

Name of the student: *Date:*/...../.....

Pollination

Pollination is the transfer of pollen grains from the **anther**, which is the male part of the flower, to the **stigma**, which is on the female part of the flower.

- **Pollination** is of two types, such as—1) Self-pollination and 2) Cross-pollination.

Q. Which part of flower helps in pollination and how?

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1) Self-pollination:

The transfer of pollen from the anther of a flower to the stigma of the same flower or sometimes to that of another flower of same plant is called **self-pollination**.

Q. Why is datura self-pollinated?

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Characteristics of self-pollination:

- Wastage of pollen is less.
- Does not depend on a carrier for pollination.
- The occurrence of pollination is ensured.
- The plant that develops in this way cannot make changes in their characters and so the features of a species can be maintained.
- In this way a species can maintain purity.
- No new character appears in the new generation of plants.

- The newly born plants breed seeds with less vigour.
- The ability of adaptation in the new plant gets reduced.

Q. Why can species grown through self-pollination become extinct?

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2) Cross-pollination:

Cross-pollination is the transfer of pollen from the anther of one flower to the stigma of another flower on a different individual of the same species.

Q. Why is cotton tree self-pollinated?

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Characteristics of cross-pollination:

- Wastage of pollen is more.
- Depend on a carrier for pollination.
- The occurrence of pollination may not be ensured.
- The purity of species is impaired.
- New characters emerge through cross-pollination.
- The rate of germination goes up and much more vigorous seeds are produced through this way of pollination.
- The ability of adaptation in the new plant gets increased.

Q. Why is cross-pollination a carrier dependent process?

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Q. Why are new varieties of plants emerged through cross-pollination?

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Q. Write down six differences between self-pollination and cross-pollination.

| Self-pollination | Cross-pollination |
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Medium of pollination:

The carrier, which carries pollen, is called pollen carrier.

- Air, water, insects and flies, birds, vampires, snails and even men may be the media of pollination.

Q. Why does an insects loiter from one flower to another?

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On the basis of pollen carrier, flowers are different types, such as—

1) Anemophilous or wind pollinated flowers

- ✓ light weighted
- ✓ without nectar secreting glands
- ✓ no fragrance is with the flower
- ✓ can easily wander in the air
- ✓ stigmas are branched, sticky and sometimes feathery to attain pollens from the air

Q. Why is paddy anemophilous flower?

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2) Hydrophilous or water pollinated flowers

- ✓ small and light weighted, so that they can float in the water
- ✓ no fragrance is with them
- ✓ the petiole in the female flower is longer than that of male
- ✓ mature male flowers being detached from the petioles float in the water and after coming in contact with the female flowers, they immediately accomplish pollination

3) Entemophilous or insect pollinated flowers:

- ✓ big in size
- ✓ with coloured nectar secreting glands
- ✓ fragrance of wet fluid is very much alluring

4) Zoophilous or animal pollinated flowers

- ✓ usually large in size
- ✓ if small, they are arranged in the inflorescence
- ✓ have attractive colours
- ✓ fragrance may be present or absent

Q. Why is kadam zoophilous flower?

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