

B.Sc. Semester - 2 (CBCS) Examination
June/July-2022 [OLD COURSE]
BOTANY (CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
 2. Figures to the right indicate marks.
-

Q – 1 Answer the following questions as per the instruction**(a) Answer the questions very shortly (04)**

- (1) Give an example of modification of leaf **Stipule** into **Tendrils**.
- (2) State the difference between **Serrate** and **Dentate** margin of leaf.
- (3) Explain difference between **Bract** and **Bracteole**.
- (4) Give an example of multicosted divergent leaf venation.

(b) Answer shortly any one (02)

- (1) Give an example of Obtuse and Emarginate leaf apex.
- (2) Give an example of Adnate and Spinous stipules

(c) Answer the following question (any one) (03)

- (1) What is difference between **Habit** and **Habitat**?
- (2) Describe the pinnately compound leaf and its types.

(d) Answer the following question in detail (any one) (05)

- (1) Describe the different types of leaf margins with an example.
- (2) Discuss phyllotaxy in detail.

Q – 2 Answer the following questions as per the instruction**(a) Answer the questions very shortly (04)**

- (1) What is **Hilum**?
- (2) Give the name of **T - Shaped** Ovule.
- (3) Ground nut is an example of ____ type of fruit.
- (4) Mango is a **Drupe Fleshy Simple Fruit**. True or False?

(b) Answer shortly any one (02)

- (1) Define schizocarpic fruits and state only the name, of its types.
- (2) Define Simple fleshy fruit - Hesperidium.

(c) Answer the following question (any one) (03)

- (1) Discuss types of aestivation with an example.
- (2) Discuss types of placentation with an example.

(d) Answer the following question in detail (any one) (05)

- (1) Describe **Cymose** type of inflorescence.
- (2) Describe forms of **Corolla**.

Q – 3 Answer the following questions as per the instruction**(a) Answer the questions very shortly (04)**

- (1) In the Bentham and Hooker's classification system the first order is ____
- (2) Malvaceae family comes under ____ series.
- (3) Why the series name Glumeace is given in Bentham and Hooker's classification system?
- (4) Give any two plants scientific name of Malvaceae family.

- (b) Answer shortly any one** (02)
- (1) Give four important floral characters of Malvaceae family.
 - (2) Why the Nyctaginaceae family placed under curvembryae series?
- (c) Answer the following question (any one)** (03)
- (1) State the demerit of Bentham and Hooker's classification system.
 - (2) Describe floral characters of Poaceae family.
- (d) Answer the following question in detail (any one)** (05)
- (1) Describe characteristic of Apocynaceae family with floral formula, floral diagram and examples.
 - (2) Describe characteristic of Nyctaginaceae family with floral formula, floral diagram and examples.

Q –4 Answer the following questions as per the instruction

- (a) Answer the questions very shortly** (04)
- (1) Define explants.
 - (2) What is totipotency?
 - (3) Define pH.
 - (4) What is Numerical Aperture in light microscopy?
- (b) Answer shortly any one** (02)
- (1) State the application of TEM.
 - (2) Discuss importance of media selection in plant tissue culture.
- (c) Answer the following question (any one)** (03)
- (1) Discuss the principle of colorimeter.
 - (2) Describe application of plant tissue culture.
- (d) Answer the following question in detail (any one)** (05)
- (1) Discuss principle, instrumentation design and application of SEM.
 - (2) Discuss principle and methods of paper chromatography.

Q – 5 Answer the following questions as per the instruction

- (a) Answer the questions very shortly** (04)
- (1) Define Z - DNA.
 - (2) Give an example of sulfur containing amino acids.
 - (3) Give an example of nucleotides functions as coenzyme and vitamin.
 - (4) Give the name of aromatic amino acid.
- (b) Answer shortly any one** (02)
- (1) Give only the name with an example of enzyme classes.
 - (2) State the names and role of enzymes in DNA replication.
- (c) Answer the following question (any one)** (03)
- (1) Why the DNA is most advance genetic material as compare to the RNA.
 - (2) Describe structure of DNA.
- (d) Answer the following question in detail (any one)** (05)
- (1) Discuss step wise reaction of β - oxidation process.
 - (2) Describe the action mechanism of enzyme.
