S–3939

Sub. Code
23MBO1C1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

PLANT DIVERSITY-I (ALGAE, FUNGI, LICHENS AND BRYOPHYTES)

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. BGA.
2. Non-motile colony.
3. Coenocytic mycelium.
4. Basidiocarp.
5. Fruticose lichen.
6. Apothecium.
7. Gemma gups.
8. Elaters .
9. Carrageenam.
10. SCP.

Section B (5 × 5 = 25)

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

11. (a) Give an outline about the classification of algae proposed by F.E. Fritsch.

Or

(b) Write about the diverse habitats of algae.

12. (a) Give the salient feature of Zygomycetes.

Or

(b) Write a brief account on heterothallism in fungi.

13. (a) Explain the inter-relationship of phycobionts and mycobionts.

Or

(b) Elucidate the structure of Dueterolichens.

14. (a) Describe the structure of *Porella* gametophyte.

Or

(b) Write short notes on reproduction in *Polytrichum*.

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

Or

(b) Enumerate the ecological and economic importance of bryophytes.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss in detail about the range of thallus organization in algae.

17. Give an elaborate account on the structure and reproduction of *Polyporus*.

18. Elucidate the structure and reproduction of Ascolichens.

19. Describe the general characters of Bryophytes.

20. Elaborate the cultivation methods of *Pleurotus* mushrooms.

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S–3940

Sub. Code
23MBO1C2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

PLANT DIVERSITY – II (PTERIDOPHYTES, GYMNOSPERMS AND PALEOBOTANY)

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** questions

1. Apogamy.
2. Homosporous.
3. Sporophyll.
4. Prothallus.
5. Pycnoxylic wood.
6. Coralloid root.
7. Foliage leaf.
8. Ephedrine.
9. Mummification.
10. Devonian period.

Section B (5 × 5 = 25)

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

11. (a) Outline the classification of pteridophytes by Remier.

Or

(b) Discuss – Telome theory.

12. (a) Describe the morphology of *Equisetum*.

Or

(b) Briefly explain the life history of *Azolla*.

13. (a) Enumerate the general characters of Gymnosperms.

Or

(b) Outline the classification of Gymnosperms by K.R.Sporne.

14. (a) Explain the reproductive structures of Gnetum.

Or

(b) Briefly explain the out life history of *Thuja*.

15. (a) Write a brief account on Gondwana flora of India.

Or

(b) Discuss about the contribution of Birbal Sahni to Palaeobotany.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. List out the general characters of Pteridophytes.

17. Describe the structure and reproduction of *Isotes*.

18. Enlist the economic importance of Gymnosperms.

19. Explain the life history of *Gnetum*.

20. Give an elaborate account on Geological time scale.

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S–3941

Sub. Code
23MBO1E1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

Elective: MICROBIOLOGY, IMMUNOLOGY AND PLANT PATHOLOGY

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions.

1. Batch Culture.

2. Haemocytometer.

3. Bacteriophage.

4. Viroids.

5. Rhizosphere.

6. Neurotoxin.

7. Immune System.

8. Vaccines.

9. Integrated Pest Management.

10. Legislation.

Section B (5 × 5 = 25)

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

11. (a) Write about the Batch culture and Continuous culture.

Or

(b) Explain the Nutritional type of Bacteria.

12. (a) Explain the general characters and classification viruses.

Or

(b) Write about the Lysogenic cycle.

13. (a) Explain the Food preservation methods.

Or

(b) Describe the spoilage of fruits, vegetables, meats and eggs.

14. (a) Briefly explain about the properties and types of antigens.

Or

(b) Write about structure and types of Antibody.

15. (a) Write about the Late blight of potato.

Or

(b) Explain the Little leaf of Brinjal.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the Bergey's classification of Bacteria.

17. Write about the General characters and classification of viruses.

18. Describe the Food preservation methods.

19. Briefly explain properties and types of antigen.

20. Explain the structural and biochemical defences in host plants.

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S–3943

Sub. Code
23MBO1E3

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

Elective: PHYTOPHARMACOGNOSY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions

1. Ayurveda.
2. Depressants.
3. Anabolism.
4. Phenolic compounds.
5. Mass spectrometry.
6. HPLC.
7. Pharmacogenomics.
8. Bitter tonic.
9. Poisonous plants.
10. *Bacillus thuringiensis*.

Part B (5 × 5 = 25)

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

11. (a) Distinguish the various systems of classification of Drugs.

Or

(b) Explain the history of Pharmacognosy.

12. (a) Give an account of modern approaches for quality control of Drugs.

Or

(b) Explain in detail about the Shikimate acid pathway.

13. (a) Explain the pharmacological action of plant drugs on Central nervous system.

Or

(b) Bring out the quality control of Plant drugs.

14. (a) Enlist the role of carminative drug in pharmacognasy.

Or

(b) Explain the functions of Pharmacogenomics.

15. (a) Define 'Biofungicides'. Write its advantages.

Or

(b) Write an essay on Hallucinogenic plants.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write about the pharmacological action of Plant drugs.

17. Elucidate the Acetate-Mevalonate pathway.

18. Give the different types of extraction methods for plant drugs.

19. Write the pharmacological action of plant drugs on Cardiotonics, CNS-stimulatant.

20. Write an account of the importance of Biopesticides and Biocides.

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S–3945

Sub. Code
23MBO1E5

M.Sc DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

Elective: ETHNOBOTANY, NATUROPATHY AND TRADITIONAL HEALTH CARE

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. Culture Diffusion.
2. Anthropology.
3. Badagas.
4. Thodas.
5. Travelogue.
6. Folklore medicine.
7. Naturopathy.
8. Environmental Assessment.
9. Metabolomic Analysis.
10. Value Addition.

Section B (5 × 5 = 25)

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

11. (a) State the important landmarks in the development of Ethnobotany.

Or

(b) Write notes on sub disciplines of Ethnobotany.

12. (a) Briefly discuss about the tribes of Tamilnadu.

Or

(b) Write short notes on Irulas.

13. (a) Illustrate the literary sources of Ethnobotanical data.

Or

(b) Describe the plants associated with culture and socio-religious activities.

14. (a) Comment on Natural Therapies.

Or

(b) Explain the health practices followed traditionally to maintain well being.

15. (a) Discuss about Ethnobotanical databases.

Or

(b) Give an account on TKDL.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Write an essay about Ethnobotanical studies in the world.

17. Give an account on the plants used by Tribals of Tamilnadu.

18. Comment on Non Timber Forest Products and livelihood in detail.

19. Discuss about Naturopathic manipulation.

20. Give a detailed account on Bioprospecting of Indian Traditional plants.

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S–3946

Sub. Code
23MBO1E6

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

Elective: HORTICULTURE

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. Olericulture
2. Gardening
3. Fertilization
4. Compost
5. Tuber
6. Sucker
7. Embryo Rescue
8. Artificial seeds
9. Flower Arrangement
10. Turfing

Section B (5 × 5 = 25)

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

11. (a) Write short note on Pomology.

Or

(b) Brief account on Respiration.

12. (a) Explain the importance of organic manure.

Or

(b) Write about the Green manures.

13. (a) Write about notes on Approach grafting.

Or

(b) Explain the micro propagation of horticultural plants.

14. (a) Write about the Artificial seeds.

Or

(b) Describe somatic Embryogenesis.

15. (a) Write short notes in Terrarium culture.

Or

(b) Define Indoor gardening? List out the important components of Indoor gardens.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Write brief account on Photosynthesis.

17. Write about the importance Organic manures.

18. Discuss about the seed Dormancy breaking.

19. Explain about Gravel culture.

20. Describe the harvesting, storage, processing and marketing of Horticultural products.

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S–3947

Sub. Code
23MBO1S1

M.S.c. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

NURSERY AND GARDENING

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section - A (10 × 2 = 20)

Answer **all** questions

1. Sickle.
2. Hardening.
3. Endosperm.
4. Hypocotyl.
5. Stem cutting.
6. Tip layering.
7. Indoor gardening.
8. Horticulture.
9. Soil laying.
10. Vegetable Marketing.

Section - B (5 × 5 = 25)

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

11. (a) Write about the planning and seasonal activities of Nursery.

Or

(b) Enlist the objectives and scope of nursery.

12. (a) Discuss about the Seed dormancy.

Or

(b) Bring out the important goals of Seed production technology.

13. (a) Briefly explain about the Air-layering.

Or

(b) Analyze the Hardening of plants.

14. (a) Explain the Landscape gardening.

Or

(b) Give a concise account on Home gardening.

15. (a) How to manage the pests and diseases in gardening.

Or

(b) Examine the cultivation methods of Lady's finger.

Section - C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain about the building up of infrastructure for Nursery.

17. Draw and describe the structure of Seed and it's types.

18. Write concise notes on:

    (a) Green house

    (b) Mist chamber

    (c) Glass house.

19. Give a detailed account on different types of Gardening.

20. Analyze the cultivation methods of Onion and Tomatoes.

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S–3948

Sub. Code
23MBO1S2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

First Semester

Botany

HERBAL TECHNOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions

1. Pharmocognosy.
2. Crude Drugs.
3. Secondary metabolite.
4. *Catheranthus roseus*
5. Adulterants
6. Trichomes
7. Glycosides
8. Volatile oils
9. Biocides
10. Biopesticides

Part B (5 × 5 = 25)

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

11. (a) Write about the scope and importance of crude drugs.

Or

(b) Explain the morphological classification of crude drugs.

12. (a) Describe the Biotransformation.

Or

(b) Explain the Hairy root culture.

13. (a) Explain the chemical Evaluation of drugs.

Or

(b) Write about the types of adulterants.

14. (a) Describe the volatile oil Extraction methods.

Or

(b) Write about Glycosides.

15. (a) Write short notes on cinchona.

Or

(b) Explain the Biopesticides.

Part C (3× 10 = 30)

Answer any **three** questions.

16. Explain the cultivation and utilization of medicinal and aromatic plants in India.

17. Describe the role of plant tissue culture in Secondary metabolite production.

18. Write about the physical methods of drug Evaluation.

19. Explain the some herbal formulation techniques as drug cosmetics.

20. Describe the Application of Phytochemicals in phytopharmaceuticals.

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S–3949

Sub. Code
23MBO2C1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Botany

PLANT TAXONOMY OF ANGIOSPERMS AND ECONOMIC BOTANY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions

1. Herbarium.
2. BSI.
3. Binomial nomenclature.
4. Typification.
5. Buckthorn family.
6. Samara fruit.
7. Hermaphrodite.
8. Figwort family.
9. Asafoetida.
10. Lemon grass oil.

Part B (5 × 5 = 25)

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

11. (a) Outline the Linnaeus system of classification.

Or

(b) How to prepare herbarium? Explain it's maintenance .

12. (a) Discuss- Chemotaxonomy.

Or

(b) Enlist the importance and principles of Nomenclature.

13. (a) Explain the floral characters of Sterculiaceae.

Or

(b) List out the economic importance of Rhamnaceae.

14. (a) Describe the characteristic features of Sapotaceae.

Or

(b) How are Verbenaceae economically important.

15. (a) Write about the Oil yielding plants.

Or

(b) Write a concise notes on Timber wood.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Briefly explain about the Botanical survey of India-it's organization and role.

17. Write concise notes on:
    (a) Numerical taxonomy
    (b) Biosystemics
    (c) Taxonomic literature
    (d) ICBN

18. Describe the characteristics features of Sapindaceae and it's economic importance.

19. Write an illustrative account on the family Commelinaceae and it's economic importance.

20. Give an detailed account on Sugar yielding plants and Drug yielding plants.

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S–3952

Sub. Code
23MBO2E1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Botany

Elective: MEDICINAL BOTANY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** questions

1. State about Naturopathy.
2. Define Umoor-etabiya.
3. Explain histochemistry.
4. Brief about authenticity.
5. Provide any two active ingredients of *Terminalia arjunafor* cardio protection.
6. Name any two therapeutic uses of *Curcuma longa*.
7. Explain the sacred groves as a conservation area for medicinal plants.
8. What is meant by augmentation in medicinal botany?
9. Highlights the folk medicines.
10. Ethno ecology.

Section B (5 × 5 = 25)

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

11. (a) Explain the beliefs of the Unani system of medicine and its therapeutic approaches.

Or

(b) Explain the significance of traditional system of medicine.

12. (a) Identify the important phytoconstituents and their plant sources.

Or

(b) Provide the biological methods of staining in histochemistry.

13. (a) Examine the active principles and medicinal uses of *Commiphora*.

Or

(b) Determine the Malarialand therapeutic applications of *Cinchona* and *Artemisia*.

14. (a) Analyze which approach is suitable for conservation of medicinal plants.

Or

(b) Describe the management policies for conservation and sustainable utilization of medicinal plants.

15. (a) Analyze the concept, methods and applications of ethnobotany and folk medicine.

Or

(b) Distinguish the contribution of Irulas and Kanis tripes in medicinal botany.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Elaborate account of the Siddha medicine system with emphasis on origin, types and treatments.

17. Identify the adulteration and admixtures of drugs.

18. Write the active principles, biochemical characteristics and medicinal uses of *Catharanthus roseus*.

19. Examine the in-situ conservation strategies for endangered medicinal plants.

20. Comment critically on the association of plants with culture, social, religious and medicinal purposes.

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S–3958

Sub. Code
23MBO2S1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Second Semester

Botany

AGRICULTURE AND FOOD MICROBIOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. Cyanobacteria.
2. Phosphate solubilizing microorganisms.
3. Biocontrol.
4. Biofertilizer.
5. Basidiocarp.
6. SCP.
7. Food intoxication.
8. Spoilage of food.
9. Salting.
10. Drugs.

Section B (5 × 5 = 25)

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

11. (a) Describe the Role of cyanobacteria in agriculture.

Or

(b) Write about the mycorrhiza.

12. (a) Explain about the mass cultivation of *Azolla*.

Or

(b) Write notes on Field Application of *Rhizobium*.

13. (a) Write about the uses of *spirulina* SCP.

Or

(b) Explain the nutritive value of Edible mushrooms.

14. (a) Write notes on Food poisoning.

Or

(b) Describe the microbial spoilage of cereals and vegetables.

15. (a) Give a detail account on Food process techniques.

Or

(b) Describe any three methods of Food preservation.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Describe the Plant growth promoting microorganism.

17. Explain about Biocontrol of plant pathogens.

18. Discuss the mass cultivation of *Spirulina* single cell protein.

19. Write about Food preservation processes.

20. Explain the industrial production of drugs.

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S–3960

Sub. Code
23MBO3C1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

CELL AND MOLECULAR BIOLOGY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. List any four specialized plant cells and their functions.
2. Differentiation carrier channels from pumps.
3. Comment on RNA editing.
4. Name the components present in chloroplast.
5. Write the functional significance of ribosomes.
6. Define nuclear pore.
7. What do you mean by overlapping genes?
8. Enlist the steps involved in DNA repair.
9. Define cytokinesis.
10. What is the function of E2F protein?

Section B (5 × 5 = 25)

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

11. (a) Brief the structural organization of plant cell.

Or

(b) Infer the role of plasmodesmata in movement of molecule.

12. (a) Examine the chemical composition and functions of vacuole.

Or

(b) Discuss microbodies and their importance.

13. (a) Explain the structure of RNA.

Or

(b) Mention the different forms of DNA.

14. (a) Write short notes on DNA sequencing.

Or

(b) Describe the post transcriptional changes in RNA.

15. (a) Comment on insertion elements and their functions.

Or

(b) Summarize the stages involved in cell cycle.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Elaborate the structure of plasma membrane with special reference to fluid mosaic model.

17. Mitochondria is the powerhouse of the cell-substantiate in detail.

18. Analyse the structure and functions of nucleus.

19. Narrate the steps involved in translation.

20. Discuss bacterial conjugation in detail.

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S–3961

Sub. Code
23MBO3C2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

GENETICS AND PLANT BREEDING

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. State the laws of inheritance.
2. What do you mean by quantitative inheritance?
3. How site-specific recombination occurs?
4. Which defect occurs in xeroderma pigmentosum?
5. List out the molecular markers used in gene mapping.
6. What is somatic cell hybrid mapping?
7. Define plant breeding.
8. Mention the desirable characters in plant breeding.
9. What is allopolyploidy?
10. Mention the achievements in plant breeding.

Section B (5 × 5 = 25)

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

11. (a) Explain Britten and Davidson model of gene regulation.

Or

(b) Give an account on trp operon.

12. (a) Differentiate homologous and non-homologous recombination.

Or

(b) Infer UV induced mutation and its repair mechanism.

13. (a) Discuss extra chromosomal inheritance.

Or

(b) Brief the importance of linkage maps and tetrad analysis.

14. (a) Examine the role of hybridization in crop improvement.

Or

(b) Comment on genetic basis of plant breeding.

15. (a) Summarize the advanced methods in plant breeding.

Or

(b) Write short note on genetic basis of heterosis.

Section C (3 × 10 = 30)

Answer any **three** questions.

16. Elaborate gene interactions and modified dihybrid ratios.

17. Write an essay on various types of mutations.

18. Explain the organization of chloroplast and mitochondrial DNA.

19. Narrate the breeding methods for self and cross pollinated crops.

20. Describe the quarantine regulations in plant breeding.

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S–3962

Sub. Code
23MBO3C3

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

RECOMBINANT DNA TECHNOLOGY AND INDUSTRIAL APPLICATION

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Section A (10 × 2 = 20)

Answer **all** the questions

1. What is recombinant DNA?
2. Define restriction endonucleases with examples
3. What is insertional inaction?
4. Define GenBank.
5. What is vitamin B12?
6. Define plasminogen
7. Define recombinant hormones.
8. What is interferons?
9. Define rDNA technology.
10. What do you mean by bioethics.

Section B (5 × 5 = 25)

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

11. (a) Explain about the detection of recombinant molecule.

Or

(b) Give an account on the alkaline phosphatase and their role in cloning

12. (a) Explain about the DNA sequencing based on sanger dideoxynucleotides

Or

(b) Discuss about the DNA sequence database.

13. (a) How do you produce human deoxyribonuclease I by rDNA technology.

Or

(b) Write about the production of L-asparaginaseusing recombinant method.

14. (a) Write short note on the production erythropoietin to treat anemia.

Or

(b) Discuss about the production of interferons using recombinant method.

15. (a) Discuss about the golden rice using rDNA technology.

Or

(b) Write the role of fungal α-amylase in sericulture.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Briefly discuss about the direct and indirect gene transfer methods.

17. Write about the selection of recombinants by direct selection methods.

18. Discuss about the production of vitamin-C by recombinant bacteria.

19. Discuss about the preparation of hepatitis B vaccine using rDNA technology.

20. Briefly explain the disease resistance crops with special reference to Bt-cotton.

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S–3964

Sub. Code
23MBO3E2

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

Elective — ENTREPRENEURIAL OPPORTUNITIES IN BOTANY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. Fertilizer
2. Manures
3. Aerobic
4. Grafting
5. Budding
6. Indoor garden
7. Preservation technique
8. Diary product
9. Edible mushroom
10. Spawn.

Part B (5 × 5 = 25)

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

11. (a) Comment on the NPK content of various fertilizers.

Or

(b) Write short notes on: organic manures.

12. (a) Mention the factors affecting the seed propagation.

Or

(b) Write about seed propagation methods.

13. (a) How to make indoor garden?

Or

(b) Narrate the terrace garden techniques.

14. (a) Give a brief note on heat treatment.

Or

(b) Write about the backing methods of fruit and vegetables.

15. (a) Give a brief note on any two value added products of mushroom.

Or

(b) Bring out the nutritional contents of mushroom.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the preparation of organic manures and fertilizer.

17. Discuss in detailed about the vegetative propagation.

18. Explain the steps involved in the ornamental garden designing.

19. Explain about wine preparation.

20. Brief discuss about the cultivation techniques and harvesting of oyster mushroom.

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S–3965

Sub. Code
23MBO3E3

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

Elective – APPLIED PLANT CELL AND TISSUE CULTURE

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions

1. Write briefly about totipotency.
2. Composition of B5 medium.
3. Define hardening.
4. Give any two reasons for factors affecting micro propagation.
5. Explain the anther culture.
6. Clarify the somatic hybridization.
7. State about organ culture.
8. What is the first step in the extraction of alkaloids from plant material?
9. Biotransformation.
10. Cryopreservation.

Part B (5 × 5 = 25)

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

11. (a) Illustrate the laboratory organization for tissue culture.

Or

(b) Elucidate the methods of sterilization.

12. (a) Give a brief account of multiplication of axillary and apical shoots.

Or

(b) Highlights the practical applications of micropropagation.

13. (a) List out the applications of single cell and cell suspension culture.

Or

(b) Describe the somatic hybridization and cybridization.

14. (a) Explain the advantages of cell, organ and tissue culture as a source of secondary metabolites.

Or

(b) Explicit the screening of high yielding cell lines.

15. (a) Enlighten the germplasm storage and conservation.

Or

(b) Describe the steps which involved in the biotransformation of bioplastics.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Narrate the types of plant culture media and their compositions.

17. Explain the steps and significance of organogenesis and somatic embryogenesis.

18. Provide an elaborate account of protoplast culture.

19. Discuss the procedures for extraction of high value industrial products.

20. Examine the steps involved in the cryopreservation of plant materials and its significance.

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S–3966

Sub. Code
23MBO3E4

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

Elective: INDUSTRIAL BOTANY

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

Write relevant short notes on:

1. Phycocolloids.
2. Agarose.
3. Zymase.
4. Submerged fermentation.
5. Veneer.
6. Arabic gums.
7. Biofilms.
8. Mineralization.
9. T-DNA.
10. Synseeds.

Part B (5 × 5 = 25)

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

11. (a) Reckon the various applications of carrageenin.

Or

(b) Expound the formation and utilization of diatomaceous earth.

12. (a) Explain the methods in cheese production.

Or

(b) Highlight the role of fungi in protein manufacturing.

13. (a) Give an elaborate account on plant sugars and starches.

Or

(b) Expound the sources and applications of rubber.

14. (a) Illustrate the biochemistry of biogas production.

Or

(b) Give a brief account on role of microbes in dairy industry.

15. (a) Discuss the necessity, advantages and disadvantages of edible vaccines.

Or

(b) Brief the methods in cell culture.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Enumerate the contributions of seaweeds in fertilizer industry.

17. Narrate the critical steps involved in the bioproduction of ethanol.

18. Elaborate the economics of fibre-yielding plants.

19. Discuss the bioremediation of oil spill in ocean.

20. Enunciate the common techniques in producing transgenic plants.

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S–3967

Sub. Code
23MBO3S1

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024

Third Semester

Botany

SILVICULTURE AND COMMERCIAL LANDSCAPING

(CBCS – 2023 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Horticulture.

2. Irrigation.

3. Pest control.

4. Propagation.

5. Budding.

6. Layering.

7. Pruning.

8. Seedless fruit.

9. Binomial name of cabbage and Snake Guard.

10. Floriculture.

Part B (5 × 5 = 25)

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

11. (a) Write short notes on importance of Horticulture.

Or

(b) How will you product a plant from pest?

12. (a) Explain the advantages of seed propagation.

Or

(b) Describe the methods used in seed bed preparation.

13. (a) Describe stem cutting.

Or

(b) Explain air layering.

14. (a) Give a short note on seedless fruit production.

Or

(b) Write about lawn making and maintenance.

15. (a) Mention the preparation procedure for hanging baskets.

Or

(b) Write about rockery type garden preparation.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. List out the advantages and disadvantages of vegetative propagations.

17. Discuss the steps involved in fruit crop production.

18. Give a detail account on indoor gardening.

19. Explain Floriculture techniques.

20. Explain briefly about the various components of a gardens.

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