

Chapter 3

REPRODUCTION IN PLANTS

REVIEW EXERCISES

Q.1 Write answers of following questions.

i) **How is reproduction important for living organisms?**

Ans: Reproduction is the process by which living organism produce offspring like themselves reproduction is important for living organisms due to reproduction. They rapid produce (production) of offspring.

ii) **Differentiate between asexual and sexual reproduction.**

Ans: Difference b/w Sexual and Asexual Reproduction

S.No.	Sexual Reproduction	Asexual Reproduction
1.	Usually two parents are involved	Only one parent is involved
2.	Sex cells are involved	No sex cells are involved
3.	Offspring identical to parents	Offspring are not identical to parents
4.	Does not produce large number of offspring	Rapid production of large number of offspring

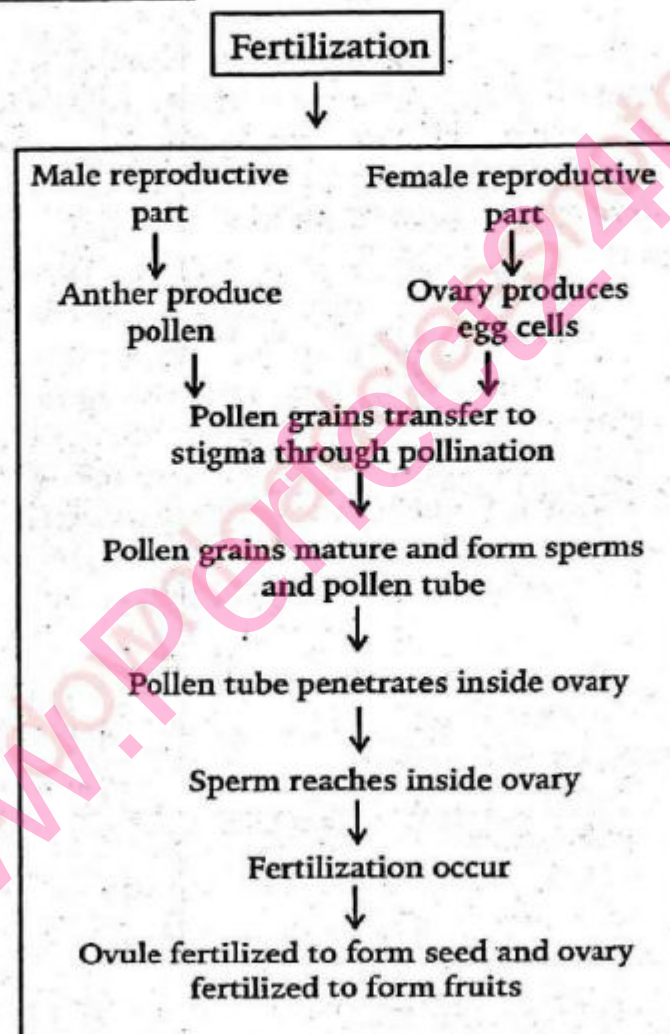
iii) **Give the structure of pollen grains which are pollinated by wind and water.**

Ans: The Structure of Pollen Grains which are Pollinated by Wind

(i) These pollen grains are very small, light, smooth

- and some of them have wings or like parachute structures.
- (ii) The structure of pollen grains which are pollinated by water.
These pollen grains are light and flat so they can easily float on water.
- iv) ***With the help of flow chart discuss the steps involved in fertilization of flower.***

Ans: Flowchart



Steps of Fertilization

Sexual reproduction not only involves transfer of male sex cells to female cell but also involves fusion of these sex cells. The process in which fusion of male and female sex cells occur to develop a new plant is called fertilization. Fertilization is an important process of sexual reproduction.

When pollen grains stick to the stigma of the flower, then these pollen grains converted into sperm sex cells and form pollen tube.

Through pollen tube sperm cells transfer from stigma to ovary. Ovary contains ovules in which egg sex cell is present. Pollen tube opens inside the ovary where sperms fuse with the egg cell and form zygote. Zygote on further development produces fruit and seed.

v) ***Brightly coloured petals attract insect pollinators. How are flowers that do not have brightly coloured petals pollinated?***

Ans: The flowers that do not have brightly coloured petals pollinated by different types of animals like birds, bats, squirrels. Pollen grains stick with their feathers or fur and get transferred to another flower when they move from plant to plants. Fruit plants are mostly pollinated by animals as they eat them and throw their seed to distances.

Q.2 Encircle the most appropriate answer:

i) The process by which living organism increase their numbers is known as:

- (a) Digestion (b) Respiration
(c) Reproduction

ii) The type of reproduction in which two parents of different sexes are involved.

- (a) Asexual reproduction
(b) Sexual reproduction (c) Both

- iii) Zygote forms after the fusion of different:
(a) Embryo (b) Gametes
(c) All the body cells
- iv) Pollen grains are microscopic structure located in:
(a) Anther (b) Pistil (c) Petal

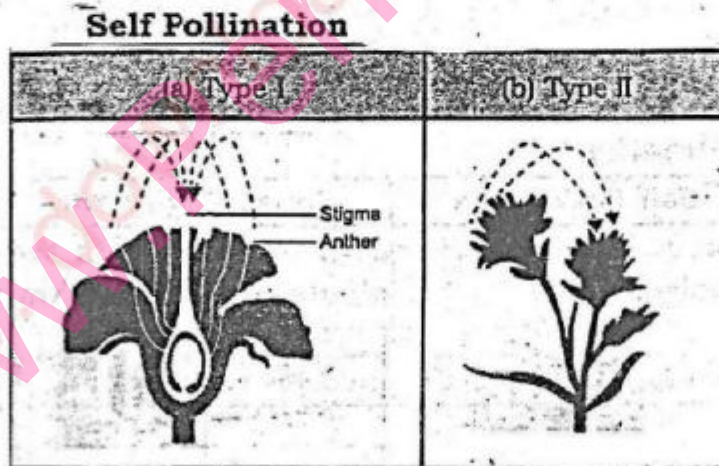
Q.3 Fill in the blanks:

- i) Protective covering on the outside of the flower are usually Petal.
- ii) The Pollengrain produces sperms in flowers.
- iii) The wind, water insects and animals are the agents of cross pollination.
- iv) The female reproductive part of the flower is called Ovary.
- v) The sexual reproduction involves sperm and egg cells.

Q.4 Draw neat, clearly labelled diagrams to show the following processes

- i) **Self pollination and cross pollination**
- ii) **Formation of seed and fruit**

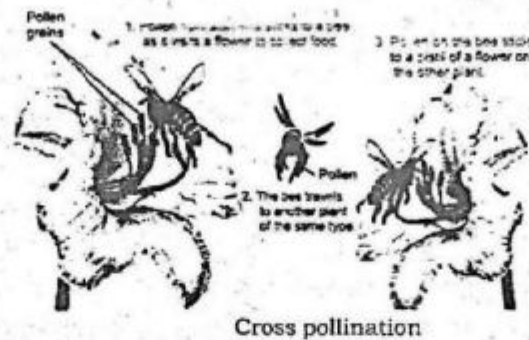
Ans:(i) Self Pollination



Two different methods of Self Pollination

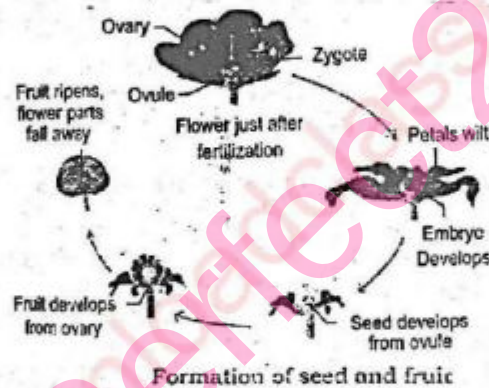
Cross Pollination

Cross Pollination



(ii) Formation of Seed and Fruit

FORMATION OF SEED AND FRUIT



Q.5(i) Differentiate between Self and Cross Pollination .

S.No.	Self Pollination	Cross Pollination
1.	Only one plant is involved.	Two or more than two plants of the same kind are involved.
2.	Involves one flowers.	Involves two flowers.

3.	The stigma and anther mature at the same time as one flower is usually involved.	The anther and stigma of the two flowers mature at the same time or different times.
4.	Does not produce new variety of plant.	Produces new variety of plants.
5.	Does not require any agents to transfer pollen grains as one plant is involved.	Requires agents to transfer pollen grains as two plants are involved.

(ii) **Write the name of agents used for cross pollination and explain any two of them.**

Ans: The name of agents used for cross pollination are following.

- | | |
|------------|-------------------------------|
| 1) Wind | 2) Water |
| 3) Insects | 4) Different types of animals |

Explanation:

1. Wind:

The wind blows and carries pollen grains from anther to stigma. These pollen grains are very small, light, smooth and some of them have wings or parachute like structures. These are produced in large quantity because a lot of them are being wasted. These flowers are called wind pollinated flowers. Flowers of cereal crops are mainly pollinated by wind.

2. Water:

Plants growing near ponds, river or streams are pollinated by water. Their pollen grains are light and flat so they can easily float on water. These flowers are called water pollinated flowers. Mostly coconut growing on river banks are pollinated by water.

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