TYPES OF PLACENTATION

1. Marginal placentation

   This is as shown in the diagram. Marginal placentation has single pistil monocarpous. This is characteristic of caesalpimiaceae and papilionaceae families.

2. Axil placentation has united carpels as in the diagram.

   This is common of Malvaceae family.

3. Perietal placentation

   Typical example of parietal placentation is carica papaya (pawpaw).

4. Free central placentation

   This type of placentation is typical of Entandrophyragma.

5. Sperficial placentation:- In this type, many carpels are fused together. Within the walls of the carpels are the ovules being attached. There are many chambers.

INFLORESENCE

Infloresence is the arrangement of the flowers on the shoot that bears them.

TYPES

A Raceme is an indeterminate single axis bearing pericellate flowers e.g. cassia, Brassica etc.

A spike is an indeterminate single axis bearxsessible flowers e.g. Amaranthus.

A panicle is an indeterminate branch system whose primary axis bears branched 2^o axis and pedicellate flowers e.g. Delonix spp.

An Umbel is a descriptive term applied to infloresences whose flowers are pedicelled and the pedicels seemingly arisen from a common point at the stem or peduncle apex. In this case, it may be dterminate or indeterminate. Unibel is characteristic of coriander family or Umbelliferae.

A Head/Capitulum:- is an inflor. of sessile or nearly sessile flower on a very short or flattened axis producing a glabose or flat topped cluster. This type of inflor is xtic of sunflower or compositae family e.g. Marigold, sunflower, Tridax, Acacia

A CYME is a determinate inflor representing a reduction from a compound dichasium by lost of 2^o axis producing a more or less flattened top or convex cluster.

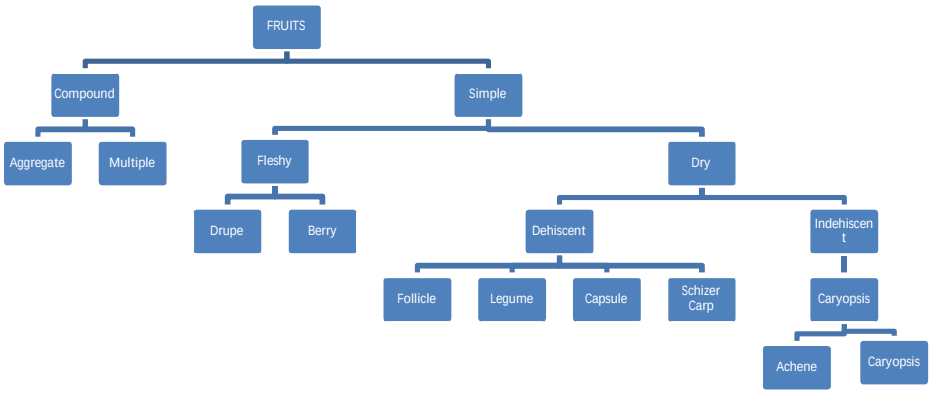
CAULIFLORY is a condition when flowers are borne directly on main trunk, braches or short stalk e.g. Theobroma cacao (cocoa).

A NUDE flower has one/both sexes but lacks calyx or corolla.

FRUITS

Fruits may be defined as the product of a ripened ovary, pistil/gynoecium of a flower. It is the seed containing organ of a plant. The ovules in the ovary develop into seeds. Fruits generally provide very reliable xters in the delimation of general and of families. Hence they are useful in the classification and identification. Fruits are classified on the basis of their descriptive features rather than on their descriptive features rather than on their comparative morphology and anatomy.

CLASSIFICATION OF FRUITS



Compound fruits may be aggregate or multiple.

1. Aggregate fruits:- An aggregate fruit is a collection of simple fruits (or fruitlets) develop from the apocarpous pistil (free carpels) of a flower e.g. *Annonasquamosa*
2. Multiple fruits:- A multiple fruit is that which develops from a number of flowers i.e. from an inflor e.g. pineapple, FicusTreculia Africana.

   Simple fruits:- When only one fruit develops from the single ovary of a flower which without accessory part, it is said to be a simple fruit. A simple fruit may be dry/fleshy. The dry fruit may again bedehiscent, indehiscent or schizocarpic

1. Dry dehiscent fruits are those dry fruits that split open naturally, when ripe. They are usually classified accordance to the number of split which occur in the pericarp e.g. follicle, legume, capsule and schizocarp.
2. Follicle is a dry fruit formed from one carpel, which contains one or more seeds and splits down one side only e.g. Cnestis (false rubber) Asclepias (Sodom apple).

3. Capsule:- is a dry fuit formed from 2 or mor carpels which contains many seeds. It may open on one or several ways e.g. cotton, poppy seeds, castor oil.

4. SCHIZOCARP:- also a dry fruit, having many seeds and break up into several parts, each containing one seed e.g. cassias, desmodium and Lomentum.

   When legume is partitioned or constructed between the seeds into a number of one seeded compartments it is called LOMENTUM e.g. Acacia spp, Entadagigas, Aradius hypogeal

2. **Dry Indehiscent fruits**

   These are dry fruits that do not split open naturally when ripe.

   Achene:- This is the simplest possible fruit which consists of one seed surroundeb by a dry pericarp which does not split e.g. sunflower.

   Nut is similar to achene, but it has hard and tough pericarp e.g. the hard part of cashew fruit. Many so called 'nuts' (e.g. groundnut, coconut) gar botanically not nuts at all.

3. Caryopsis:- This is an achene-like fruit in which the *pericarp* and seed coat are fuisded together. This is typical of the family Gramineae e.g. maize, rice and grasses.

   Cypsela:- is an achene, formed from an inferior ovary, in which the calyx persists anf form a paraclute of hairs called pappus. This is common in the composites e.g. *Tridax Emilia.*

   Samaria:- is an achene in which the pericarp has been extended to form one or more wings e.g. *Combretum, Termihalia, Anogeissus.*

FLESHY FRUITS

In fleshy fruits, at least part of the fruit is fleshy and can be eaten. They are usually drupes or berries.

(i) Drupe:- This has a pericarp which consists of three layers outer skin or epicarp.

(ii) Middle fleshy layer or mesocarp (fibrous in palm nut and coconut).

(iii) Inner hard and woody layer or endocarp.

Examples of drupes are mango, coconut, palm nut

Drawing

Berry:- A completely fleshy fruit containing only hard seeds embedded in fleshy part e.g. *Psidiumguajava, citrus spp, tomato, carica papaya.*

Drawing