F–9433	Sub. Code
	7MBO2C1

M.Sc. DEGREE EXAMINATION, APRIL 2023.

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** the questions.

1. Amentiferae

2. Sexual system of classification.

3. Serotaxonomy

4. RFLP

5. Holotype

6. Monographs

7. Monadelphous

8. Birthwort family

9. Cleistogamy

10. Lodicules

Part B (5 × 5 = 25)

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

11. (a) Explain the merits of phylogenetic systems of classifications.

Or

(b) Give short note on evolution of Angiosperms.

12. (a) Explain the palynology in relation to taxonomy with examples.

Or

(b) Expound the types of manual identification keys.

13. (a) Enumerate the principles of ICBN.

Or

(b) Mention the role of botanical gardens in taxonomic research.

14. (a) Describe the floral characters of Capparidaceae with floral diagrams.

Or

(b) Discuss the vegetative and floral characters of Gentianaceae.

15. (a) Enlist the economic importance of Poaceae.

Or

(b) Mention the types of oil yielding plants.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Give the outline of Bentham and Hooker's system of classification and add note on its merits.

17. Explain the role of secondary metabolites in plant taxonomy with suitable evidences.

18. Give an account on the processes of typification and their types with examples.

19. Describe the vegetative and floral characters of Verbenaceae with suitable illustrations.

20. Write an account on sources and their uses of spices and condiments studied by you.

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F–9434	Sub. Code
	7MBO2C2

M.Sc. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Botany

GENETICS AND EVOLUTION

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Allele.
2. Crossing over.
3. Chloroplast genes.
4. Molecular markers.
5. Define Mutation.
6. Chromosomes.
7. Nucleotide.
8. Define Gene pool.
9. Sympatricity.
10. Co-evolution.

Part B (5 × 5 = 25)

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

11. (a) Briefly explain the Pleiotropy.

Or

(b) Elaborately discuss the genomic imprinting.

12. (a) Write a short notes on gene mapping methods.

Or

(b) Describe the heritability and its measurements.

13. (a) Give a brief account of the mutant types.

Or

(b) Briefly explain the Ploidy and their genetic implications.

14. (a) Explain the origin of cells and unicellular evolution.

Or

(b) Write a short note on origin of eukaryotic cells.

15. (a) Briefly explain the concept of Oparin and Haldane.

Or

(b) Write a short note on anaerobic metabolism.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on recombination with suitable diagram.

17. Explain in detail the gene mapping by using somatic cell hybrids.

18. Give a detailed account of the structural and numerical alternation of chromosomes.

19. Elaborately describe the origin of basic biological molecules.

20. Write an essay on concepts and rate of change in gene frequency through natural selection.

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F–9435	Sub. Code
	7MBO2C3

M.Sc. DEGREE EXAMINATION, APRIL 2023.

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. Define DNA and RNA.
2. Define Capping and elongation.
3. Explain about prokaryotes.
4. Define tRNA.
5. What are the hormones?
6. What is Hematopoiesis?
7. What is antibody and antigens?
8. What are the B and T Cell epitopes?
9. Toll like receptors — Explain.
10. Define MHC molecules.

Part B (5 × 5 = 25)

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

11. (a) Explain the DNA replications.

Or

(b) Write notes on replication fork.

12. (a) Briefly explain about transcription activator.

Or

(b) Write notes on repressor.

13. (a) Write a short note on elongation factors.

Or

(b) Explain about cellular communication.

14. (a) What are monoclonal antibodies? Give some examples.

Or

(b) Give an account on Immunogenicity and their functions.

15. (a) Explain about MNC molecules.

Or

(b) Comment on antigen processing.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the types of RNA and RNA transport.

17. Write an essay on initiation complex and their regulation.

18. Explain the general principles of cell communication.

19. What is the function of antibodies? Explain.

20. Activation and differentiation of B and T cells – Explain.

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F–9436	Sub. Code
	7MBO2E1

M.Sc. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Botany

Elective — HERBAL BOTANY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is codified systems of medicine?

2. Give the morphological classification of natural drugs.

3. Define powder microscopy.

4. Mention the source of centelloside.

5. Note on the types of drug evaluation.

6. Mention the source of Curcumin.

7. What are propagules form medicinal herbs?

8. Mention any two well-known export value herbs from Tamil Nadu.

9. Name any two cosmetic herbs.

10. What are the constituents of herbal shampoo?

Part B (5 × 5 = 25)

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

11. (a) List out the Unani medicinal plants.

Or

(b) How do you describe the morphology of raw drugs.

12. (a) Write about organoleptic characters of plant drugs.

Or

(b) Enlist the therapeutic uses of *Adhatoda* and *Eugenia*.

13. (a) How do you evaluate the phytochemical constituents of plant drugs?

Or

(b) Write down the procedure for chemical testing of *Allium sativum*.

14. (a) List out the medicinal plants suitable for home gardens.

Or

(b) Write about propagation methods for *Rauvolfia*.

15. (a) Give an account on current status of cosmetic industries in India.

Or

(b) How do you prepare herbal bath oil?

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Discuss the Siddha medicinal system with disease diagnostic methods and uses of herbals.

17. Write an account on chemical constituents and pharmacological uses of *Piper nigrum* and *Strychnos nux-vomica*.

18. Enlist the adulterants for crude drugs and add note on its methods of detection.

19. Describe the cultivation methods for *Acorus calamus*.

20. Explain the procedure for estimation of Vitamin C from plant sources.

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F–9437

Sub. Code
7MBO2E3

M.Sc. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Botany

Elective – FOOD PROCESSING TECHNOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is nutrition?

2. Define Emulsions.

3. Define Dietary fiber.

4. Flavoring substance of food

5. Drug administration

6. Hospital diets

7. Irradiation system of food processing

8. Define freezing

9. Mention any two food laws

10. Food safety

Part B (5 × 5 = 25)

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

11. (a) Write brief notes on energy utilization in cell and energy balance.

Or

(b) Write short notes on energy value of food and its determination.

12. (a) Describe the nutrient supplement of food production.

Or

(b) Explain the role of antioxidants in food processing

13. (a) Describe the biotransformation and excretion of drugs.

Or

(b) List out the objectives of diet theraphy.

14. (a) Write the importance of membrane separation equipment in food processing.

Or

(b) Describe the steps involved in food packaging.

15. (a) Write brief notes on documentation and record maintanence of food production.

Or

(b) Write short notes AGMARK and BIS.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Give an account on physiochemical properties and principles of food.

17. Describe the types and importance of food adulteration.

18. Write briefly explain the mechanism of drugs action.

19. Discuss in detailed about the chemical principles in food processing.

20. Write an essay on food safety and standard acts.

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