F–2998

Sub. Code
7MBO2C1

M.Sc. DEGREE EXAMINATION, APRIL 2021 &

SUPPLEMENTARY / IMPROVEMENT / ARREAR EXAMINATIONS

Second Semester

Botany

TAXONOMY OF ANGIOSPERMS AND ECONOMIC BOTANY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define phylogenetic system.
2. Mention the taxonomic contribution of Hutchinson.
3. Give note on chemotaxonomy.
4. What is RFLP?
5. Define typification.
6. What are monographs? Give examples.
7. Note on apocarpous.
8. Mention the economic importance of sapotaceae.
9. What is resupination?
10. Mention any two bark-drug yielding plants.

Part B (5 × 5 = 25)

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

11. (a) Write note on principles of classification.

Or

(b) Give an account on phylogeny of angiosperms.

12. (a) What is biosystematics? Explain its significance.

Or

(b) Give the advantages and disadvantages of dichotomous key.

13. (a) List out the principles of botanical nomenclature.

Or

(b) Describe the taxonomic accounts of local floras.

14. (a) Explain the floral characters of caryophyllacae and construct the floral diagram.

Or

(b) Discuss the floral character of verbenaceae and add note on its economic importance.

15. (a) Explicit the characters of Amaryllidaceae.

Or

(b) Write an account of spice yielding plants studied by you.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Give the outline of Bentham and Hooker's classification and add not on its merits and demerits.

17. Explain the taxonomy in relation to anatomy, embryology and cytology with suitable examples.

18. Discuss the role of botanical survey of India in plant science research.

19. Give a detailed account on vegetative and floral characters of Aristolochiaceae and mention its economic importance.

20. Describe the floral characters of Poaceae and list out the economically viable plants from this family.

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F–3001

Sub. Code
7MBO2E1

M.Sc. DEGREE EXAMINATION, APRIL 2021 &
SUPPLEMENTARY / IMPROVEMENT / ARREAR EXAMINATIONS
Second Semester

Botany

Elective – HERBAL BOTANY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Naturopathy.

2. Note on any two bark drugs.

3. What is powder microscopy?

4. Name the chemical constituents and trade drug name for *Adhatodq*.

5. Write about branches of pharmacognosy.

6. Give short note on uses of *Acorus Calamus*.

7. Name any four export value medicinal plants form India.

8. Give note on National Medicinal Plant Board.

9. What are herbal antioxidants?

10. How do you prepare herbal face mask?

Part B (5 × 5 = 25)

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

11. (a) Explain the medicinal plants used in Siddha system and their properties.

Or

(b) Mention the uses of root and rhizome drugs with suitable examples.

12. (a) How do you collect and prepare herbal drugs?

Or

(b) Explain the chemical constituents and therapeutic properties of *Eugenia* and *Strychnos*.

13. (a) How do you determine the adulteration of herbal drugs?

Or

(b) Enumerate the different phytochemical tests for analysing the constituents of *Strychnos*.

14. (a) Enlist the suitable medicinal plants for hilly areas with its significance.

Or

(b) Write about rejuvenating herbs with examples.

15. (a) Write an account on uses of antioxidant plants in herbal cosmetics.

Or

(b) Give the method for estimation of Vitamin – C in medicinal herbs.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Enlist the botanical descriptions of any ten drug yielding plants with drug resources.

17. Discuss the chemical composition and uses of Aloe, *Contella*, *Datura*, *Ocimum* and *Vinca*.

18. Elucidate the methods for Phytochemical investigation and standardization of herbal drugs.

19. Explain the cultivation practices of *Acorus Calamus*.

20. Describe the preparation methods for any four herbal cosmetics.

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F-3002

Sub. Code
7MBO2E3

M.Sc. DEGREE EXAMINATION, APRIL 2021 &
SUPPLEMENTARY / IMPROVEMENT / ARREAR EXAMINATIONS
Second Semester

Botany

***Elective*- FOOD PROCESSING TECHNOLOGY**

(CBCS – 2017 onwards)

Time: Three Hours Maximum: 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Body Building Food.
2. Colloidal foods.
3. Antioxidants.
4. Sweeteners.
5. Intravenous drug administration.
6. Postoperative diet.
7. Blanching.
8. Sealers
9. BIS
10. Codex alimentation

Part B (5 × 5 = 25)

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

11. (a) Give an account of the principle of food.

Or

(b) Explain the factors affecting the Basal Metabolic Rate.

12. (a) Bring out the importance of preservatives in food.

Or

(b) List down the humectants and anti caking agents of food.

13. (a) Explain the excretion of drugs.

Or

(b) Analyse the factors modifying the drug effect.

14. (a) How will you preserve the food by dehydration?

Or

(b) Explain the food preservation by irradiation.

15. (a) Explain the Quality plan.

Or

(b) Discuss the parameters that govern the quality of food.

Part C

(3 × 10 = 30)

Answer any **THREE** questions.

16. Write an essay on the energy value of food.

17. Discuss the types of dietary fibres.

18. How will you classify the drugs?

19. Examine the chemical preservation of food.

20. Write an essay on the role of FPO and PFA in maintaining the quality of food.

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F-3003

Sub. Code
7MBO2E4

M.Sc. DEGREE EXAMINATION, APRIL 2021 &
SUPPLEMENTARY / IMPROVEMENT / ARREAR EXAMINATIONS
Second Semester

Botany

***Elective*-WOOD SCIENCE**

(CBCS – 2017 onwards)

Time: 3 Hours Maximum: 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Secondary thickening meristem.
2. Ring porous wood.
3. Stratified cambium.
4. Photoperiod.
5. Micro fibrils.
6. Ideoblasts
7. Dendrochronology
8. Knots.
9. Pulp.
10. *Ailanthus excelsa.*

Part B (5 × 5 = 25)

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

11. (a) Give an account of the evolution of wood.

Or

(b) Explain the relationship between vascular cambium and wood.

12. (a) Give an account of the histochemistry of fusiform initial.

Or

(b) Bring out the differentiation of wood.

13. (a) Examine the chemistry of cell wall.

Or

(b) Analyze the secretary systems.

14. (a) Give an account of growth rings.

Or

(b) Compare heart wood with sap wood.

15. (a) List down the economic importance of pulp and wood species.

Or

(b) Describe the sources and manufacture of plywood.

Part C (3 × 10 = 30)

Answer any **THREE** questions.

16. Describe the independent origin of vascular cambium in different groups of plants.

17. Discuss the factors affecting the cambial activity.

18. Critically review the origin and structure of vessels and tracheids.

19. Analyse the compression wood and reaction wood.

20. Write an essay on paper making.

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F–5440

Sub. Code
7MBO2C2

M.Sc. DEGREE EXAMINATION, APRIL 2021 &

Supplementary/Improvement/Arrear Examinations

Second Semester

Botany

GENETICS AND EVOLUTION

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Concept of gene
2. Pleiotrophy
3. Molecular markers
4. Plastids
5. Karyotypes
6. Induced mutation
7. Natural selection
8. Prokaryotes
9. Molecular clocks
10. Genetic drift.

Part B (5 × 5 = 25)

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

11. (a) Write notes on multiple alleles and their significance.

Or

(b) Write about co-dominance with the help of a checkerboard.

12. (a) How will you construct linkage map? Explain the steps involved.

Or

(b) Explain maternal inheritance with an example.

13. (a) Write short notes on pedigree analysis.

Or

(b) Describe the alternations caused by duplication and inversion.

14. (a) Explain the Miller's experiment and its significance.

Or

(b) Write about Darwin's concept of natural selection.

15. (a) Briefly write about molecular tools in phylogeny.

Or

(b) Explain Hardy–Weinberg's law and its significance in population genetics.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss the homologous and non homologous recombination.

17. Write an essay on polygenic inheritance and QTL mapping.

18. Discuss the causes and types of mutations with example.

19. Describe the origin of unicellular organisms.

20. Write about sexual selection and co-evolution.

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F–5441	Sub. Code
	7MBO2C3

M.Sc. DEGREE EXAMINATION, APRIL 2021 &

Supplementary/Improvement/Arrear Examinations

Second Semester

Botany

FUNDAMENTAL PROCESSES, CELL COMMUNICATION AND CELL SIGNALING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Action of RNA polymerase.
2. Plasmids.
3. Elongation factors.
4. Aminoacyl +RNA synthetase.
5. Signaling molecular.
6. Chemotaxis.
7. B Cells.
8. Adaptive immunity.
9. Toll–like receptors.
10. Vaccines.

Part B (5 × 5 = 25)

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

11. (a) Outline the process of DNA replication.

Or

(b) Describe the structure and function of tRNA.

12. (a) Describe the initiation events of protein synthesis.

Or

(b) Write critical notes on gene silencing.

13. (a) Analyses the functions of gap junctions and integrins.

Or

(b) Write notes on quorum sensing.

14. (a) Distinguishing between innate and adaptive immunity.

Or

(b) Explain the function of Band T Cell epitopes.

15. (a) Write notes on primary and secondary immune modulation.

Or

(b) Explain hypersensitivity and autoimmunity Reponses.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on RNA synthesis and processing.

17. Analyse the control of gene expression at various levels.

18. Describe cell signaling mediated through G–protein receptors.

19. Critically analyse antibody engineering.

20. Outline the immune responses exhibited during bacterial and viral infection.

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