

**R6737**

**Sub. Code**

**525201**

**M.Sc. DEGREE EXAMINATION, APRIL – 2022**

**Second Semester**

**Botany**

**TAXONOMY OF ANGIOSPERMS**

**(CBCS – 2019 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Monandria.
2. Taxon.
3. Theophrastus.
4. Herbarium.
5. Valid publications.
6. Monographs.
7. List out the economic importance of Aizoaceae.
8. Moonseed Family.
9. Showy mistletoes.
10. Spurge family.

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) “Angiosperms are monophyletic or polyphyletic origin” – Discuss.

Or

- (b) Give an account on the ancestry of angiosperm.

12. (a) Discuss about the merits and demerits of Bentham and Hooker system of classification.

Or

- (b) Comment on Chemotaxonomy.

13. (a) Write short notes on herbarium preparation.

Or

- (b) Describe in detail about the role of ICBN.

14. (a) Explain in detail about the economic importance of the family Rutaceae.

Or

- (b) Describe in detail about the floral characters of the family Annonaceae.

15. (a) List out the economic importance of the family Rubiaceae.

Or

- (b) Comment on the floral characters in Poaceae.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the scope, principle and aim of taxonomy.
  17. Explain in detail about the phylogeny system of classification.
  18. Give an account on the principles, of priority and limitation in valid publication.
  19. Discuss in detail about the general characters and economic importance of Fabaceae.
  20. Describe in detail about the general characters and economic importance of Solanaceae.
-

**R6738**

**Sub. Code**

**525202**

**M.Sc. DEGREE EXAMINATION, APRIL – 2022**

**Second Semester**

**Botany**

**PLANT ANATOMY, EMBRYOLOGY AND PLANT  
BREEDING**

**(CBCS – 2019 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Quiescent center.
2. Role of cambium in wound healing.
3. Anisocytic stomata.
4. Abscissic acid.
5. Bisporic embryo sac.
6. Sporopollenin.
7. Apospory.
8. Haustoria.
9. Clonal selection
10. Hybridization.

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe in detail about the phylogeny of phloem.

Or

- (b) Briefly explain about the role of cambium in grafting.

12. (a) Discuss about the primary and secondary structure of dicot stem.

Or

- (b) Describe the anomalous secondary growth Dracaena.

13. (a) Write short notes on the types of embryo sac.

Or

- (b) Describe in detail about the development of megaspore.

14. (a) Explain in detail about the types of endosperms.

Or

- (b) Describe in detail about the role of apospory in plant improvement.

15. (a) Explain in detail about the polyploidy.

Or

- (b) Explain in detail about mutation breeding for the improvement of yield.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the theories related to shoot and root apex.
  17. Explain in detail about the primary and secondary structure of dicot root.
  18. Give an account the steps involved in microsporogenesis.
  19. Discuss in detail about polyembryony.
  20. Discuss in detail about mass selection, pure selection, back cross breeding and inbreeding.
-

**R6739**

**Sub. Code**

**525203**

**M.Sc. DEGREE EXAMINATION, APRIL – 2022**

**Second Semester**

**Botany**

**PLANT PHYSIOLOGY AND BIOCHEMISTRY**

**(CBCS – 2019 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Diffusion
2. Photolysis of water
3. Oxidative phosphorylation
4. Nif and Nod genes
5. Florigen
6. Biological clock
7. Nomenclature
8. Biomolecules
9. Zwitter ions
10. Flavonoids

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Discuss about the opening and closing mechanism of stomata.

Or

- (b) Briefly explain about the red drop and Emerson's enhancement effect.

12. (a) Discuss about Pentose Phosphate pathway.

Or

- (b) Comment on the mechanism of nitrogen fixation.

13. (a) Write short notes on vernalization.

Or

- (b) Describe in detail about stress physiology with example.

14. (a) Explain in detail about the structure of carbohydrate.

Or

- (b) Describe in detail about the enzyme kinetics with examples.

15. (a) Briefly explain about the classification of proteins.

Or

- (b) Comment on saturated and unsaturated fatty acids



**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the light and dark reaction in photosynthesis.
  17. Explain in detail about the steps involved in glycolysis pathway.
  18. Give an account on the mode of action and physiological effect of growth regulators.
  19. Discuss in detail about the classification, nomenclature and properties of enzyme.
  20. Describe in detail about the classification, properties and structure of lipids.
-

**R6740**

**Sub. Code**

**525503**

**M.Sc. DEGREE EXAMINATION, APRIL – 2022.**

**Second Semester**

**Botany**

**HERBAL TECHNOLOGY**

**(CBCS – 2019 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

Write short notes on the following

1. Herbal medicine
2. Indigenous medicinal system
3. Medicinal uses of thulasi
4. *Strychnos nuxvomica*
5. Azadirachtin
6. Vanillin
7. *IUCN*
8. African periwinkle
9. *Curcumin*
10. *Phyllanthus amarus*

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Comment on the Ayurvedhic System of Medicine.

Or

- (b) Comment on any two medicinally important leaves.

12. (a) Bring out the diagnostic features and medicinal uses of Lamiaceae.

Or

- (b) Bring out the diagnostic features and medicinal uses of Euphorbiaceae.

13. (a) Give an account on Terpenoids and Flavonoids.

Or

- (b) Comment on the pharmaceutical importance of aromatic substances.

14. (a) Write about some of the medicinally important endangered plants of Tamilnadu.

Or

- (b) Elaborate on the in situ conservation methods of conservation with one example of region.

15. (a) Discuss the medicinal importance and chemical constituents of *Ocimum sanctum*.

Or

- (b) Explain the Importance of *Centella asiatica*.

**Part C**

(3 × 10 = 30)

Answer any **three** of the following questions in about 4 pages.

16. Give an account on the importance of medicinal plants in human health based on Indigenous systems of medicine.
17. Explain the toxicity and mechanism of action of seed based poisonous plants.
18. Describe the systematic position of Apiaceae and comment on the medicinal properties and importance
19. Describe in detail about the agro techniques used for the cultivation of *Phyllanthus amarus* and *Aloe Vera*.
20. Write an essay on IUCN red listed categories of species.

---

**R6741**

**Sub. Code**

**525501**

**M.Sc. DEGREE EXAMINATION, APRIL – 2022.**

**Fourth Semester**

**Botany**

**PLANT TISSUE CULTURE**

**(CBCS – 2019 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Hot Air Oven
2. Mercuric Chloride
3. Totipotency
4. Synchronization
5. Morphactin
6. Callus
7. PEG
8. Cybrids
9. Liquid nitrogen
10. Gene bank

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write short notes on the composition of MS medium.

Or

- (b) Critically comment on the Gamborg's medium.

12. (a) Discuss in detail about raft nurse technique.

Or

- (b) Give an account on the steps involved in plating methods.

13. (a) Discuss in detail about the role of cytokinins in plant tissue culture.

Or

- (b) Write short notes on micropropagation.

14. (a) Describe in detail about production of somatic hybrids.

Or

- (b) Critically comment on androgenesis.

15. (a) Briefly explain about the role of elicitors in hairy root culture.

Or

- (b) Add a note on Cryoprotectors.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Give an account on sterilization of culture room, vessel and explants.
  17. Write an essay on the steps involved in cell suspension culture with an example.
  18. Discuss in detail about the development somatic embryogenesis in tissue culture.
  19. Explain in detail about the steps involved in isolation and fusion of protoplast.
  20. Describe in detail about the role of transgenic plants in agriculture and pharmaceutical industry.
-