



Learning Objectives

After the completion of this lesson, students will be able to:

- ◆ know the general characteristics of algae.
- ◆ classify the types of algae based on the pigmentation.
- ◆ know about the salient features, mode of nutrition, classification and the uses of fungi.
- ◆ differentiate bryophytes from pteridophytes.
- ◆ list out the importance of medicinal plants and their uses.
- ◆ understand the classes of angiosperms and their characteristics.
- ◆ tabulate Bentham and Hooker's classification of seeded plants.



Introduction

The living organisms found on the earth differ in their structures, habit, habitat, mode of nutrition and physiology. The estimated number of plant species on the earth is 8.7 million (1 million = 10 lakhs). Among them 6.5 million species are living on land and 2.2 million species are living in the ocean. Out of them 4,00,000 species are flowering plants. The living organisms show lot of similarities and differences so that they can be arranged into many groups systematically. In traditional system of classification, plant kingdom is divided into two sub-kingdoms called non flowering plants (Cryptogams) and flowering plants (Phanerogams). Thalophyta, bryophyta and pteridophyt are non flowering plants. In this lesson, we will study about algae, fungi, bryophytes, pteridophytes and classification of plants.

17.1 Algae

Algae is a latin word (Algae - Sea weeds). They are chlorophyll bearing, simple and primitive plants. These plants are autotrophs. Algae belongs to thallophyta and the plant body

of algae is called thallus. i.e. the plant body is not differentiated into root, stem and leaf.

Most of the algae are living in aquatic region. It may be fresh water or marine water. Very few algae can survive in wet soil. Some algae are very minute and float on the surface of the water. These algae are called **phytoplankton**. Some of the algae are symbionts (Algae living with fungi and they both are mutually benefitted). E.g. Lichen. A few species of algae are epiphytes. The branch of study of algae is called phycology or algology. Algae reproduces by three methods. They are:

- Vegetative reproduction takes place by fragmentation. E.g. *Spirogyra*.
- Asexual reproduction takes place by spore formation. E.g. *Chlamydomonos*.
- Sexual reproduction takes place by means of fusion of gametes. E.g. *Spirogyra*, *Chara*.

17.1.1 Clarification of Algae

Algae are classified into different classes based on the pigments. They are given in Table 17.1.