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Sexual Reproduction in Flowering Plants

The Pistil, Megasporangium (Ovule) and Embryo sac

• Gynoecium may consist of single pistil (monocarpellary) or more than one pistil (polycarpellary) which may be fused (syncarpous) or free (apocarpous).

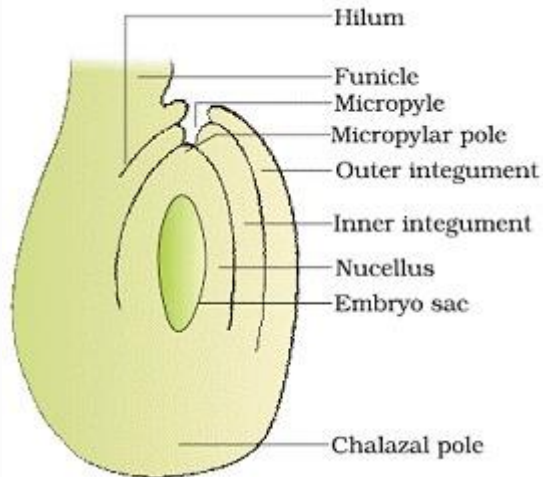
e.g Multicarpellary and syncarpous pistil- Papaver

Multicarpellary and apocarpous pistil- Michelia

• Each pistil has three parts the **stigma, style and ovary**. Inside the ovary is ovarian cavity (locule). The placenta is located inside the ovarian cavity. Megasporangia (ovules) arise from placenta.

Megasporangium (ovule)

- Ovule is a small structure attached to placenta.
- Funicle – stalk by which ovule is attached to placenta
- Hilum- junction between ovule and funicle
- Integuments- protective envelopes
- Micropyle- small opening at the tip of ovule into where pollen tube enters
- Chalaza- basal part of ovule
- Nucellus (2n)-mass of cells enclosed in integuments. Has abundant food reserve.



Megasporogenesis- The process of formation of megaspore from megaspore mother cell by meiotic division is known as meiosis. This process takes place in ovule. Ovule differentiates a single megaspore mother cell (MMC) in the micropylar region of nucellus. MMC undergoes meiotic division that results into the production of four megaspores.