Possible questions

Q1/ Fill the blanks with missing words; (choose 10 phrases from the box and write the appropriate one in the blank): (20 Marks)

1. The literal meaning of taxonomy in Greek, taxus means- - - - - - - - - - - - , and nomos means - - - - - - - - - - - - - - -.
2. The published works of Caesalpino was - - - - - - - - - - - - - - - , and of De Jussieu was - - - - - - - - - - - - - - - .
3. The ending of the name indicates its rank, as Subdivision ends with (phytina); The Class ends with - - - - - - -; and Order ends with - - - - - - -.
4. The families' alternative new names are also permitted ending in-aceae as: Umblliferae to - - - - - - - -, Gramineae to - - - - - - - - , Palmae to - - - - - - - -.
5. Observing a pollen grain from the direction of either pole is known - - - - - - - - - , and observing from the equatorial direction is known - - - - - - - - - - - - - - .

Q2/ Define only four of the following: (20 Marks)

1. Taxonomy 2. Plant habitat 3. Chemotaxonomy 4. Roots 5. Buds

Q3/ Enumerate and mention only three below: (30 Marks)

1) **Aestivation** arrangement of petals in the flower buds with figures help.
2) Five types of **Palmate compound** leaves with scientific names examples.
3) List the **Fleshy (succulent) fruits** and mention the scientific names for each.
4) types of capsule fruits based on the type or location of dehiscence with scientific names examples.

Q4/ Draw a Diagram of the following, with pointing their parts: (30 Marks)

1. Impari- pinnate Compound Leaf
2. Typical Flower parts (Four flower cycles).
3. Typical Root and Shoot system.

Genera Plantarum, Poaceae, opsida, Equatorial view, Fabaceae, ales, law or rule, Polar view, Apiaceae, De Plantis, Historia Plantarum. arrangement, phyta, Arecaceae.

Answer Keys:

Q1/ / Fill the blanks with missing words; (20 Marks)

1. Arrangement, law or rule
2. De Plantis, Genera Plantarum
3. opsida, ales
4. Apiaceae, Poaceae, Arecaceae
5. Polar view, Equatorial view

Q2/ Define only four of the following: (20 Marks)

1. Taxonomy is a major part of systematics that includes four components: **D**escription, **I**dentification, **N**omenclature, and **C**lassification (**DINC**).

2. Plant habit refers to the general form of a plant, encompassing a variety of components such as stem duration and branching pattern, development, or texture.

3. Chemotaxonomy The application of chemistry to systematics is called chemotaxonomy or chemical taxonomy**.** Chemical characters of plants have long been of practical value. Distribution of secondary compounds of low molecular weight such as, **Non-protein amino acids, Phenolic compounds, Flavinoids, Alkaloids, Terpenoids** and **Steroids** provide valuable clues to the systematist.

4. Roots are present in almost all vascular plants and typically function in absorption of water and minerals. The root is the underground organ of the plant. Its primary function includes uptake of water and minerals and anchorage of the above-ground (aerial) portions of the plant. Roots consist of an apical meristem that gives rise to a protective root cap, a central endodermis-bounded vascular system, absorptive epidermal root hairs, and endogenously developed lateral roots.

5. Buds: Buds are immature shoot systems, typically located in the axils of leaves. Buds may grow to form lateral vegetative branches or reproductive structures.

Q3/ Enumerate and mention only three below: (30 Marks)

1. Aestivation arrangement of petals in the flower buds with figures help.

Arrangement of sepals and petals in the bud which may be of following types:

A. Valvate;

B. Twisted;

C. Imbricate;

D. Quincuncial;

E. Vexillary;

2. Five types of **Palmate compound** leaves with scientific names examples.

1. **Uni-foliate**, as in *Citrus*.
2. **Bi-foliate**, as in *Bignonia grandiflora*.
3. **Tri-foliate**, as in *Oxalis*.
4. **Quadri-foliate**, as in *Paris quadrifolia* and *Marsilea quadrifoliata*.
5. **Multi-foliate**, as in *Acanthopanax*.

3. List the **Fleshy (succulent) fruits** and mention the scientific names for each.

Fleshy (succulent) simple fruits:

F. **Berry;** as in *Vitis, Phoenix* and *Lycopersicon*.

G. **Drupe;** as in *Prunus amygdalus, P. percicu, P. armenica, Juglans* spp. *Olea europaeus*, etc.

H. **Hesperidium;** as in *Citrus* spp. (orange, lemon, grapefruit, etc.).

I. **Pepo;** as in Cucurbitaceae (*Benincasa hispida* and *Cucurbita maxima*).

J. **Pome;** as in *Malus* and *Pyrus*

4. types of capsule fruits based on the type or location of dehiscence with scientific names examples.

a. **Loculicidal capsules,** as in *Hibiscus esculentus*.

b. **Septicidal capsules**, as in *Linum*.

c. **Circumscissile capsules**, as in *Plantago* and *Hyoscyamus*.

d. **Poricidal capsules**, as in *Papaver*, (POPPOY-**E**).