

ST THOMAS SCHOOL, DHURWA, RANCHI

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CLASS: V

SUBJECT: SCIENCE

Chapter 4: Pollination (Answers of exercise questions)

1. Choose the correct answer.

- a) i. Pedicel
- b) iii Ovary
- c) ii Pollen grain
- d) ii Petals
- e) i Wind

2. Write True or False.

- a) True
- b) True
- c) False
- d) False
- e) False

3. Give two examples of each.

- a) Gulmohar, Hibiscus
- b) Papaya, Cucumber
- c) Sunflower, Orchids
- d) Rice, Maize
- e) Vallisneria, Hydrilla

4. Short answer questions.

- a) The swollen end of the pedicel is called the thalamus.
- b) The four parts of a flower are – Calyx, Corolla, Androecium and Gynoecium.
- c) The male gametes of flowers are found in the pollen grains while the female gametes are found in the ovules.
- d) Bright colours and fragrance are the two characteristics of insect pollinated flowers.

e) Cross – pollination

Self – pollination

5. Long answer questions.

a) The four whorls of a flower are:

Calyx – This is the first whorl of a flower. It consists of a set of green leaf-like structures called sepals. Sepals protect the flower in the bud stage, and the inner parts of the flower in the later stages. They can also prepare food for the plant.

Corolla – This is the second whorl of a flower. It consists of a set of brightly-coloured, leaf-like structures called petals. Petals give colour and fragrance to the flower and are the most noticeable part of it. They help attract insects towards the flower.

Androecium – This is the third whorl of a flower. It consists of the male reproductive part of the flower, called the stamen. Each stamen is comprised of two parts – filament and anther.

Gynoecium – This is the fourth and the innermost whorl of a flower. It is located at the centre of the flower. It consists of the female reproductive part of the flower called the pistil or carpel. Each pistil is comprised of three parts – stigma, style and ovary.

b) i. Monosexual and bisexual flowers

Monosexual Flowers	Bisexual Flowers
Either male or female reproductive part is present.	Both male and female reproductive parts are present.
They are incomplete flowers.	They are complete flowers.
e.g. papaya, maize	e.g. gulmohar, hibiscus

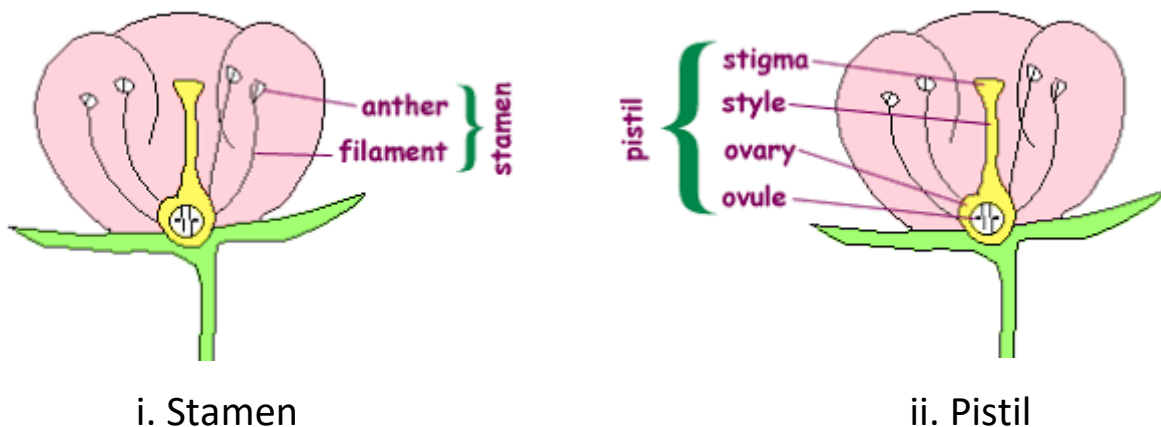
ii. Androecium and gynoecium

Androecium	Gynoecium
It is the third whorl of a flower.	It is the fourth and the innermost whorl of a flower.
It is the male reproductive part of the flower,	It is the female reproductive part of the flower,
It consists of one or more stamens.	It consists of one or more carpels.
Each stamen has two parts - filament and anther.	Each carpel has three parts - stigma, style and ovary.
It produces male gametes.	It produces female gametes.

- c) The transfer of pollen grains from the anther to the stigma of flowers is called pollination.

When a bee visits a flower to collect nectar, the pollen grains from the plant's anther stick onto its legs, wings, mouth parts etc. When the bee visits another flower of the same kind, the pollen grains from its body may fall on the stigma.

d)



- e) The transfer of pollen grains from the anther to the stigma of the same flower or of another flower present on the same plant is called self – pollination. This occurs in plants like the sunflower, orchids, peas etc.
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Practice Paper with Answers

Chapters 4 Pollination

I. Give the technical term for the following.

1. The stalk of a flower

Ans. Pedicel

2. Part of flower that attract insects for pollination

Ans. Petals

3. The modified shoot of a plant that has reproductive parts

Ans. Flower

4. The first and the outermost whorl of a flower

Ans. Calyx

5. The collective name for all carpels, present in a flower

Ans. Gynoecium

II. Fill in the blanks with the appropriate terms.

1. All monosexual flowers are incomplete.

2. Flowers that do not have a stalk are called sessile flowers.

3. Cross-pollination is a more common method of pollination and occurs in most flowering plants.

4. Petals help attract insects towards the flower for pollination.

5. Anther has pollen sacs that produce pollen grains.

III. State whether the following statements are true or false. If false, rewrite the statements by changing the first or the last word.

1. Papaya flowers are bisexual.

Ans. False; Papaya flowers are monosexual.

2. Insects, animals, wind and water are the agents of pollination.

Ans. True

3. The topmost sticky part of the pistil is called the ovary.

Ans. False; The topmost sticky part of the pistil is called the stigma.

4. All the four whorls of a flower are arranged on pedicel.

Ans. False; All the four whorls of a flower are arranged on receptacle.

5. Sepals protect the flower in the bud stage and also prepare food for the plant.

Ans. True

IV. Complete the pairs.

1. Maize : wind :: Hydrilla : water

2. Same plant : Self pollination:: Different plants : Cross pollination

3. Pollen grains : anther :: Ovules : ovary

4. Sepals : calyx :: Petals : Corolla

V. Give two examples for each of the following.

1. Agents of pollination

Ans. (a) Insects (b) Wind

2. Incomplete flowers

Ans. (a) Papaya (b) Cucumber

3. Self pollinated flowers

Ans. (a) Sunflower (b) Orchid

4. Cross pollinated flowers

Ans. (a) Maize (b) Pumpkin

VI. Differentiate between complete and incomplete flowers on the basis of number of whorls present.

Ans.	<u>Complete flowers</u>	<u>Incomplete flowers</u>
	They have all the four whorls of a flower.	They do not have all the four whorls.

VII. Define the terms.

1. Cross pollination:

The transfer of pollen grains from the anther of one flower to the stigma of another flower of the same kind, present on a different plant is called cross pollination.

2. Incomplete flowers

Flower that has one or more whorl missing are called complete flowers.

VIII. Give reasons for the following.

1. Androecium is the male reproductive part of a flower.

Ans. It is because the anther part of the gynoecium has pollen sacs that produce pollen grains. These pollen grains have the male gamete.

2. All monosexual flowers are incomplete.

Ans. It is because monosexual flowers have either the male or the female reproductive part, and so they always lack one or the other whorl.

IX. Draw neat and labelled diagrams of

i. Parts of a flower

ii. Self-pollination

Ans. i. Refer to page no. 58

ii. Refer to page no. 61
