(101BO24)

M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Botany

PLANT SYSTEMATICS

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

UNIT I

1. (a) Describe the concepts and basic components of systematics.

Or

(b) Describe the principles, rules and recommendations of nomenclature.

UNIT II

2. (a) Give angiosperm phylogeny group classification.

Or

(b) Give a brief account of Basal angiosperms and Magnoliids.

UNIT III

3. (a) Explain the role of cytology in resolving taxonomic disputes.

Or

(b) Explain the role of Botanical Survey of India.

UNIT IV

4. (a) How taxonomic keys are helpful in plant identification?

Or

(b) How do you prepare an herbarium? What are its uses? Name five important herbaria of India and the world.

UNIT V

5. (a) Explain the role of primary and secondary metabolites in chemosystematics.

Or

(b) Describe restriction site analysis and allozymes and their role in molecular systematics.

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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Botany

REPRODUCTIVE BIOLOGY OF ANGIOSPERMS

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

UNIT I

1. (a) Describe floral meristem and mutations affecting floral differentiation.

Or

(b) Describe the ultrastructure of mature embryo sac and add a note on its nutrition.

UNIT II

2. (a) Describe the types of endosperm, cytology and functions.

Or

(b) Give an account of pollination mechanisms and vectors.

UNIT III

3. (a) Describe gene expression during embryogenesis.

Or

(b) Classify polyembryony and its practical applications.

UNIT IV

4. (a) Describe the role of palynology in resolving taxonomic disputes.

Or

(b) Give an account of families with special embryological features.

UNIT V

5. (a) Give an account of microsurgical experiments and applications.

Or

(b) Describe the technique of endosperm culture.

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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Botany

BIOLOGY AND DIVERSITY OF VIRUSES, BACTERIA, ALGAE AND FUNGI

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

UNIT I

1. (a) Describe the structure, cultivation and purification of viruses.

Or

(b) Give a brief account of bacteriophages and their economic importance.

UNIT II

2. (a) Describe the morphology and ultra structure of bacteria.

Or

(b) Describe the economic importance of Cyanobacteria.

UNIT III

3. (a) Describe the thallus organization in algae.

Or

(b) Give an account of algal blooms and toxins.

UNIT IV

4. (a) Give the classification of fungi.

Or

(b) Give a brief account of Zygomycotina and Ascomycotina.

UNIT V

5. (a) Describe ecto- and endomycorrhizal associations.

Or

(b) Explain the role of fungi in agriculture and industry.

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M.Sc. DEGREE EXAMINATION, JUNE/JULY 2025.

First Semester

Botany

OUTLINES OF BRYOPHYTES, PTERIDOPHTES, GYMNOSPERMS AND PLANT FOSSILS

Time : Three hours Maximum : 70 marks

Answer ALL questions.

(5 × 14 = 70)

UNIT I

1. (a) Describe the thallus organization and reproduction in Hepaticopsida.

Or

(b) Describe the evolutionary trends in gametophytes and sporophytes of Bryophytes.

UNIT II

2. (a) Describe the variation in stele in Lycopsida.

Or

(b) Describe heterospory and seed habit in Pteridophytes.

UNIT III

3. (a) Describe the distribution and economic importance of Gymnosperms.

Or

(b) Enumerates the salient features of wood in Gymnosperms.

UNIT IV

4. (a) Describe the principles of Paleobotany and describe geological time scale.

Or

(b) Give an account of fossil Gymnosperms.

UNIT V

5. (a) Describe the ecological, economic, evolutionary and industrial applications of Gymnosperms.

Or

(b) Describe the recent trends and model plants from Bryophyte plants.