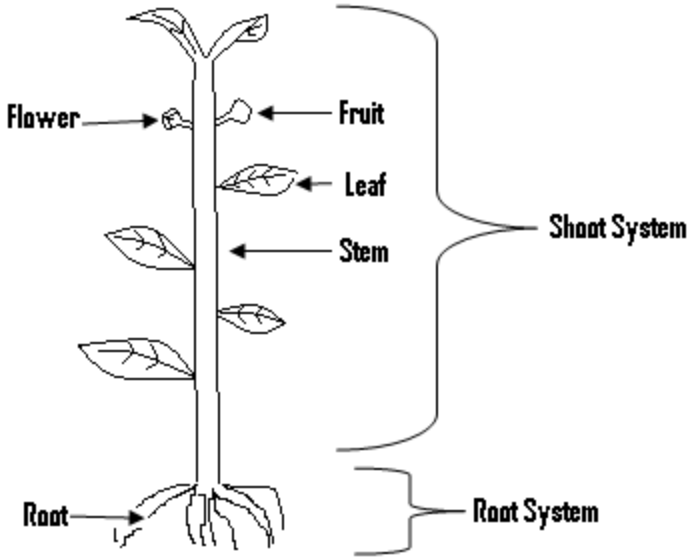
Chapter Twenty

Flowering Plants, Photosynthesis And The Dispersal Of Seeds:



Flowing plant:

- A plant is normally made up of two parts and these are:
  (I) The root system.
  (II) The shoot system.

The roots:

- These are the parts of the plant which grow underground and away from sunlight but towards water. It may either develop from the seed or not.

Functions of the root:

- It absorbs water and mineral salts from the soil for the plant to use.
- It holds or fixes the plant firmly to the ground.
- It acts as storage organ in certain plant, i.e. it stores food for the plant e.g. cassava.

N/B: Found on the roots are root hairs which absorb water and mineral salts from the plants.

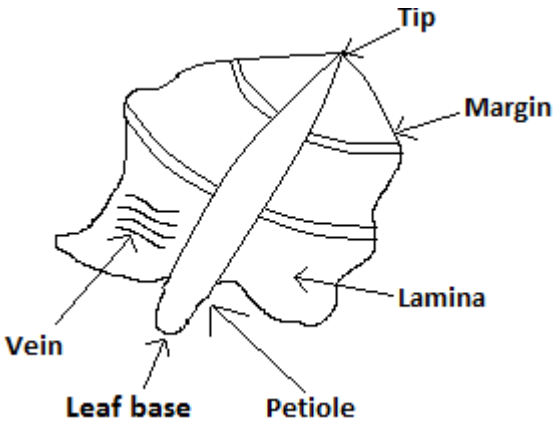
Functions of the stem:

- It holds the leaf in such a position in order to get sunlight.
- Some stems can be used for vegetative propagation, i.e. used to reproduce the plant.
- Water and mineral salts from the soil are carried through the stem to the leaf.
- It carries water and mineral salts to the leaf.
- It carries manufactured food from the leaves to the other parts of the plants.

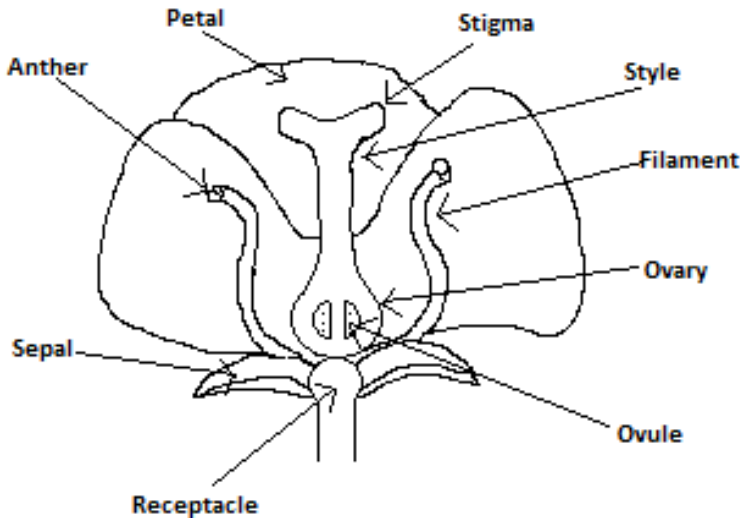
Functions of the leaf:

- To carry out photosynthesis.
- To carry out transpiration.
- The exchange of gases occurs in the leaf.
- Some leaves store food, e.g. the onion.

Parts of the leaf:



The flower:



- The flower is the reproductive organ of most plants which bear seed.
- Apart from that, it is responsible for the development of seed and the production of fruit.

Functions of the parts of the flower:

The sepals:

- They are all referred to as the calyx.
- They enclose or cover the inner parts of the flower during its bud stage.
- Because they contain chlorophyll, they can also manufacture food.

The petals:

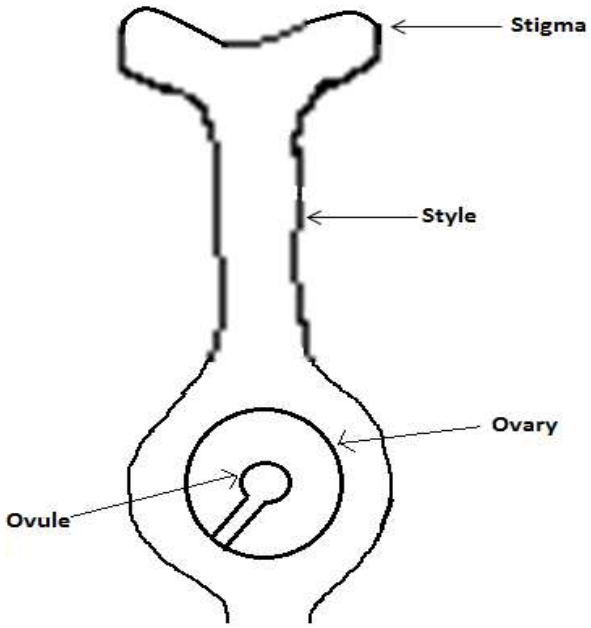
- The corolla is the name given to all the petals.
- Because they are brightly coloured and have sweet scent, they are able to attract insects to the flower.
- They also enclose and protect the stamen and the pistil.

The stamen:

- It consists of the anther and the filament.
- The anther produces the pollen grains, which contain the male reproductive cells.
- The filament bears and supports the anther in the most suitable position, for pollen transfer to take place.
- It us the male part of the flower and also referred to as the androcium.

The pistil:

- This is the female reproductive part of the flower.
- It is also referred to as the gynoecium.
- It consists of the ovary, the style and the stigma.
- The ovary produces the female cells or gametes called the ovules.
- The style holds the stigma in the most suitable way, so as to be able to receive the pollen grains.
- The stigma receives the pollen grains.



The Pistil

The flower stalk:

- It holds the entire flower.

The receptacle:

- This is the expanded end of the flower stalk, on which the other parts of the flower are attached.

Fertilization:

- In the flower, the two sex cells or gametes which are the pollen grains and the ovule take part in the sexual reproduction of the flower.
- Fertilization is the process in which the male gamete, fuses with the female gamete to form a zygote.

- After fertilization, the ovary develops into the fruit and the ovules into the seeds.
- The pollen grain which is transferred unto the stigma, germinates in the form of a tube called style towards the ovary.
- The nucleus of the pollen tube divides into two male gametes as it grows, and the pollen tube eventually enters the ovule at the two male gametes.
- One of these male gametes then focuses with the female gamete to form a zygote.
- The other male gamete then fuses with the secondary nucleus in the embryo sac to form the endosperm nucleus.