

Chapter 12: Reproduction in Plants

A. Tick (✓) the correct options.

1. (b) 2. (d) 3. (d) 4. (a) 5. (c) 6. (d)
7. (a) 8. (d) 9. (a)

B. Match the following.

1. (e) 2. (a) 3. (d) 4. (c) 5. (b)

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C. Fill in the blanks.

1. asexual 2. sporangiphore 3. seeds 4. tuber
5. anther 6. wind

D. Very Short Answer Questions.

1. Stamen 2. Pistil 3. Wind, water, animals
4. balsam, castor 5. *Spirogyra*, yeast
6. Self pollination and cross pollination

E. Short Answer Type-I Questions.

- The transfer of pollen grains from the anther to the stigma of a flower is called pollination.
- (a) **By insects** : bees, butterflies
(b) **By wind** : corn, sugar cane
(c) **By water** : *Hydrilla*, *Vallisneria*
- The process in which a seed begins to grow into a baby plant when right conditions are available is called germination of seeds.
- The fusion of male gamete with the female gamete to produce zygote is called fertilisation.
- They have long and sticky feathery stigma to easily trap the pollen grains.
- Under favourable conditions, a spore germinates and develops into a new individual.
- Insects are attracted by the colour and odour of the flower. The flower are brightly coloured and scented. Some flowers also contain nectar to attract insects.
- When *Spirogyra* matures, it breaks up into two (or more) fragments. Each fragment then grows and forms new *Spirogyra*.
- The flowers of cucumber contain only one organ for reproduction, either only the pistil or the stamen. So, it has unisexual flowers. The flowers of rose contains both reproductive organs, pistil as well as stamen. So, it has bisexual flowers.

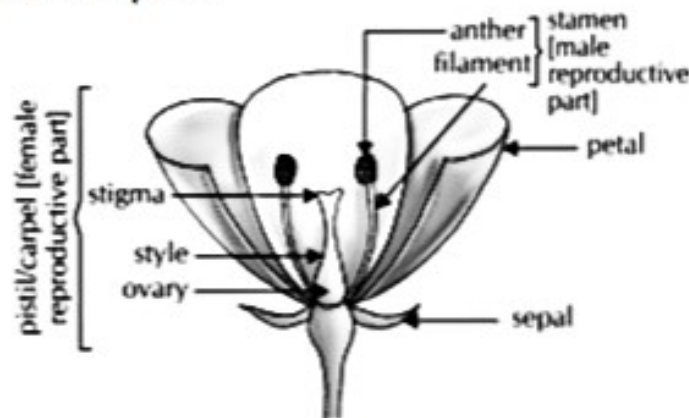
F. Short Answer Type-II Questions.

- Seed dispersal provides following benefits to plants:
 - It prevents overcrowding of plants in an area.
 - It prevents the competition for water, minerals and sunlight among the same kind of plants.
 - It help the plants to grow in new areas.
- (a) The greenish-black patches found on bread are called bread mould. They reproduce through spores.
(b) Hygiene and kindness.
- After fertilisation, following changes occurs:
 - The ovary of the flower swells and develops to form the fruit.

- (ii) The ovules present in an ovary grow to become seeds. Seed contains embryo and one or two cotyledons which store food.
4. The plants produced from asexual reproduction are identical to their parents because in asexual reproduction, only one parent is involved. There is no gametes formation and plants are obtained without the production of seeds.

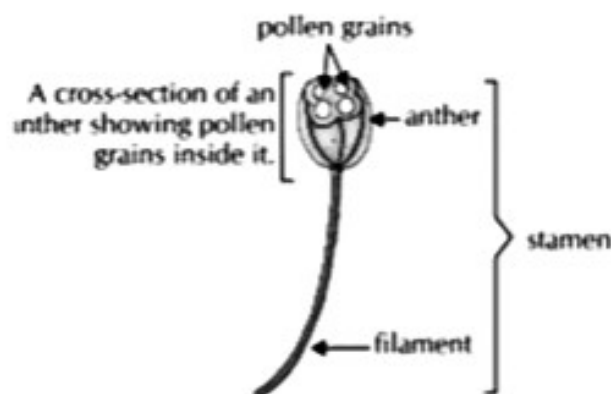
G. Long Answer Questions.

1. **FLOWER:** The plants that have flowers are called flowering plants. Sexual reproduction is a characteristic of flowering plants. Flowers are the reproductive organs of the plant. The reproductive organs of a flower are: 1. stamen and 2. pistil.



Parts of a flower

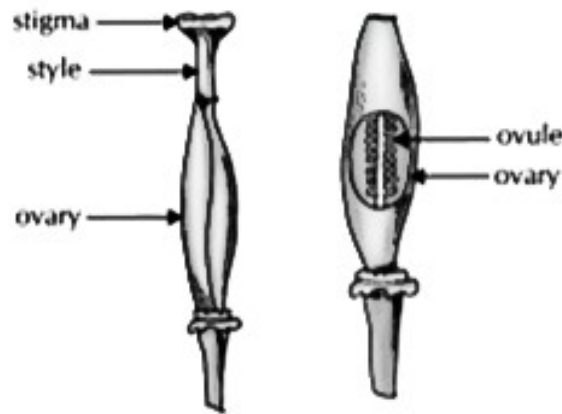
- (i) **Stamen:** Stamen is the male reproductive organ of the plant. It has two parts: an anther and a filament. The swollen top of stamen is called anther and the stalk of stamen is called filament. Anther contains the pollen grains. Pollen grains contain the male gametes. Pollen grains appear to be yellow powder.



Stamen : male reproductive organ of a plant

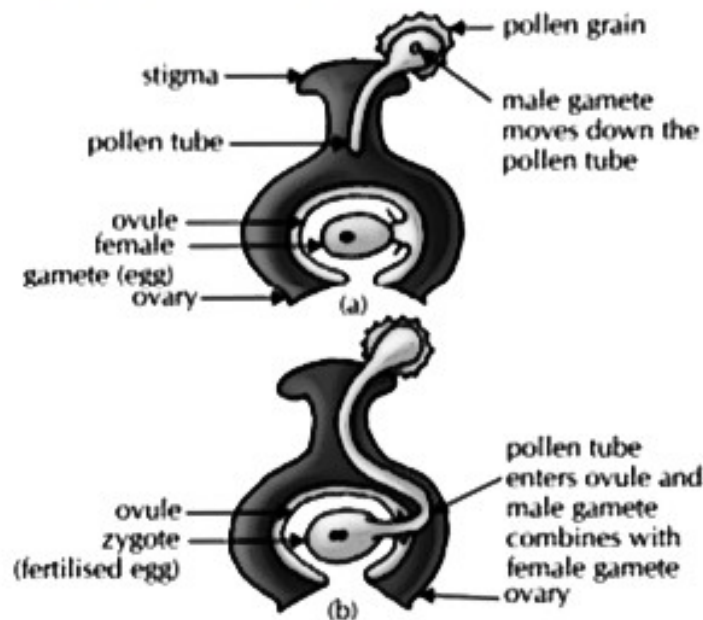
- (ii) **Pistil:** Pistil is the female reproductive organ of the plant. It is made of three parts: stigma, style and ovary. The top sticky part of a pistil is called stigma. The middle part of the pistil is called style. It is a tube which connects stigma to the ovary. The swollen part at the bottom of a pistil is called ovary. The ovary contains ovules. Ovules produce female

gametes. Each ovule contains only one female gamete, called egg.



Pistil : female reproductive organ of a plant

2. When a pollen grain falls on the stigma of a flower, it grows as a thin pollen tube which moves downwards.



Fertilisation in a flower

This pollen tube penetrates the stigma, passes through the style and enters into the ovule. The male gamete moved down to the ovule through the pollen tube. The tip of the pollen tube bursts open and male gamete comes out of the pollen tube. The male gamete fuses with the female gamete present in the ovule to form a fertilised egg called zygote.

3. Differences between asexual and sexual reproduction

S.No.	Parameters	Asexual reproduction	Sexual reproduction
1.	Involvement of parent	Only one parent is involved.	Both parents, the male and female are involved.

2.	Involvement of gametes	No gametes are involved.	Gametes are involved.
3.	Production of seeds	Plants are obtained without the production of seeds.	Plants are obtained from existing parents through seeds.
4.	Identical	New born plants are exactly identical to the parent plant.	New born plants are not identical to the parent plant.