SEXUAL REPRODUCTION IN FLOWERING PLANTS FLOWER – A FASCINATING ORGAN OF ANGIOSPERMS

INTRODUCTION OF STRUCTURE OF FLOWER

Flower – A fascinating organ of Angiosperms

- Human beings have had an intimate relationship with flowers since time immemorial. Flowers are object of aesthetic, ornamental, social religious & cultural values.
- Flower has usually four whorls. Out of them calyx and corolla are non-essential whorls of flower whereas Androecium and gynoecium are called Essential whorls of flower.



Fig. : A diagrammatic representation of L.S. of flower

Stamen or microsporophyll:

- Stamen is structural and functional part of Androecium. Stamen consists of two parts. The long & slender stalk called the filament & the terminal generally bilobed, fertile structure called the Anther. The proximal end of the filament is attached to thalamus or the petal of the flower & distal end to the Anther. Each anther is usually made of two lobes connected by a connective.
- A typical **anther** consists of **four microsporangia (Tetrasporangiate)** and such anther is called **bilobed Eg: most plants.** Each lobe has two theca (**Dithecous**).

In members of Malvaceae, anthers are reniform or kidney shaped and consist of two microsporangia (Bisporangiate). Such anthers are called as monothecous or monolobed.
In Arceuthobium (smallest parasite) anther consists of only one microsporangium (Monosporangiate).

Development of anther:

• A young anther consists of homogenous mass of meristematic cells surrounded by epidermis. The pollen sacs develop hypodermally at the four corners of the anther from a strip of **archesporial cells (archesporium)**. Then archesporium tissue divide periclinally to form **primay parietal cells (PPC)** on outer side and **primary sporogenous cell (PSC)** on inner side. Then PPC (outer side) further divides anticlinally and periclinally to form 3-5 layers of anther wall while inner PSC form pollen mother cells or microspore mother cells (2n).