



Class - VII November month Class Work Notes

12. Reproduction in Plants

Technical Words:

1. Spore - a microscopic and unicellular structure that helps in reproduction
2. Pistil - the female reproductive organ of a flower
3. Stamen - the male reproductive organ of a flower
4. Anther - the swollen tip of stamen that contains the pollen grains
5. Pollen male reproductive structures formed inside the stamen
6. Gamete a reproductive cell

A. Answer the question.

Short answer question

1. Define fertilisation.

[Answer] Fertilisation is the process in which the male and female gametes (pollen and ovule) fuse, leading to the formation of a zygote, which develops into a seed.

2. What is a gamete?

[Answer] A gamete is a reproductive cell in plants. The male gamete and the female gamete fuse during fertilisation to form a zygote.

3. Give two examples of plants that can reproduce with the help of stem.

[Answer] Potato and ginger are examples of plants that can reproduce with the help of stem.

4. What is pollination?

[Answer] Pollination is the transfer of pollen from the male reproductive organ (anther) to the female reproductive organ (stigma) in flowers, facilitating fertilisation.

5. What changes are observed in a flower after fertilisation?

[Answer] After fertilisation, several changes take place in the flower.
(i) The petals, sepals and stamen dry up and fall off. (ii) The wall of the

ovary becomes thick and fleshy to form the fruit. In some plants like the pea, the ovary hardens to form the pod. (iii) The ovules become the seeds. (iv) The wall of the ovules becomes seed coat. (v) The zygote inside the ovule grows by cell division and becomes the embryo.

6. What are the modes of asexual reproduction in plants? Briefly explain any one.

[Answer] There are several methods of asexual reproduction in plants, such as spore formation and vegetative propagation. Vegetative propagation: (i) In layering, a stem or a branch growing close to the ground is bent to the ground. A small part of the stem is buried in soil so that roots develop there. Plants like grapes and jasmine are propagated this way. This method of propagation occurs naturally too. (ii) In cutting, a small portion of a stem/root/leaf from a healthy plant, called cutting, is placed in moist soil. The stem cutting should have one or more nodes in order to propagate. After some time, the cutting develops roots at the base and grows into a new plant. This method is used to grow plants such as sugarcane, rose, bougainvillea, Begonia and so on. (Any one)

Long answer question

1. With a help of labelled diagram describe the process of fertilisation in flowering plants.

[Answer] The pollen grains contain the male gametes (cells). The ovules contain the female gametes (egg cells). The ovules are inside the ovary. A number of events take place during fertilisation in plants. (i) Once pollen falls on the stigma of a same kind of plant, the pollen grain starts germinating. (ii) It begins to grow a tube which grows down through the style and the ovary till it reaches the ovule. (iii) This tube, called the pollen tube, carries the male gamete and enters the ovule. (iv) The male gamete fuses with the female gamete to form a single cell called a zygote. This completes the process of fertilisation in plants (flowers). (Diagram: Refer to the textbook.)

2. What are the advantages of vegetative propagation?

[Answer] The advantages of vegetative propagation are:
(i) A single organism can produce on its own. Since only one plant is required, pollination is not needed. (ii) It helps in preservation of characters of the plants through successive generation. (iii) Seedless plants can be grown through vegetative reproduction. (iv) Through cutting and grafting methods, flowers and fruits can be grown in a shorter time. (v) Sometimes seeds fail to germinate due to unfavourable conditions. Plants that grow from vegetative parts have better chances of survival. (vi) Plants that do not have viable seeds like rose, jasmine, banana can be grown by this method (vii) It is cheaper, easier and more rapid method of plant propagation

3. Describe the various ways of seed dispersal with suitable examples.

[Answer] Seed dispersal is done through various agents such as wind, water and animals and also through explosion.

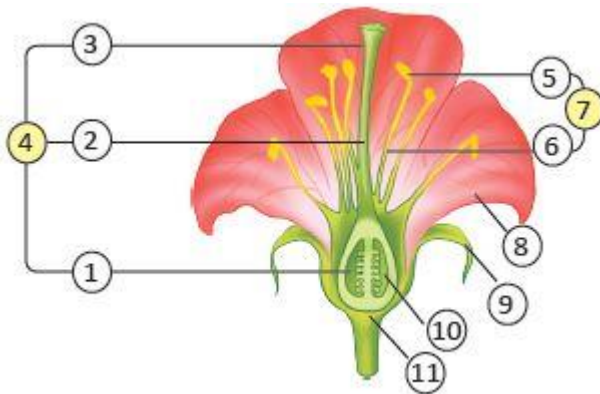
Wind: During wind dispersal, seeds are carried by the wind. Such seeds are light in weight and have hair (wing- or thread-like structures) to help the wind carry them to far distances. For example, Dandelion seeds have a parachute-like structure that allows them to be carried by the wind over long distances.

Water: Plants such as the coconut have seeds which are covered by husks. Such seeds are light and float on water and are transported to distant places. Similarly, the seed pods of the lotus are spongy (have trapped air) allowing them to float on water.

Animals: When animals, including humans, eat fruits, the seeds remain undigested and pass out through the faeces. These seeds under suitable conditions germinate in the soil. Certain seeds have hooks or spines that get attached to the body of the animals and get carried off to faraway places. For example, burrs attach to animal fur. For example, Xanthium

Explosion: Some plants have pods that burst open with force when they mature. This releases the seeds to some distance away from the parent plant. For example, the seeds of the castor plant.

B. Picture-based question.



Look at the diagram of the flower and answer the following questions.

1. Name the numbered parts of the flower.

[Answer] refer to the textbook.

2. Removal of which part of a wind-pollinated flower will not affect the reproduction process?

[Answer] petals

1.Assertion: Seeds are produced in plants as a result of sexual reproduction.
Reason: Seeds are not produced in potato and sugarcane.

Ans: option B

2.Assertion - Vegetative propagation is the method of asexual reproduction in plants.

Reason- In vegetative propagation new plants are produced from different vegetative parts such as leaves, stems and roots.

Ans: option A