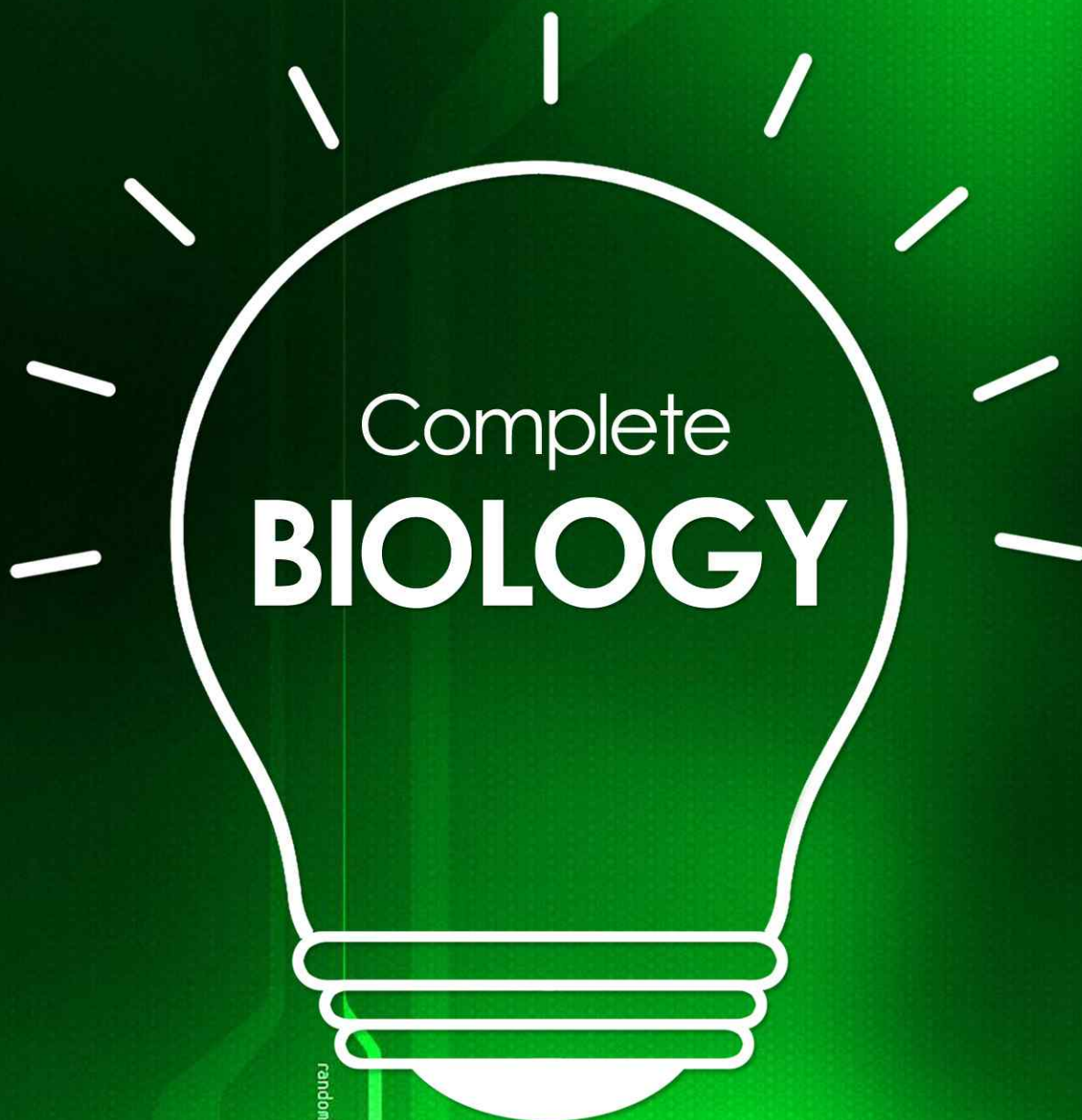




NEET · CBSE eBOOKS

CLASS 11 & 12th



Learning Inquiry
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CLASS 12th

Sexual Reproduction in Plants

misostudy



01. Introduction

The process of reproduction take place in this plant through a special structure, called **flower**. **Calyx**, **Corolla**, **Androecium** and **Gynoecium** are present in the **typical** or **complete** flower. The **Calyx** and **corolla** are termed **accessory whorls** of the flower. Because these structures do not participate in the process of reproduction, only helps. The **androecium** and **gynoecium** are known as **essential whorls**, because they are directly related with the reproduction.

Monocarpic plants:

The plants in which **flowering** and **fruiting** take place **many times** in the entire life cycle are known as **polycarpic** e.g **Perennial plant**.

02. Reproduction in Flowering Plants [Embryology]

All the reproductive methods of plants are broadly categorized into **two type-**

- Sexual Reproduction
- Asexual Reproduction.

03. Sexual Reproduction

In **Angiosperm** **male** and **female gametes** are formed in male and female sex organs by the process of **meiosis**.

Both the gametes fuse together to form a **diploid zygote** which gives rise **embryo**. In means the process in which embryo is formed by **meiosis** and **fertilization** is called **Amphimixis**.

04. Male Reproductive Organ – Androecium

Male reproductive organ is called **androecium** and their unit is called **stamen**. Stamen is also known as **microsporophyll**.

A typical stamen is differentiates into there parts.—a long. thin structure is called **filament** which joins the stamen to the thalamus.

The free end of the filament, a swollen spore bearing structure is called **anther**

Another and filament are attached together with help of small region, called **connective**.

Connective contains **vascular tissues**. The main parts of the stamen is the **anther**.

Each **anther** generally **bilobed structure** i.e. anther has two **anther lobes**.

Each **lobe** of anther has **two chambers (Dithecous)** which are called **pollen sacs** or **microsporangia** or **pollen chambers**.

Therefore, a typical anther has four pollen sacs is called **tetrasporangiate**.

Pollen grains are formed inside the pollen sac through the **meiotic division** of **pollen mother cells**.

The development of **anther** in origin in **Eusporangiate** type i.e. It is developed from more than one archesporial cells.

The following structures are present in the anther:-

- **Epidermis:-**
It is the outermost layer of anther. It is **single celled thick** and continuous layer
- **Endothecium:-**
- This layer is present below the epidermis. it is **single celled thick** layer.
- **Middle layer:-**
Middle layer is consist of parenchymatous cells. This layer is **one to three celled thick structure**.
- **Tapetum:-** It is the inner most layer which acts as **nutritive layer**. It is known as **tapetum**. Pollen sacs surrounded by tapetum. This is also **single celled thick layer**.
- **Pollen sacs:** Four Pollen sacs are present in the anther. Pollen sacs are also known as **microsporangia**. Inside the pollen sacs, **microspores** are formed by the **meiotic division** of **microspore mother cells**.

05. Microsporogenesis :

