

Sexual Reproduction in Plants

1. What is pollination?

- The transfer of pollen grains from anther to stigma of the gynoecium is called pollination.

2. What is fertilization?

The fusion of male and female gametes is called fertilization.

3. What is thalamus ?

- The upper swollen part of the pedicel is called thalamus.

4. Describe flower and its parts ?

- There are Four parts in flower. They are

1. Sepals (calyx)
2. Petals(corolla)
3. Androecium
4. Gynoecium

Sepals (calyx):

Sepals are green in colour. It is the first whorl of the flower. sepals given protection to the flower.

Petals (corolla):

It is the second whorl of the flower these are usually bright in colour (red,yellow) which helps to attract insects for cross pollination.

Androecium:

It is third whorl of the flower. It is consist of stamens. each stamens . is consist of two parts called anther and filament. Another consist of pollen grains which are formed by pollen mother cells.

Gynoecium:

It is fourth whorl of the flower. it is also known as pistil. It consist of three parts called stigma, style and ovary. Inside the ovary, future seeds known as ovules are present

5. Describe the structure of ovule or explain how female gametes are formed?

1. Ovule is a female gametes that develops from a cushion like part of the ovary called placenta.
2. Ovule is connected to the placenta through stalk like structure called funicle.
4. The tissue enclosed inside the ovule is called nucellus.
5. Ovule is covered with layer called integument, they are outer integuments, and inner integuments,.
6. Two integuments, leave a small pore known as micropile.
7. Basal part of ovule where two integuments, arise is known as "chalaza"
8. From the cells of the Nucellus one cell differentiates as megaspore mother cell which is diploid.

9. The megaspore mother cell divides by meiosis to from four megaspores out of which only are develops as embryo sac. This is haploid and also called female 'gametophyte'.

10. Inside the ovule the megaspore cell divides mitotically three times and from '8' nucleus which will be total '7' cells arranged in three groups in mature embryo sac.

11. They are 'one' Egg(female gamete)" two " synergids one central cell called secondary nucleus and 'three' antipodals. While all the cells are in haploid conditions ('n') only the secondary nucleus is diploid ('2n').

Fill in the blanks

1. Floral structure arise on a swollen part of pedicel known as _____
2. The '3n' nucleus is formed from fusion of _____ nucleus with male nucleus inside embryo sac.
3. Root part is represented in mature embryo by _____
4. The first diploid condition in embryo sac after fertilization is seen in _____
5. Carpels are present in _____
6. The diploid cell inside the nucleus that undergo meiosis to given rise to embryo sac is known as _____
7. The flower with stalk is called _____
8. The flower without stalk is called _____
9. The study of pollen grains are called _____
10. Gynoecium is also known as _____
11. The cushion like pad present in the ovule is called _____
12. Stamen is consist of _____and _____
13. Synergids is also known as _____helper cells
14. Pollen tube have _____nuclei
15. Endosperm is _____ in state

ANSWER

1. Thalamus
2. Secondary
3. Radicle
4. Zygote
5. Pistil /gynoecium
6. Mega spore mother cell
7. Sessile flower
8. Pedicellate flower
9. Palynology
10. Pistil
11. Placenta
12. Anther and filament
13. Helper
14. Two male
15. "3n" triploid