



DPM CLASSES & COMPUTERS

Special for Math's & Science

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SCIENCE -7 (CH-12- REPRODUCTION IN PLANTS)

○ Question 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 _____.

Answer 1:

- (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.

○ Question 2:

Describe the different methods of asexual reproduction. Give examples.

Answer 2:

The various modes of asexual reproduction in plants are as follows:

- (i) **Vegetative propagation:** It is the ability of a plant to produce new plants from roots, stems, leaves, and buds. Vegetative propagation is divided into two types.
 - Natural vegetative propagation: This type of vegetative propagation occurs easily in nature and involves simple vegetative parts. Potato plant sprouting from an eye is a common example.
 - Artificial vegetative propagation: This type of vegetative propagation is performed manually and generally occurs in laboratory conditions. The formation of a complete plant from a stem cutting of rose is a common example of this method.



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(ii) **Budding:** It involves the formation of a new individual from a bulb-like projection called a bud. The bud grows and gets detached from the parent to form a new individual. It is commonly observed in yeast.

(iii) **Fragmentation:** It is a form of asexual reproduction where a new organism is formed from the fragments of the parent body. It is the only mode of asexual reproduction in *Spirogyra*.

(iv) **Spore formation:** Many non-flowering plants reproduce through spore formation. Spores are tiny cells protected by a thick wall. Fungi such as bread moulds reproduce asexually using this method.

Question 3:

Explain what you understand by sexual reproduction.

Answer 3:

Sexual reproduction is a process which involves production of seeds. It requires two parents. Most plants reproduce sexually with the help of flowers. The main function of a flower is to reproduce and therefore develop new seeds that can grow into new plants.

Question 4:

State the main difference between asexual and sexual reproduction.

Answer 4:

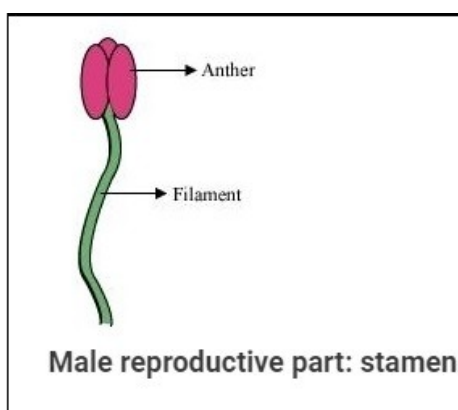
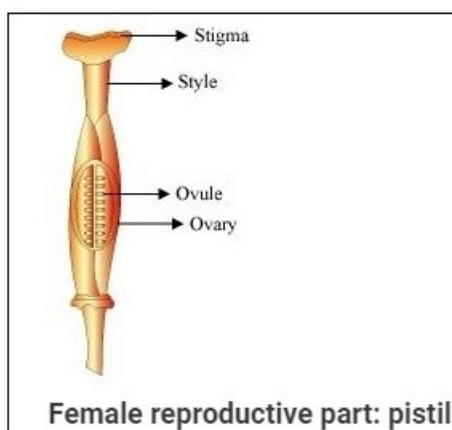
Differences between sexual and asexual reproduction:

Asexual reproduction	Sexual reproduction
It requires only one parent.	It requires two parents.
In asexual reproduction, newly developed plants are identical to the parent and to each other.	In sexual reproduction, newly developed plants are not identical to parents.
Special reproductive parts are not required for asexual reproduction.	Flower is the reproductive part of a plant which contains the sexual organs of a plant. These are important for sexual reproduction.
Examples are yeast, rose, jasmine, potato, etc.	Examples are flowering plants, such as <i>Hibiscus</i> , corn, papaya, etc.

Question 5:

Sketch the reproductive parts of a flower.

Answer 5:



Question 6:

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

Answer 6:

Differences between self-pollination and cross-pollination:

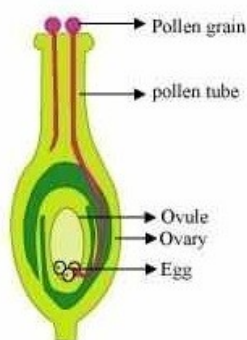
Self-pollination	Cross-pollination
It involves the transfer of pollen from the stamen to the pistil of the same flower.	It involves the transfer of pollen from the stamen of one flower to the pistil of another flower of the same plant or that of a different plant of the same kind.
It occurs only in bisexual flowers.	It occurs in both unisexual and bisexual flowers.

Question 7:

How does the process of fertilisation take place in flowers?

Answer 7:

When pollen lands on stigma, it germinates and gives rise to a pollen tube that passes through the style and reaches the ovary of a pistil. When the pollen tube reaches an ovule, it releases the male gametes. A male gamete fuses with a female gamete in the ovule. This process is known as fertilisation. The cell which is formed after the fusion of a male and a female gamete is known as zygote. This zygote divides several times in order to form the embryo present inside the seed.



Process of fertilisation

Question 8:

Describe the various ways by which seeds are dispersed.

Answer 8:

Seed dispersal occurs by the following agencies.

(a) **Dispersal by animals** – There are many ways by which birds and animals can disperse seeds. For example, birds and animals can eat the fruits and excrete the seeds away from the parent plant. Some seeds have barbs or other structures that get attached to the animal's body and are carried to new sites. Some fruits have hooks on them which cling to fur or clothes.

(b) **Dispersal by wind** – Seeds that get dispersed by wind are usually smaller in size or they have wings or hair-like structures. For example, winged seeds of drumsticks, hairy fruit of sunflower, etc. are dispersed by wind.

(c) **Dispersal by water** – Many aquatic plants or plants that live near water has seeds that can float and are carried away by water. For example, coconuts can float and are dispersed by water.

(d) **Dispersal by explosion** – Sometimes the seeds are dispersed by the bursting of fruits with sudden jerks. The seeds get scattered or distributed far from the parent plant. Examples of such plants are castor and balsam.



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Question 9:

Match items in Column I with those in Column II:

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

Answer 9:

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

Question 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 female gametes is called
- (i) fertilisation
 - (ii) pollination
 - (iii) reproduction
 - (iv) seed formation



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- (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

Answer 10:

- (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 female gametes is called
 - (i) fertilisation ✓
 - (ii) pollination
 - (iii) reproduction
 - (iv) seed formation

- (c) Mature ovary forms the
 - (i) seed
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