

**Exercise Questions**

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**1. Fill in the blanks:**

- (a) Production of new individuals from the vegetative part of parent is called \_\_\_\_\_.
- (b) A flower may have either male or female reproductive parts. Such a flower is called \_\_\_\_\_.
- (c) The transfer of pollen grains from the anther to the stigma of the same or of another flower of the same kind is known as \_\_\_\_\_.
- (d) The fusion of male and female gametes is termed as \_\_\_\_\_.
- (e) Seed dispersal takes place by means of \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

**Solution:**

- (a) Production of new individuals from the vegetative part of parent is called vegetative propagation.
- (b) A flower may have either male or female reproductive parts. Such a flower is called unisexual.
- (c) The transfer of pollen grains from the anther to the stigma of the same or of another flower of the same kind is known as Pollination.
- (d) The fusion of male and female gametes is termed as fertilisation.
- (e) Seed dispersal takes place by means of wind, water and animals.

**2. Describe the different methods of asexual reproduction. Give examples.****Solution:**

Asexual modes of reproduction are as follows

Vegetative propagation:

A plant can produce new plants from vegetative parts of the plant like roots, stems.

Budding:

It involves the formation of a new individual from a bulb-like projection called a bud.

Fragmentation:

New organisms are formed from the fragments of the parent body.

Spore formation:

Plants reproduce by the formation of spores.

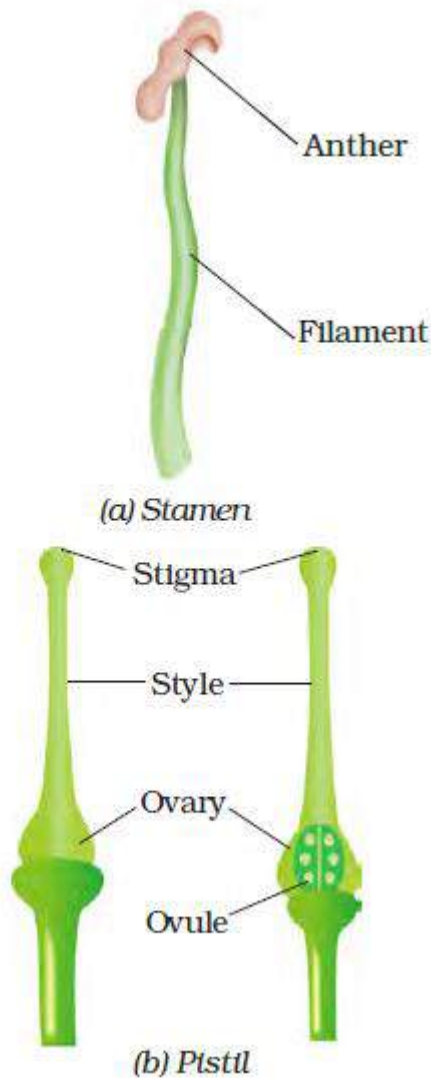
**3. Explain what you understand by sexual reproduction.****Solution:**

Sexual reproduction is a method where male and female gametes fuse to form a new individual. In plants, stamens and pistils are male and female reproductive organs which bear the anthers and ovary respectively.

**4. State the main difference between asexual and sexual reproduction.****Solution:**

<b>Asexual reproduction</b>	<b>Sexual reproduction</b>
It requires only one parents	Requires a male and female parent
Daughter cells formed are identical to parents and to each other.	Newly formed offsprings show variations in comparison to the parents.
Special reproductive organs are not required	Special reproductive organs are required
Ex: Yeast, rose, jasmine	Ex: Insects, animals

**5. Sketch the reproductive parts of a flower.****Solution:**



6. Explain the difference between self-pollination and cross-pollination.

**Solution:**

Self-pollination	Cross-pollination
It involves the transfer of pollen from the stamen to the pistil of the same flower.	It involves the transfer of pollen from the stamen of one flower to the pistil of another flower.
Self-pollination occurs only in bi-sexual flowers	It occurs in both unisexual and bisexual flowers

7. How does the process of fertilisation take place in flowers?

**Solution:**

The process of fusion of male and female gametes (to form a zygote) is called fertilisation. The zygote develops

into an embryo and embryo undergoes mitotic cell division to form seeds.

**8. Describe the various ways by which seeds are dispersed.**

**Solution:**

Seeds and fruits of plants are carried away by wind, water and animals. Winged seeds such as those of drumstick and maple, light seeds of grasses or hairy seeds of aak (Madar) and hairy fruit of sunflower, get blown off with the wind to faraway places. Some seeds are dispersed by water. These fruits or seeds usually develop floating ability in the form of spongy or fibrous outer coat as in coconut. Some seeds are dispersed by animals, especially spiny seeds with hooks which get attached to the bodies of animals and are carried to distant places. Examples are Xanthium and Urena. Some seeds are dispersed when the fruits burst with sudden jerks. The seeds are scattered far from the parent plant. This happens in the case of castor and balsam.

**9. Match items in Column I with those in Column II: Column I Column II**

Column-I	Column-II
(a) Bud	(i) Maple
(b) Eyes	(ii) Spirogyra
(c) Fragmentation	(iii) Yeast
(d) Wings	(iv) Bread mould
(e) Spores	(v) Potato
	(vi) Rose

**Solution:**

Column-I	Column-II
(a) Bud	(iii) Yeast
(b) Eyes	(v) Potato
(c) Fragmentation	(ii) Spirogyra
(d) Wings	(i) Maple
(e) Spores	(iv) Bread mould

**10. Tick the correct answer:**

(a) The reproductive part of a plant is the

(i) leaf (ii) stem (iii) root (iv) flower

(b) The process of fusion of the male and the female gametes is called

(i) fertilisation (ii) pollination (iii) reproduction (iv) seed formation

(c) Mature ovary forms the

(i) seed (ii) stamen (iii) pistil (iv) fruit

(d) A spore-producing organism is

(i) rose (ii) bread mould (iii) potato (iv) ginger

(e) Bryophyllum can reproduce by its

(i) stem (ii) leaves (iii) roots (iv) flower

**Solution:**

- a) (iv) flower
- b) (i) fertilization
- c) (iv) fruit
- d) (ii) bread mould
- e) (ii) leaves