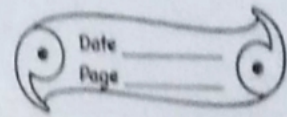


Reproduction In Plants



Question and answers:-

MCQs

- 1) a) iv) anther
- 2) b) i) stamens and carpels
- 3) ii) artificial vegetative propagation
- 4) ii) apple.

SAQs

1) ans) The two ways in which pollination may occur in plants are

- Self Pollination
- Cross Pollination

2) ans) The three agents of pollination are:-

- Water
- Insect
- Wind

3) ans) Specialities of insect-pollinated flowers:-

- 1) These flowers are large with coloured petals, to attract insects.
- These are scented so that insects locate the flowers by the smell.

4) ans) Two characteristics of flower in which pollination occur by wind are:

- They are usually small and are of dull colours.
- They generally have long anthers protruding out of the flowers so that pollen may get blown off easily.

5) ans) a) Bisexual

b) Unisexual

c) Pollination

d) Fertilisation

e) Seed

f) Fruit.

LAQs

1) ans) The process in which new plants can be produced by certain parts of a plant such as the leaf, stem and root. Vegetative propagation is grouped into the following two types:-

i) Natural vegetative propagation including reproduction by stem, leaf and root

Artificial vegetative propagation includes.

reproduction by cutting, layering, grafting and micro-propagation.

2) ans) A gardener prefers to grow certain plants vegetatively because:

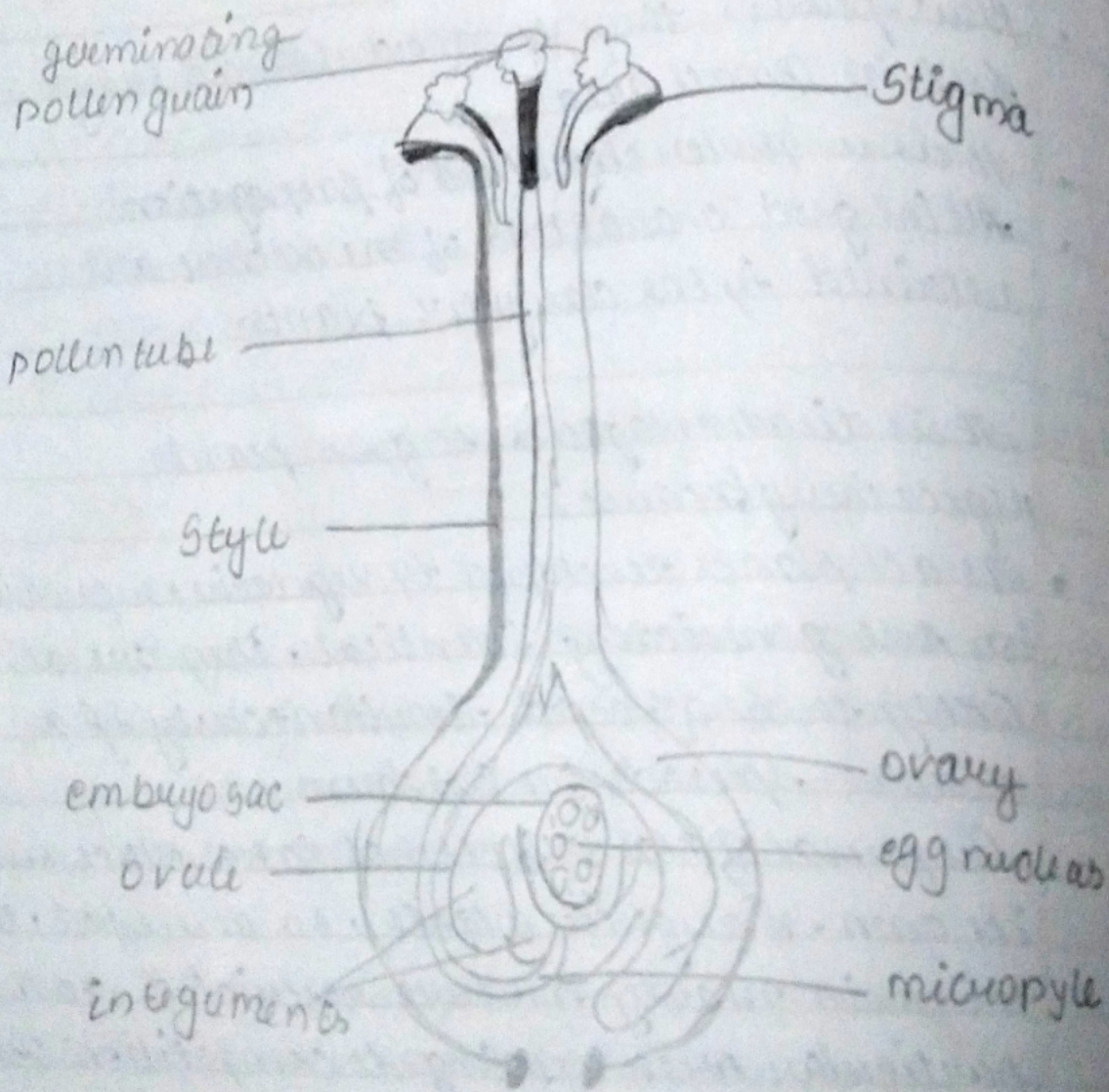
- Reproduction by vegetative parts takes place in a shorter time.
- New plants, thus produced spread very fast in small area.
- It is a surer method of propagation.
- All the good characters of the mother are retained by the daughter plants.

3) ans) It is disadvantageous to grow plants vegetatively because:

- As all plants developed by vegetative reproduction are genetically identical, they are all likely to be affected simultaneously if a disease spreads in the farm.
- Dispersal of plants does not take place on its own. Daughter plants, so developed, tend to remain nearby and are restricted to a particular area leading to competition for resources.

4) and Pollination is the process in which the pollen grains from the anthers are transferred to the stigma of a flower of the same species.

Structure of germinating pollen grain:



Structure of pollen grain and fertilization in the embryo sac.

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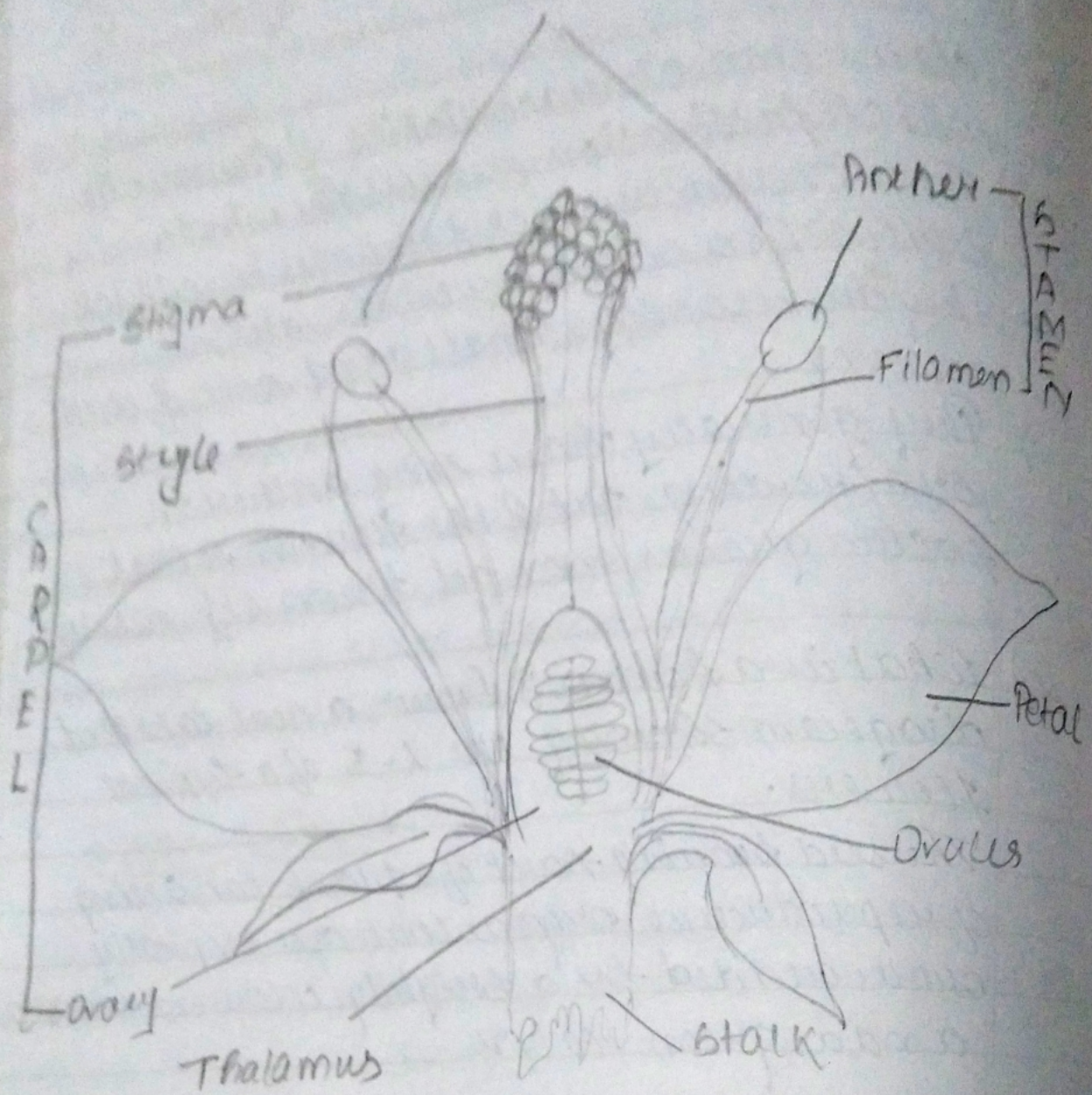
5) Imagine all the seeds produced by a plant happen to fall under the same plant and sprout into new plants. Mention any two problems that will be faced by the new plants.

ans) A large number of plants will grow in small limited space which will limit the availability of water and minerals to the plants.

- There will be overcrowding due to which
- Sufficient amount of sunlight will not be available to all the plants. This can also lead to death of those plants.

2) What is a flower? Draw a neat labelled diagram showing the 1-5 of a typical flower.

The seed bearing part of a plant consisting of reproductive organs that are typically surrounded by a brightly coloured corolla and a green calyx.



A typical flower with its internal parts.

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57) ans) (a) Micropropagation is the artificial process of producing plants vegetatively through tissue culture or cell culture techniques.

(b) Bryophyllum is a plant whose leaves produce adventitious buds in their margin. The adventitious buds grow into new plants under favourable conditions when the leaf with buds falls off on the ground.

(c) Vegetative reproduction is a method where in new plants are produced by vegetative parts of a plant called propagules.

(d) Grafting is the process of joining two plants together (an upper portion and a lower portion) to grow as one.

Q) How is artificial pollination useful to plant breeders? Discuss briefly
ans) Artificial pollination means transfer of pollen grains to the stigma manually

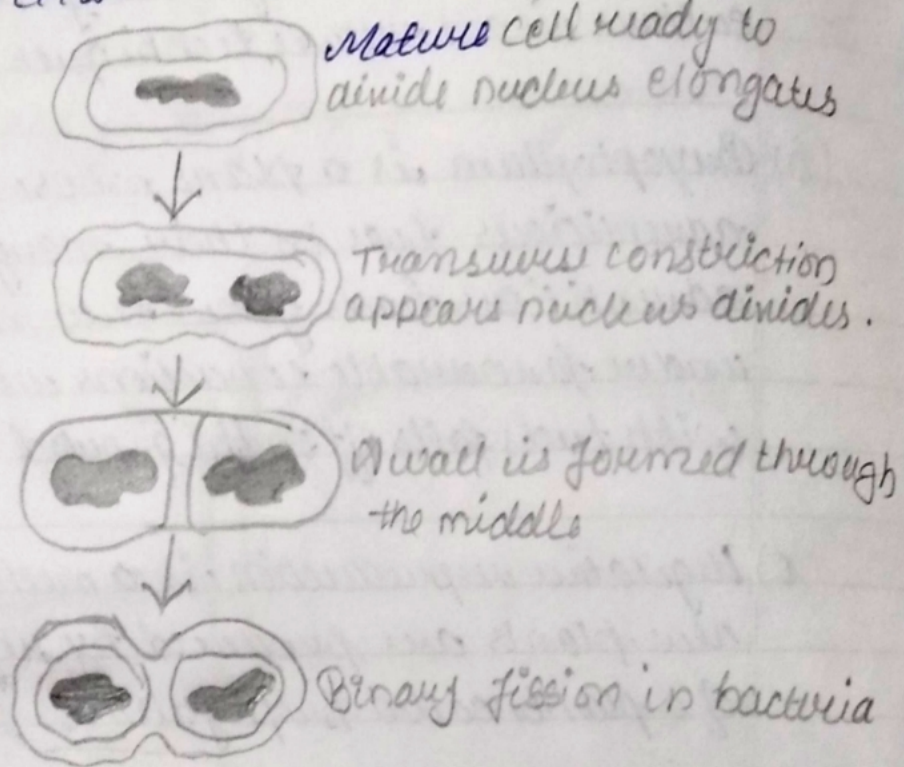
• But nowadays artificial pollination is practiced by plant breeders for developing new varieties.

• The breeders select two different varieties of a crop plant with desired characteristics and then pollinate them with the pollen from the desired plant variety.

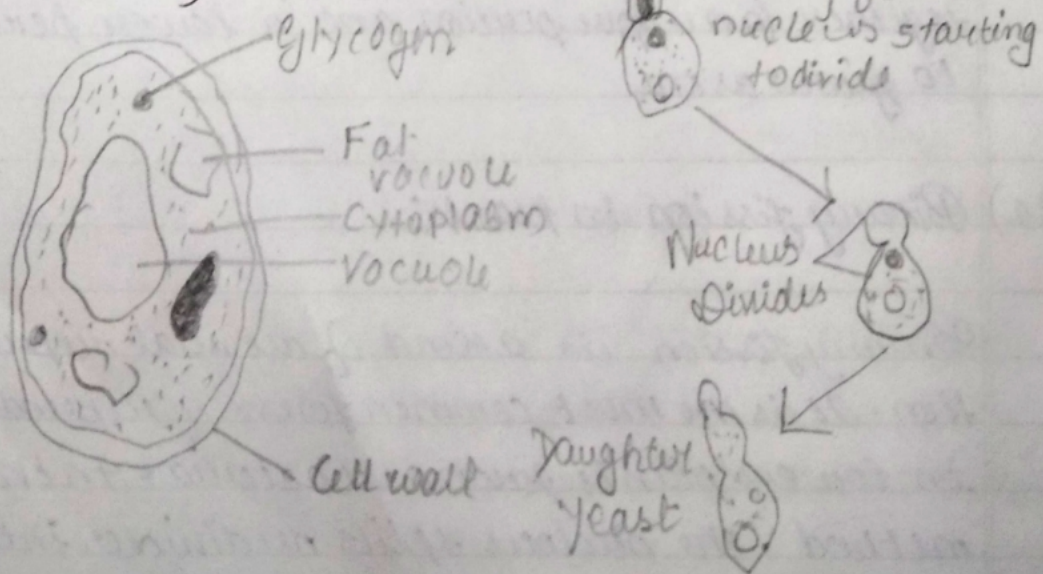
9) a) Binary fission in plants:

Binary fission is a kind of asexual reproduction. It is the most common form of reproduction in lower plants such as bacteria. In this method, the nucleus splits or divides into

two and then the cell splits and divides across the middle, forming two small identical cells called the daughter cells.



b) Budding in yeast cell:-



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Budding is a method asexual reproduction common in yeast. Here, the parent cell produce an outgrowth called a bud. The bud grows and then gets detached from the parent body to lead an independent life.