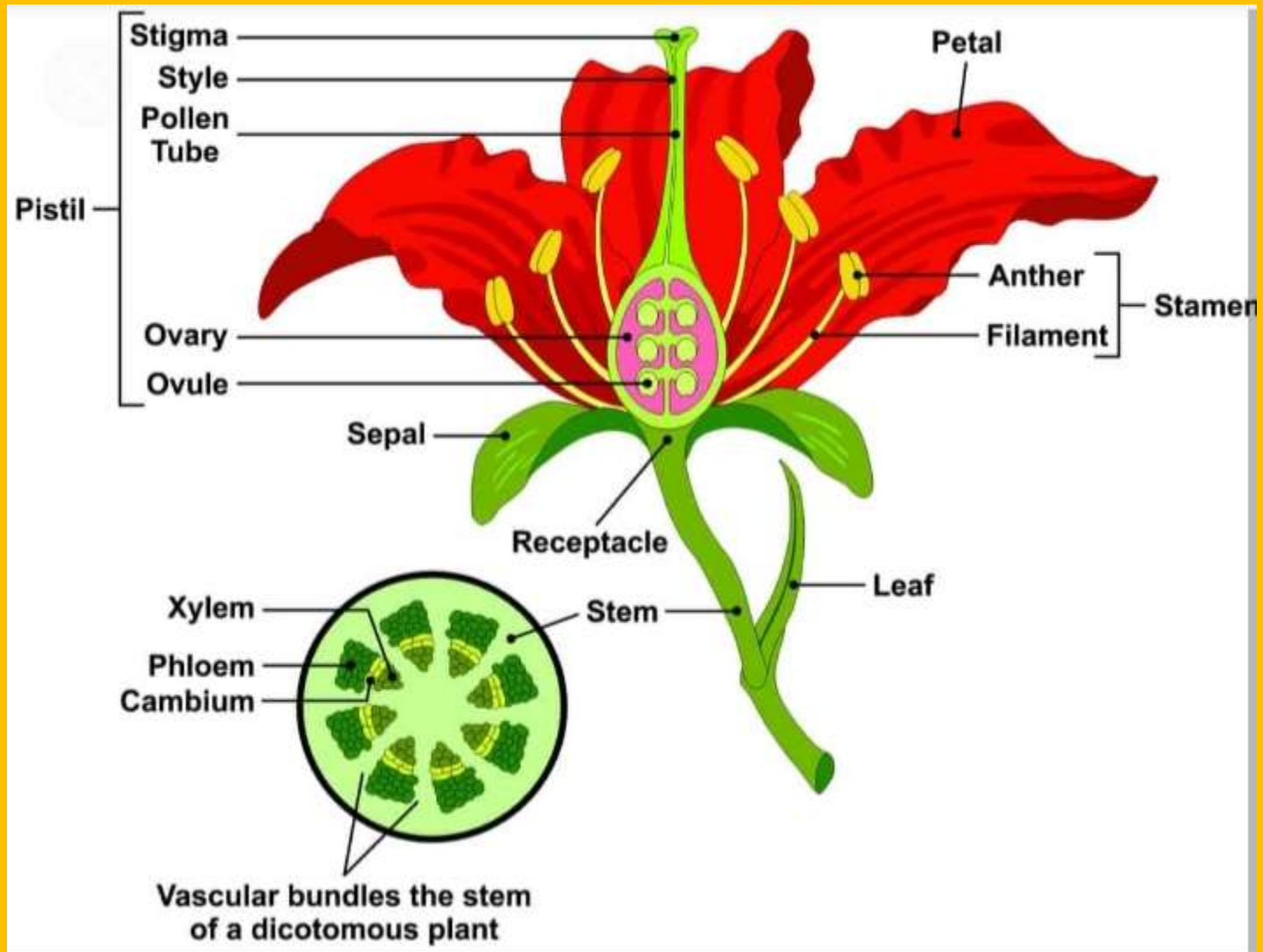


Study of Typical flower and its Parts

- by Dr Alvikar A. R

- ❑ The seed bearing part of a plant, consisting of reproductive organs (Stamens, and carpel's) that are typically surrounded by brightly colored corolla (Petals) and a green calyx (Sepals).
- ❑ The sole purpose of flowers is sexual reproduction, therefore ensuring the survival of the species.
- ❑ Many flowers that rely on pollinators, such s birds and butterflies, have evolved to have brightly colored petals and appealing scents s a way to attract the attention of the pollinators.

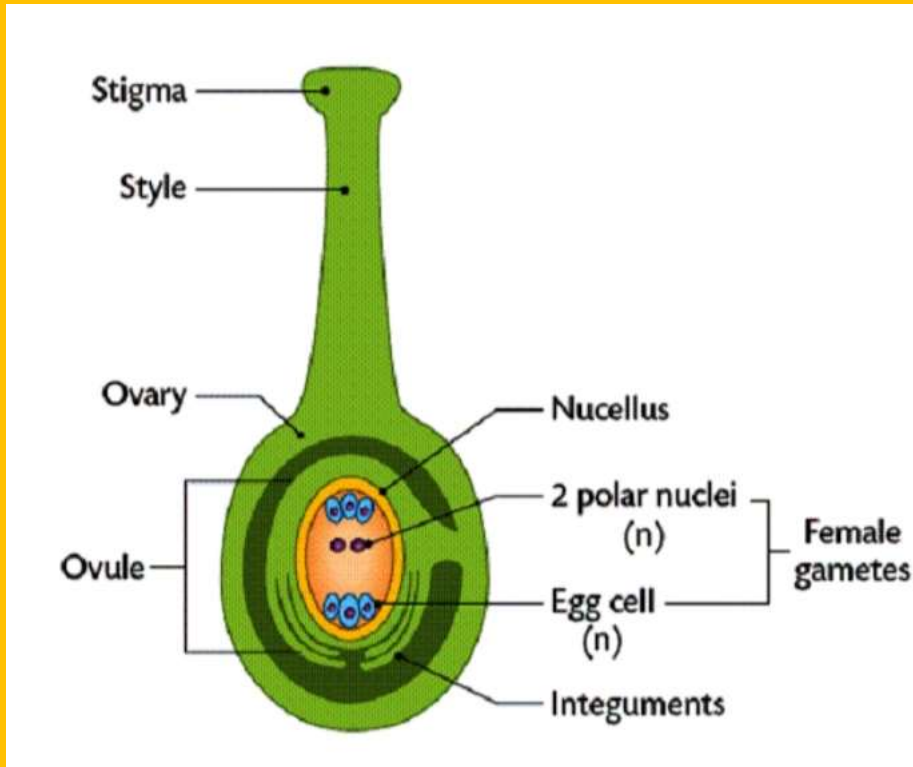
Parts of Flower



Parts of flowers

- ❖ Petals (Corolla) – Petals are modified leaves that surround the reproductive parts of flower, they are brightly colored or usually shaped to attract pollinators.
- ❖ Sepal (Calyx) - The outer green, leaf like part of flower protects the developing bud.
- ❖ Peduncle – This is the stalk of the flower.
- ❖ Receptacle - It is thickened part of a flower stalk where the parts of the flower are attached.

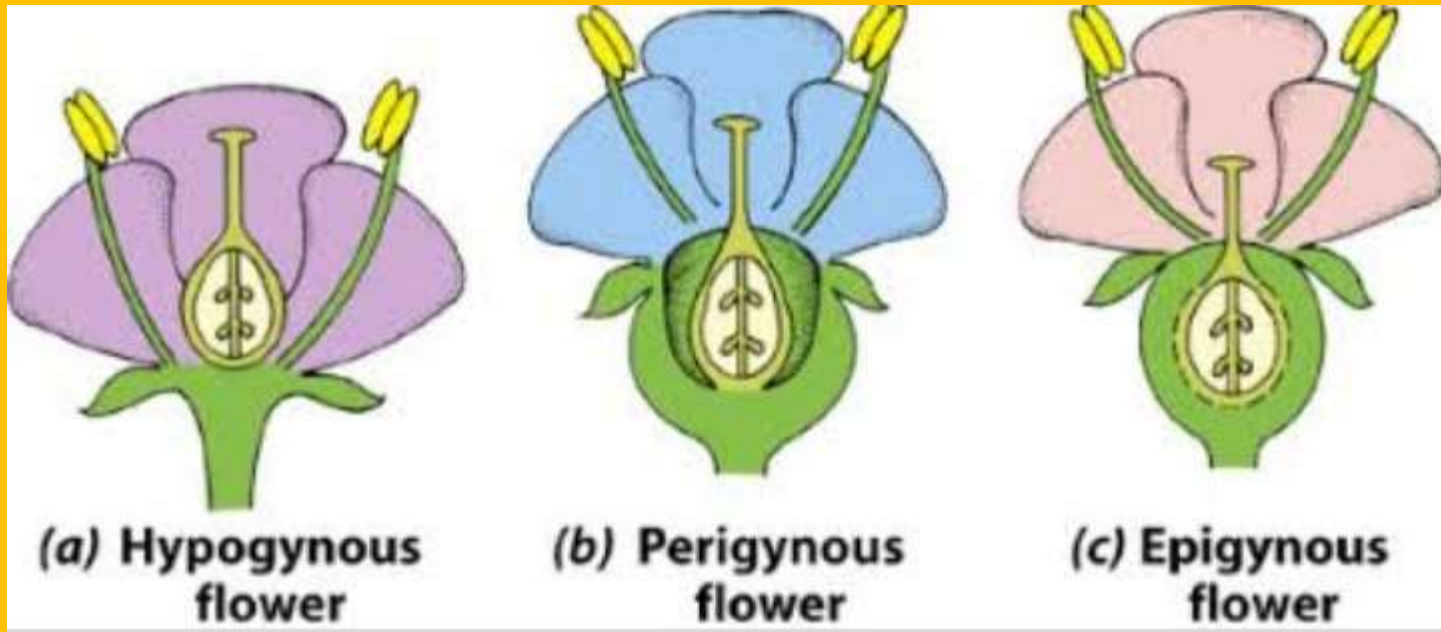
Female reproductive part of flower and its function



Carpel (Pistil) – It is flask shaped, female reproductive part of a flower. It contains three main parts. A collection of pistils is called gynoecium.

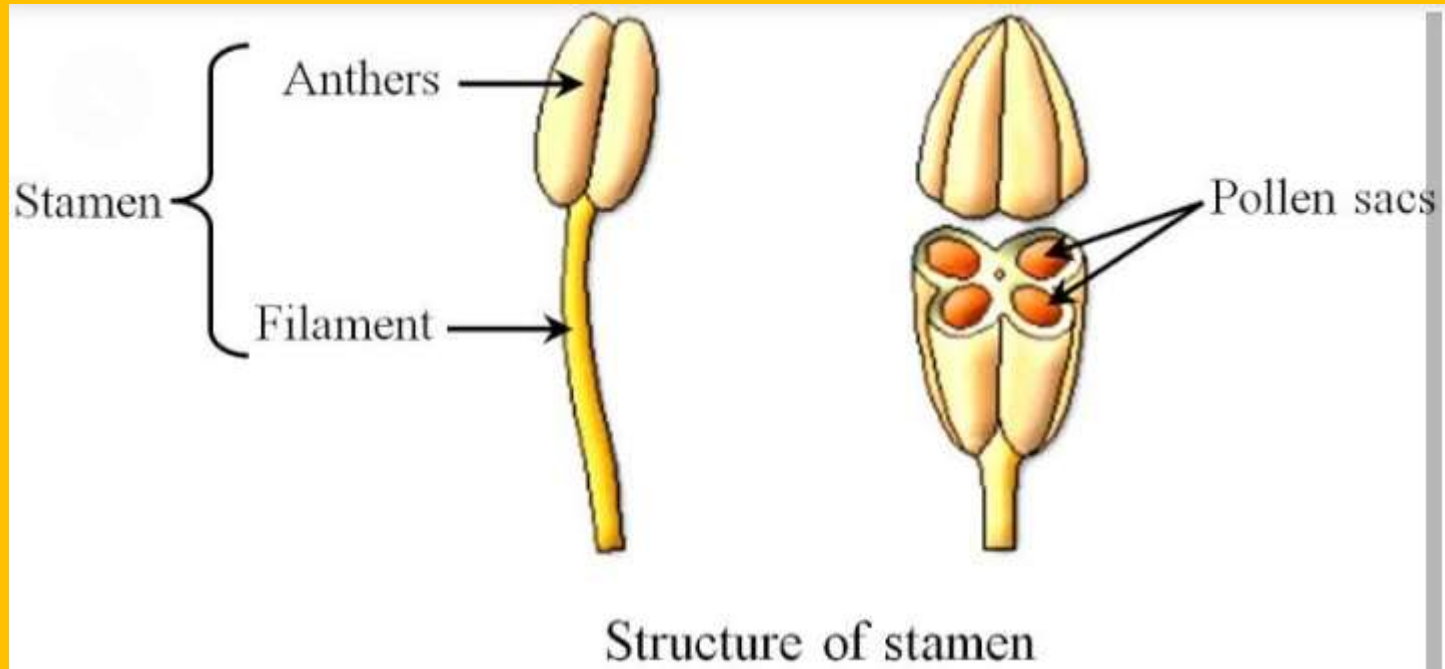
1. Stigma – It receives the pollen during fertilization.
2. Style – It is a long, elongated stalk of the pistil which is present above the ovary.
3. Ovary – It contains the ovules, it is the part of the plant where seed formation takes place.

4. Ovules – These are reproductive cells which will become the seed when fertilized by pollen.



- ❖ Hypogynous ovary – The flower is said to be hypogynous if sepals, petals and stamens are inserted below the ovary.
- ❖ Perigynous ovary - The thalamus forms a cup-shaped structure around the ovary, and sepals, petals and stamens appear or attached to the rim of the hypanthium.
- ❖ Epigynous flower – If the sepals , petals and stamens in a flower arise from the top of the ovary then it called as epigynous flower.

Male Reproductive part of a flower



Stamens are the male parts of the flower. Many stamens are collectively known as the androecium. They are structurally divided into two parts.

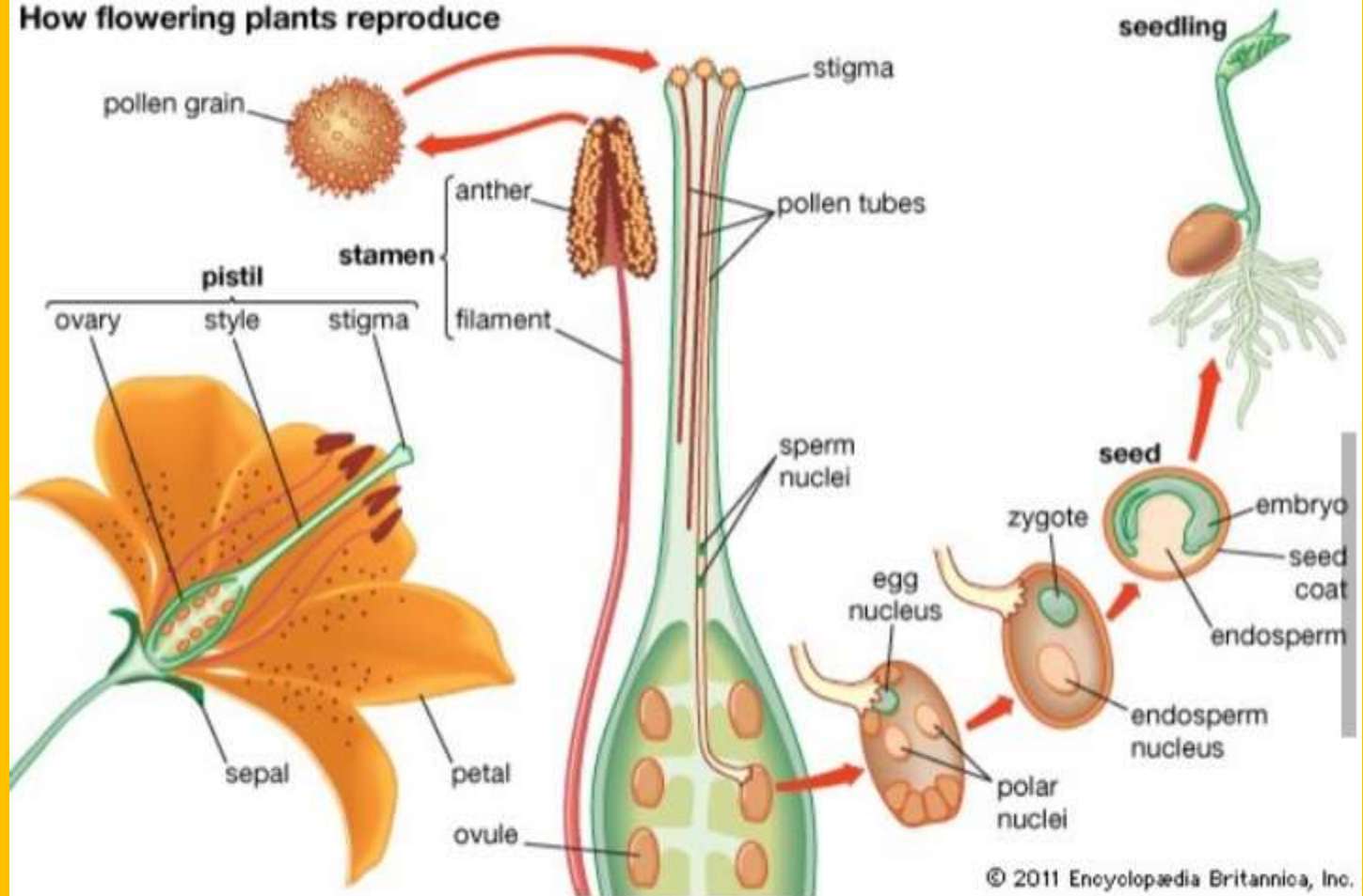
1. Anthers – It is the head of the stamen and is responsible for producing the pollens.
2. Filament – It is a long and slender part attached to the anther to the flower.

Practical I –Practical no 19

Study of types of Ovule

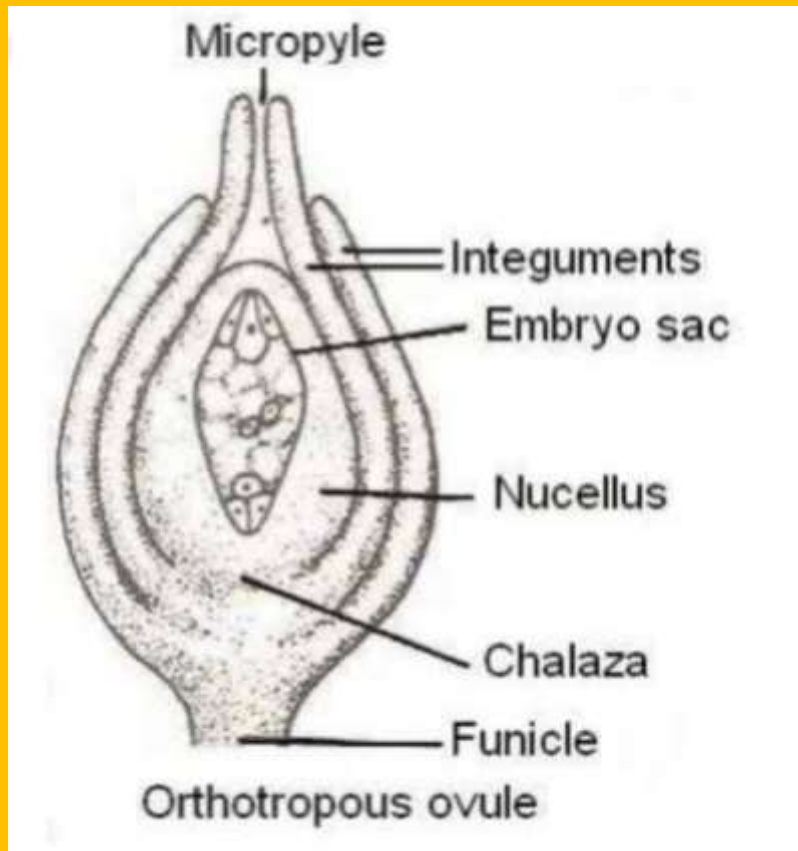
- ❑ In flowering plants, the ovule is the structure that gives rise to and contains the female reproductive cells. It consists of three parts: the integument, forming its outer layer, the nucellus and the female gametophyte in its center.
- ❑ The female gametophyte known as megagametophyte is also called as embryo sac in angiosperms.
- ❑ The mega gametophyte produces an egg cell for the purpose of fertilization.

How flowering plants reproduce



- ❖ Micropyle - A minute opening in the integument of an ovule of a seed plant.
- ❖ Nucellus - It is the central part of a plant ovule that encloses the female gametophyte.
- ❖ Funicle – A stalk, that attaches an ovule to the placenta in the ovary of a flowering plant.
- ❖ Chalaza - Basal part of the ovule.
- ❖ Integument – One or more protective envelopes around the ovule.
- ❖ Raphe – Longitudinal ridge on the side of certain ovules or seeds.
- ❖ Hilum – It is a junction between an ovule and funicle.

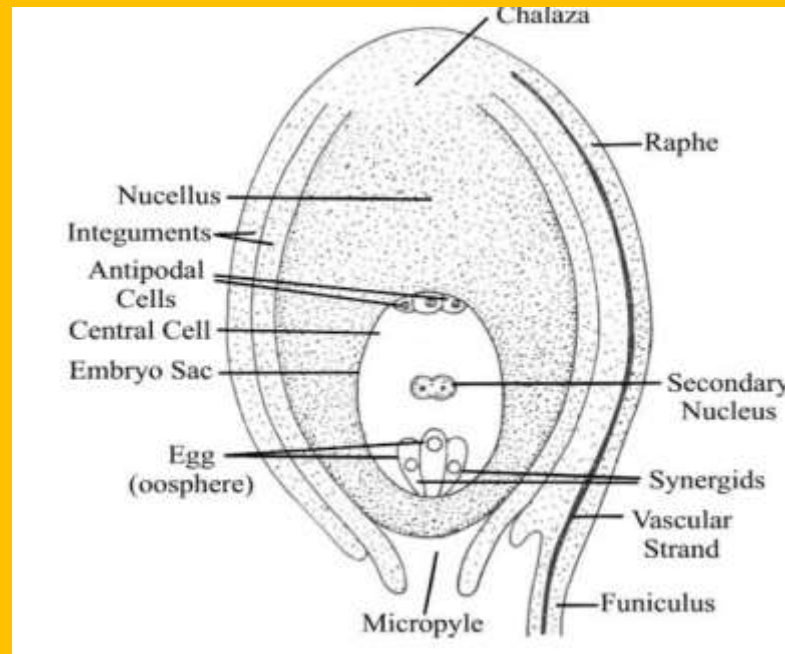
❖ Ovule is integumented megasporangium it encloses embryo sac which is the female gametophyte of angiosperms, depending up on the shape and orientation, the ovule are classified into five types.



1. Orthotropous ovule

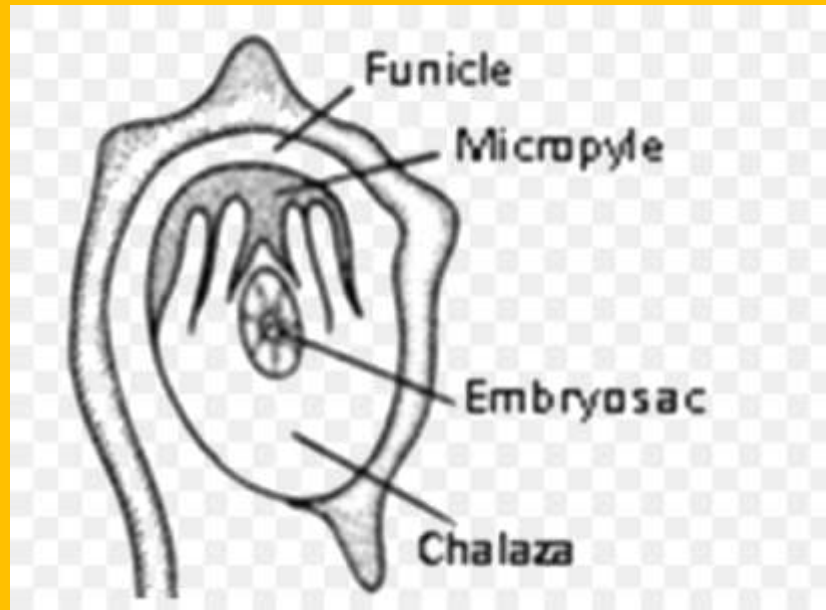
- ❖ The body of the ovule is erect or straight.
- ❖ The hilum, chalaza and the micropyle lie in a straight line.
- ❖ In which no curvature takes place during development.
- ❖ The micropyle is positioned opposite the funiculus base.
e.g Polygonum

2. Anatropous ovule

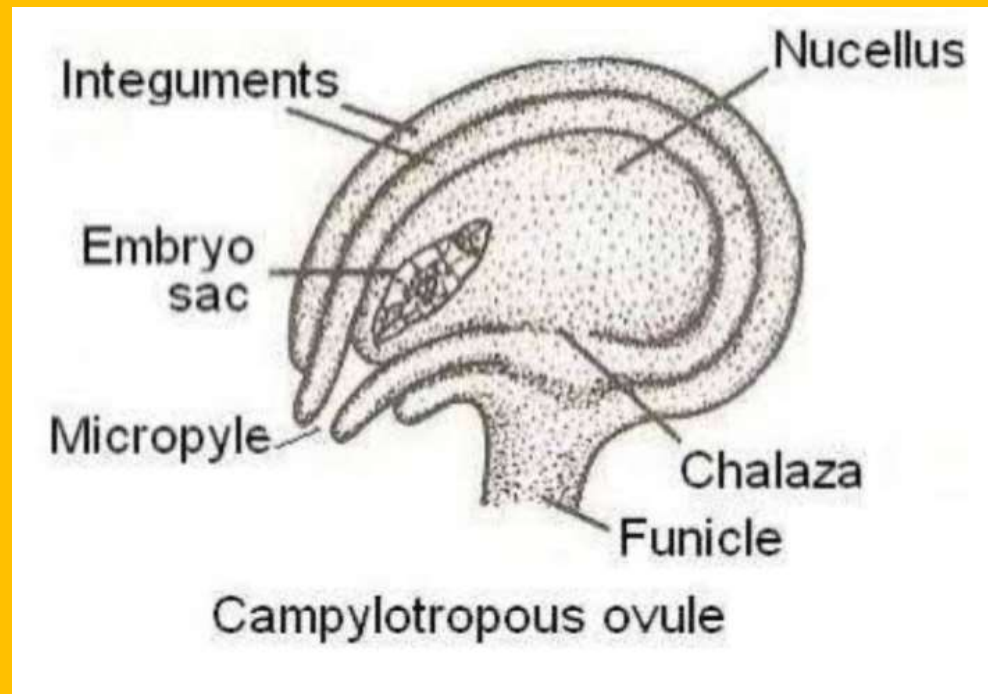


- ❖ The body of the ovule becomes completely inverted during the development so that the micropyle lies very close to the hilum.
- ❖ The ovule is completely inverted in its orientation, due to curvature of the funiculus.
- ❖ Longitudinal axis of the nucellus is parallel to funiculus axis.
e.g. Gamopetalae members

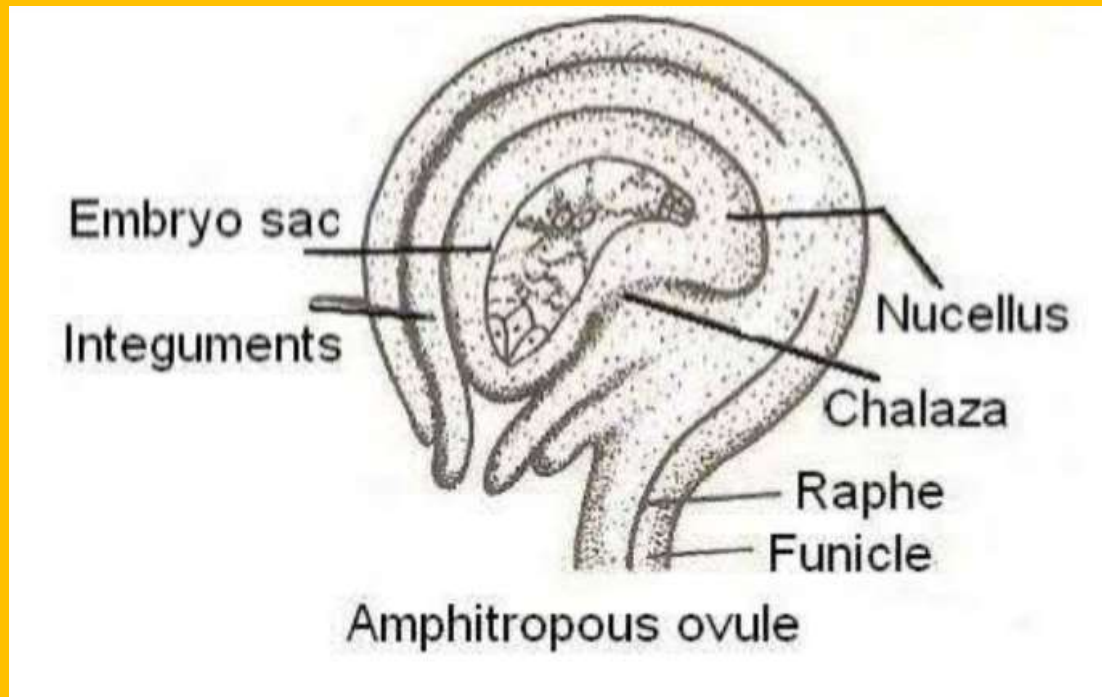
Circinotropous ovule



- ❖ In this type of ovule the length of the funiculus increased and it covers the whole ovule.
- ❖ The nucellus and the axis are in the same line in beginning but due to rapid growth on one side, the ovule becomes anatropous.
- ❖ The curvature continues further and the micropyle again points upwards. E.g Opuntia.



- ❖ The body of the ovule is curved or bent round so that the micropyle and chalaza do not lie in the same straight line. E.g. Leguminosae
- ❖ The micropyle is directed towards the base of the funicle because of the curvature of the nucellus.
- ❖ The funicle is attached near middle the body of the ovule. E.g Mustard, Capparis etc.



- ❖ The curvature of the ovule is very much pronounced and the embryo sac also becomes curved.
- ❖ The embryo sac is also curved like horse-shoe shape.
- ❖ The funicle is attached near the middle of the body.
- ❖ The micropyle, chalaza and hilum come close to each other. E.g Clematis