



Taxonomy examination (628 n)

Answer the following questions :

1- Write on The following Families:-

- a) Family Rosaceae
- b) Family Urticaceae
- c) Family Labiatae

2- Explain System of classification by :-

- i- Engler .
- ii- Theophrastus .

3- Discuss the system of classification :-

- a) Artificial .
- b) Phylogenetic .

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أستاذ المادة د/ احمد عبد الرازق عبد الله

كلية العلوم قسم النبات

Write on The following Families:-

a)-Family Rosaceae

Habit-: Mostly perennial Trees, Shrubs or herb.

Leaves-: Alternate, simple or pinnately compound stipulate.

Inflorescence: Solitary, racemose or cymose

Flower: hermaphrodite, actinomorphic.

Perianth: perianth 5- merous, sepals free.

Androecium: stamens numerous in many whorls Carpels free and numerous united, sometimes only one in Prunus. Ovary superior or inferior.

Placentation apical, basal or marginal.

b)-Family Urticaceae

-**Habit:** plant are annual or perennial herb,.

-**Stem:** erect and young.

-**Leaves:** leaves alternate

-**Inflorescence:** cymose inflorescence

-**Flowers :**unisexual

-**Perianth :-** 4 polysepalous.in tow whorled.

-**Androecium:** Four, stamens.

- **Gynoecium:** one carpels,

c) Family Labiate .

-**Habit:** plant are annual or perennial herb, tree or climbing habit

- Stem:** erect and young shoot are usually four sided or quadrangular
- Leaves:** are simple, opposite and exstipulate. A whorled leaf arrangement of 3 to 4 leaves is found in some genera
- Inflorescence:** cymose inflorescence
- Flowers:** hermaphrodite, zygomorphic
- Calyx:** 5 sepals, gamosepalous, persistent, campanulate or tubular.
- Corolla;** consists of 5 petals, gamopetalous. Tubular and limb variously bilabiate consists of two lips.
- Androecium:** Four didynamous and alternate with the corolla lobes. or two stamens in some species.
- Gynoecium:** two carpels, syncarpous

2-Explain System of classification by :-

i-Engler .

Phanerogams or seed plants divided into Dicotyledons, Gymnospermae and monocotyledons. Dicotyledons divided into Polypetalae, Gamopetalae and Monochlamydeae or incomplete

ii-Theophrastus .

Theophrastus gave a description to some 500 species of plants in his *Historia Plantarum* the oldest botanical work in existence. He pointed out fundamental differences between Dicotyledons and Monocotyledons and also recognized types of insertion of floral appendages thus laying the foundation for the study of floral morphology.

3-Discuss the system of classification :-

a)-Artificial .

This type of system was considered the earliest one and the system of this nature remained dominant from 300 B.c. up to about 1830 A.c. Since very little information was available about the plants these systems were based on one type or a few characters. An example for such a system is that suggested by different botanists such as Theophrastus, Secundus, Dioscorides and Linn. We refer to Theophrastus and Linnaeus. As an example for this type of system.

b)-Phylogenetic .

Phylogenetic (phylo= evolution. Genetic= relationship) systems attempt to classify plants and arrange them into groups from the simple and primitive to the complex and advanced . Most of these systems try to explain the relationships between primitive and advanced groups how advanced characters are derived from primitive ones. The modern phylogenetic system of classification is based on the following principles of evolution of the flower :-

- 1- From many to few .
- 2- From spiral to whorled .
- 3- From superior to inferior .
- 4- From many to few seed .
- 5- From small to large embryo.
- 6- Anthers from long to short.
- 7- From apocarpous to syncarpous.