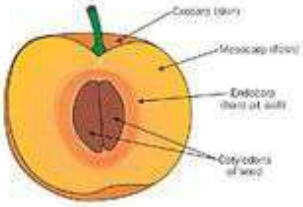
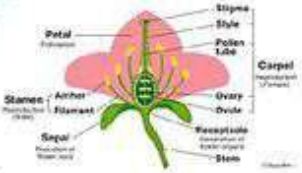
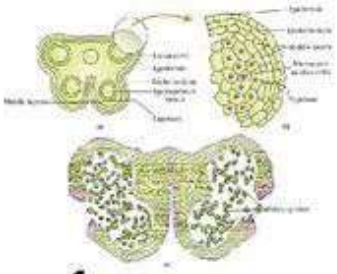
SEXUAL REPRODUCTION IN FLOWERING PLANTS

Seed dispersal helps the species to colonize in other areas and may fruits have mechanism for dispersal of seeds







Significance of seed dispersal and fruit formation

Flower structure

Occurance of more than one embryo in a seed

Polyembryony

Production of seeds without fertilization

Development of fruit without fertilization

Parthenocarpy

Apomixis

Special roots

When parts other than ovary contribute to the fruit formation Eg: Apple

False fruit

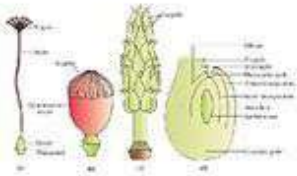
When fruit develops from the ovary: Eg. Mango

True fruit

Pre-Fertilization Events

Male Gametophyte

Female Gametophyte



Autogamy: Pollen transfer from the anthem to the stigma of the same flower

Geitonogamy: Pollen transfer from the Anthem to the stigma of another flower of the same plant

Xenogemy: Pollen transfer from anther to the stigma of a different plant

Pollination types

Pollination agencies

- Wind (Anemophily) eg. Grasses
- Water (Hydrophily) eg. Vallisneria, Hydrilla

- Insects (Entomophily) eg. Yucca
- Birds (Ornithophily) eg. Daylilies

Outbreeding devices

Devices for promoting cross pollination

Self-incompatibility

Arrangement of Anther and stigma at different positions

Production of unisexual flower (Decliny)

Pollen Release and stigma receptivity not synchronised

Post Fertilization Events

Development of Endosperm

It provide nutrition to the growing embryo

Consumed completely in seed eg: Pea, Groundnut

Persist in some seed eg: Castor, Coconut

Development of Seed

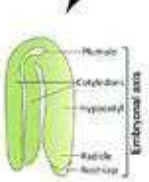
Albuminous seeds (Endospermic)

Non-Albuminous seeds (Non-endospermic)

Development of Embryo

Dicot Embryo

L.S of Monocot Embryo

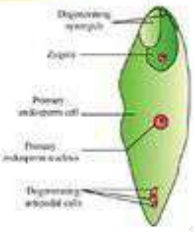


A typical dicot embryo

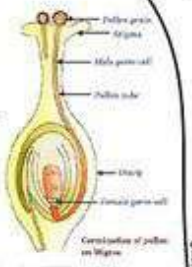
LS of grass embryo (monocot)

Double- Fertilization

Syngamy + Triple Fusion= Double Fertilization



Pollen Pistil interaction



It is a dynamic process involving polen recognition followed by Pollen tube growth

Artificial hybridization

It is one of the major approaches of crop improvement by using desired pollen grains for pollination

Achieved by

Emasculation

Bagging