of an organisation, business or system. Plant refers to factory and related activities of factory.

If we agree the basic meaning of these three words, then we can say for our practical purpose that pharmaceutical plant administration means "running of a pharmaceutical manufacturing unit" and that exactly is the scope of our study in this book.

One other word "Management" though not exactly synonymous to administration, are very closely related and sometimes used interchangeably. Administration means action of managing and management means successfully doing some activity.

The word "Management" can further be defined as, 'the process of designing and maintaining an environment in which the individuals working together as groups, efficiently accomplish selected aims.

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The basic functions of management, as defined in the management literature and widely accepted by academicians and managers are:

- Planning
- Organising
- Staffing
- Leading and
- Controlling

We are going to discuss all of this in more detail in the chapters that follow. All the efforts in this book are directed towards making a budding pharmacist know the basic concepts of management and how they can be applied in the pharmaceutical industry while working as an industrial pharmacist.

An industrial pharmacist plays roles starting from, an officer or supervisor in a plant to the levels of Vice president or President of technical operations. As the levels vary, the nature of his or her work will also vary, but the basic underlying principals will remain the same.

The function of management is essential to any organisation, small or big, pharmaceutical or any other industry. Managers are responsible for taking actions that will make it possible for individuals to make their best contributions to the group activities.

Now let us quickly look at the main functions of management. As we have already said that the management has five main functions namely,

- Planning
- Organising
- Staffing
- Leading
- Controlling (and also co-ordinating)

Let us see what the functions actually are. Each of these functions, however, will be discussed in detail in the chapters to come.

- 1. Planning:** Planning involves selecting missions and objectives, and the needed actions to achieve them. It involves decision making i.e. selecting the most appropriate future course of action from among all the available alternatives.
- 2. Organising:** It is the part of management function that involves developing and establishing a desired structure of roles for people in the organisation. The main purpose of the organisation structure

is to help in creating an appropriate environment for human performance.

3. **Staffing:** It involves, identifying the work force requirement at every level in the organisation, selecting suitable people, recruiting them, placing them in the right department, appraising their performance, promoting the right people, design and implement career plans, compensating, training and developing the existing and newly joined people to accomplish their duties effectively and efficiently.
4. **Leading:** It involves influencing people in the organisation to do their jobs effectively so that they contribute to personal and organisational group goals. This involves creating work environment by mainly dealing with interpersonal aspects of management. Leading involves motivation, leadership styles and approaches and communication.
5. **Controlling:** This deals with the measuring and correcting activities of subordinates to ensure that events conform to plans. It measures performance against goals and plans and shows where negative deviations exist, and, by putting in motion, actions to correct the identified deviations.
6. **Co-ordinating:** To co-ordinate means to ensure that sections, departments and divisions co-operate in the achievement of the organisations objectives. The objectives of every section and of every employee should contribute to the goals of the organisation.

Except staffing, practically every managerial function is required to be performed at every level (hierarchy) of management and for carrying out these functions at every level requires certain skills and each of these skills are required in different quantum at each level.

Let us see what these skills are and what is the quantum of each required at each skill and at each hierarchical level in management.

1. **Technical skill:** It is the knowledge and proficiency in activities involving methods, processes and procedures. This means it involves working with tools and specific techniques. For example:
At operators level:
 - Fixing of dies and punches of a tableting machine
 - Setting of flames of an ampoule filling and sealing machine
 - Operating an autoclave
 - Running a capsule filling machine

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At supervisors level

- Preparing a weekly production plan
- Ordering batch wise raw and packaging materials from the stores

At managerial level

- Preparing a monthly production performance report

2. Human skills: It is the ability to work with the people. It is a co-operative effort, a team work. It is creating a work environment, in which people contribute their best without being forced and feel secure and free to express their views.

3. Conceptual skills: It is the ability to see an “overall picture”, to recognise important elements in a situation and to understand the relationship among the elements.

This involves looking at the present event in its future potential; and also an ability to analyse the situation to find out the impact of such situation in future course.

4. Design skills: It is an ability to solve the faced problems or issues in ways that will benefit the organisation. Managers are not only expected to see the problem but to find out workable solutions for solving the problems and works on that i.e. execute the solutions.

These four skills are needed in different quantum at various hierarchical levels. A very rough estimate may be given as follows.

Skills → Management level ↓	Technical skill	Human skill	Conceptual skill	Design skill
Top level	15	40	40	5
Middle level	30	40	25	5
First level	45	40	15	0

If we look at various managerial functions in a similar fashion, a rough estimate can be given in the following way:

Functions → Levels ↓	Planning	Organising	Leading	Controlling
Top level	28	40	12	20
Middle level	16	36	36	12
First level	12	16	66	6

With the help of all these functions, skills, levels of hierarchy in the organisation, the managers try to achieve the organisational goals. What is that goal then?

In the simplest possible terms the manager's **goal** is to “**achieve highest possible desired objective using lowest possible resources**”.

In connection with the management theory some terms are used by the practicing managers as well as academicians. It will not be out of place to know them.

1. **Productivity:** “productivity may be defined as the ratio of output to input, within a time period with due consideration to quality”. It can be expressed by the following equation:

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

(Within a time period and with due consideration to quality)

Here the inputs can be labour, material, capital, etc. Percentage productivity can be expressed by multiplying the above ratio by 100. i.e.

$$\% \text{ Productivity} = \frac{\text{Output}}{\text{Input}} \times 100$$

2. **Effectiveness:** Effectiveness is the achievement of objective.
3. **Efficiency:** Efficiency is the achievement of objectives with the least amount of resources. Managers are required to be effective and efficient.

Now let us look at one often debated issue. The issue is “What is management, an art or a science?”

The answer is both difficult and simple. But in the simplest form we can say that “**Practising management is an ‘Art’, the organised knowledge underlying the practice is a ‘Science’**”.

Here we would like to give you some basic elements of science which will prove management is a science,

- (i) Science is organised knowledge
- (ii) Science comprises of clear concepts, theories and accumulated knowledge developed from hypothesis, experimentation and analysis.

With this basic introduction, I think we can go ahead with the main subject matter of administration/management, as it is used in pharmaceutical plant administration.