

## **Quadrant II – Transcript and Related Materials**

**Programme: Bachelor of Science (Third Year)**

**Subject: Botany**

**Paper Code: BOC 105**

**Paper Title: Classical Taxonomy and Phylogeny**

**Unit: 01 -Morphology of Angiosperms**

**Module Name: Variations in flower-II**

**Module No: 19**

**Name of the Presenter: Mrs. Bhagyashri Laxman Halarnkar**

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### **Notes**

#### **Variations in flower-II**

Flower is considered as a highly modified shoot meant essentially for the sexual reproduction of the plant. It bears four whorls Calyx, Corolla, Androecium and Gynoecium. Calyx and Corolla are sterile whorls whereas Androecium and Gynoecium are fertile whorls.

Different terminologies are used for the flowers based on different criteria.

#### **A. Based on the insertion of floral leaves / parts.**

In a flower, the floral whorls are arranged on the swollen portion present at the tip of the pedicel. This swollen portion is called thalamus or torus/ receptacle. The floral whorls are inserted on the thalamus in different ways. Based on the relative position of the floral whorls with respect to the ovary there are three kinds of floral whorl insertions.

1. Hypogynous flower: In a typical flower, the ovary occupies the highest position on the thalamus, while the stamens, petals and sepals are

separately and successively inserted below the ovary. Such a flower is called hypogynous flower. In these flowers the ovary is superior and other floral whorls are inferior. *Hibiscus rosa sinensis* (Shoe flower), Mustard, Brinjal etc.

2. Perigynous flower: In some flowers, the thalamus grows upward around the ovary in the form of cup, carrying on its rim the sepals, petals and stamens. Such a flower is called perigynous flower. The ovary of the flower is said to be half inferior. e.g. *Rosa spp.*

3. Epigynous flower: In some flowers, the thalamus grows upwards, completely encloses the ovary and fuses with the ovary. The sepals, petals and stamens are borne on the top of the ovary. Such flowers are called epigynous flowers. The ovary in these flowers is said to be inferior and rest of the floral whorls superior. e.g. *Cucurbita spp.*

## **B. Based on the number of floral whorl units**

In a flower, the numbers of floral whorl units are same or one whorl is multiple of that of another. Based on the number of floral whorl units, the flowers are of three kinds:

1. Pentamerous flower: In a pentamerous flower, the number of floral whorl units are five or in multiples of five. e.g. *Hibiscus rosa sinensis*. Found mostly in dicots.

2. Tetramerous flower: In a tetraamerous flower, the number of floral whorl units are four or in multiples of four. E.g. *Brassica campestris* (Mustard).

3. Trimerous flower: In a trimerous flower, the number of floral whorl units are three or in multiples of three. Found mostly in monocots. Eg. *Cocos nucifera*, *Hedichium coronarium*. There are certain dicot plants showing trimerous flowers. e.g. *Annona reticulata*

