

Chapter

1



UNIT VI: Reproduction in Plants

Asexual and Sexual Reproduction in Plants



Learning Objectives

The learner will be able to

- ❖ Recall various types of reproduction in lower and higher organisms.
- ❖ Discuss different methods of vegetative reproduction in plants.
- ❖ Recognise modern methods of reproduction.
- ❖ Recall the parts of a flower.
- ❖ Describe the steps involved in microsporogenesis.
- ❖ Recognise the structure of mature anther.
- ❖ Describe the structure and types of ovules.
- ❖ Explain the stages in megasporogenesis.
- ❖ Discuss the structure of embryo sac.
- ❖ Recognise different types of pollination.
- ❖ Identify the types of endosperms.
- ❖ Describe the development of Dicot embryo.
- ❖ Differentiate the structure of Dicot and Monocot seed.



Chapter outline

- 1.1 Asexual reproduction
- 1.2 Vegetative reproduction
- 1.3 Sexual Reproduction
- 1.4 Pre-fertilization structure and events
- 1.5 Fertilization
- 1.6 Post fertilization structure and events
- 1.7 Apomixis
- 1.8 Polyembryony
- 1.9 Parthenocarpy



One of the essential features of all living things on the earth is reproduction. Reproduction is a vital process for the existence of a species and it also brings suitable changes through variation in the offsprings for their survival on earth. Plant reproduction is important not only for its own survival but also for the continuation and existence of all other organisms since the latter directly or indirectly depend on plants. Reproduction also plays an important role in evolution.

In this unit let us learn in detail about reproduction in plants.

Panchanan Maheswari (1904-1966)

Professor P. Maheswari was an eminent Botanist who specialised in plant embryology, morphology and anatomy. In 1934, he became the Fellow of Indian Academy of Science. He published the book titled “An introduction to the Embryology of Angiosperms” in 1950. He established the International Society for Plant Morphologists, in 1951.



Basically reproduction occurring in organisms fall under two major categories

1. Asexual reproduction
2. Sexual reproduction.

1.1 Asexual Reproduction

The reproduction method which helps to perpetuate its own species without the involvement of gametes is referred to as asexual reproduction. From Unit I of Class XI we know that reproduction is one of the attributes of living things and the different types of