

R-4622

Sub. Code

525201

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Botany

TAXONOMY OF ANGIOSPERMS

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is systematic botany?
2. Give an example for fossil angiosperms.
3. *Historia of plantarum.*
4. *Die naturlichen pflanzenfamilien.*
5. Flora.
6. Periodicals.
7. List out the economic importance of Menispermaceae.
8. Soursop family.
9. List out the general characters of the family Amaryllidaceae.
10. List out the economic importance of Sapotaceae.

Part B

(5 × 5 = 25)

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

11. (a) Discuss about the scope of taxonomy.

Or

- (b) Briefly explain about the history of botanical explorations in India.

12. (a) Discuss about the Engler and Prantl system of classification.

Or

- (b) Comment on numerical taxonomy.

13. (a) Explain in detail about the principles of priority and limitation in valid publication.

Or

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

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

Or

- (b) Describe in detail about the floral diagram in Vitaceae.

15. (a) Comment on the floral characters in Loranthaceae.

Or

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

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the phylogeny of angiosperm.
 17. Explain in detail about Natural system of classification.
 18. Give an account on author citation, retention, Choice and rejection of names.
 19. Discuss in detail about the general characters and economic importance of Myrtaceae.
 20. Describe in detail about the general characters and economic importance of Asclepidaceae.
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R-4623

Sub. Code

525202

M.Sc. DEGREE EXAMINATION, APRIL 2021

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** the questions.

1. Korper-Kappe theory
2. Cytokinesis
3. Senescence
4. Leaf traces and leaf gaps
5. Monosporic embryo sac
6. Pollen incompatibility
7. Agamospory
8. Polyembryony
9. Pure selection
10. Back cross.

Part B

(5 × 5 = 25)

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

11. (a) Describe the phylogeny of xylem.

Or

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

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

Or

- (b) Describe the anomalous secondary growth in *Boerhaavia*.

13. (a) Discuss about the methods to overcome incompatibility.

Or

- (b) Write short notes on the triple fusion.

14. (a) Explain in detail about the role of apomixis in plant improvement.

Or

- (b) Describe in detail about embryo development in dicots.

15. (a) Explain in detail about mutation breeding for the improvement of yield.

Or

- (b) Critically comment on heterosis.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the structure and function of cambium.
 17. Explain in detail about the types of stomata.
 18. Give an account the development of megasporogenesis.
 19. Discuss in detail about the types of endosperms.
 20. Discuss in detail about various methods in plant breeding.
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R-4624

Sub. Code

525203

M.Sc. DEGREE EXAMINATION, APRIL 2021.

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. Osmosis
2. Quantasomes
3. Respiratory quotient
4. Nitrification
5. Vernalization
6. Senescence
7. Kinetics
8. Catalysts
9. Isoelectric points
10. Alkaloids

Part B**(5 × 5 = 25)**Answer **all** questions, choosing either (a) or (b)

11. (a) Discuss about passive and active absorption of water.

Or

- (b) Briefly explain about the photophosphorylation.

12. (a) Discuss about the electron transport system.

Or

- (b) Comment on the fat metabolism.

13. (a) Write short notes on photoperiodism.

Or

- (b) Describe in detail about the physiology of flowering.

14. (a) Explain in detail the mechanism of enzyme action.

Or

- (b) Describe in detail about various bond with example.

15. (a) Briefly explain about the secondary metabolites.

Or

- (b) Comment on plant Waxes and steroids.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the metabolism of glycolate pathway and its significance.
 17. Explain in detail about the steps involved in TCA cycle.
 18. Give an account on stress physiology with suitable example.
 19. Discuss in detail about the classification, structure and properties of carbohydrate.
 20. Describe in detail about the classification, properties and structure of proteins.
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R5466

Sub. Code

525503

M.Sc. DEGREE EXAMINATION, APRIL – 2021

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. AYUSH.
2. Write about any two medicinally important fruits.
3. Medicinal uses of Meliaceae.
4. Give any two examples of poisonous plants with binomial and family name
5. Alkaloids.
6. Coumarins.
7. *In situ* conservation.
8. Expound IPR
9. *Mentha arvensis*.
10. Uses of Aloe.

Part B

(5 × 5 = 25)

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

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

Or

- (b) Highlight on any two medicinally important roots.

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

Or

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

13. (a) Give an account on classification plant based Drugs.

Or

- (b) Comment on the pharmaceutical importance of terpenoids and steroids

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

Or

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

15. (a) Discuss the medicinal importance and chemical constituents of *Andrographis paniculata*.

Or

- (b) Explain the importance of *Catheranthus roseus*.

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 Siddha and Ayurvedha.
 17. Explain the toxicity and mechanism of action of any two poisonous plants.
 18. Discuss the techniques involved in isolation of biomolecules from medicinal plants.
 19. Describe in detail about the agro techniques used for the cultivation of *Withania somnifera* and *Curcuma longa*.
 20. Comment on the importance of Red data book.
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R5467

Sub. Code

525501

M.Sc. DEGREE EXAMINATION, APRIL – 2021

Fourth Semester

Botany

PLANT TISSUE CULTURE

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. HEPA filters
2. Sterilization
3. Explants
4. Suspension culture
5. Embryoids
6. Globular embryo
7. Emasculation
8. Hybrids
9. Immobilization
10. Elicitors

Part B

(5 × 5 = 25)

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

11. (a) Write short notes on pressure cooker.

Or

- (b) Critically comment on Laminar air flow chamber.

12. (a) Discuss in detail about totipotency.

Or

- (b) Give an account on isolation of procedure for single cell culture.

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

Or

- (b) Write short notes on Syn seed.

14. (a) Describe in detail about production of haploids.

Or

- (b) Critically comment on gynogenesis.

15. (a) Briefly explain about the role of gene bank in plant tissue culture.

Or

- (b) Add a note on deep freezer.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give an account on various sterilization methods.
 17. Write an essay on the selection and types of explants used in tissue culture.
 18. Discuss in detail about the development organogenesis in tissue culture.
 19. Explain in detail about the steps involved in another culture.
 20. Describe in detail about the application of tissue culture in agriculture, forestry and horticulture.
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