PG-AN–1040 MBOTN-11

P.G. DEGREE EXAMINATION — JULY 2024.

Botany

First Year

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

Time : 3 hours Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions each in 300 words.

1. Give an account on the economic importance of Algae.

2. Describe the life cycle of Nostoc.

3. Explain the leaf spot disease of groundnut.

4. Write about the general characters of Bryophytes.

5. Write notes on Anthoceros.

6. Give a detailed account on the life cycle of Rhizopus.

7. Write note on the habit and habitat of Lichens.

8. Describe the types of Mycorrhiza.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions each in 1000 words.

9. Describe in detail classification by C.J. Alexopoulos and short note on the salient features of Fungi.

10. Write detailed notes on polysihonia.

11. Explain the ecological significance of Lichens.

12. Shortly explain the following :

    (a) Agar-Agar

    (b) Heterothallism

    (c) Basidiocarp

    (d) Soredia

    (e) Involucre

13. Explain in detail on reproduction of fungi.

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PG–AN-1041 MBOTN–12

P.G. DEGREE EXAMINATION —
JULY 2024.

Botany

First Year

PLANT DIVERSITY – II

(PTERIDOPHYTES, GYMNOSPERMS AND PALAEOBOTANY)

Time : 3 hours Maximum marks : 70

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions out of Eight questions in 300 words

All questions carry equal marks.

1. Explain Eusporangiate.

2. Write about the *Williamsonia.*

3. Write short notes on *Ephedra.*

4. Describe the Transformation theory.

5. Explain the Coat Balls.

6. Comment on Quill wort or Merlyll's grass.

7. Write about the Antherozoids.

8. Write a short notes on *Pseudofossils*.

PART B — $(3 \times 15 = 45$ marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Write about the classification of Pteridophytes by *Eames*.

10. Describe in detailed the general characters of Coniferales.

11. Write a detailed account on the structure and development of the male gametophyte of Ginkgo.

12. Write a detailed essay on the Geological time scale.

13. Describe in detail Fossil fuels.

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PG-AN-1042 MBOTN–13

P.G. DEGREE EXAMINATION — JULY 2024

Botany

First Year

MICROBIOLOGY, IMMUNOLOGY AND PLANT PATHOLOGY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions each in 300 words.

1. Write notes on the Scope of Microbiology.

2. Explain the Scanning Electron microscope.

3. Explain the ultra structure of bacterium with the help of a neat diagram.

4. Write notes on host - parasite interaction.

5. Write about the Koch's Pastulate.

6. Explain the Cauliflower Mosaic Virus (CaMV).

7. List out the industrial applications of microbes.

8. Write short notes on symptoms of plant disease.

PART B — $(3 \times 15 = 45$ marks)

Answer any THREE questions each in 1000 words.

9. Describe the role of microbes in agriculture and Sewage treatment.

10. Write detailed notes on Bacterial cell wall.

11. Describe in detail the different classes of immunoglobulin and its functions.

12. Explain Biochemical Defense Mechanism.

13. Write about antibiotics and microbes used for the production of Antibiotics.

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PG-AN-1043 MBOTN-14

P.G. DEGREE EXAMINATION –
JULY, 2024.

Botany

First Year

MORPHOLOGY, PLANT ANATOMY AND EMBRYOLOGY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions each in 300 words

1. Explain the Tunica-corpus theory of meristem.

2. Write short notes on Secondary Growth of Dicot Root with diagram.

3. Explain the Anomalous secondary growth in Dracaena stem.

4. Write notes on Leaf internal structures of dictos with diagram.

5. Write short note on Periderm with diagram.

6. Write note on Microsporogenesis with diagram.

7. Explain the Cellular, Nuclear and Helobial Endosperm.

8. Write notes on Aestivation of Corolla and Calyx with diagram.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions each in 1000 words

9. Write detailed notes on secretoy tissue with diagram.

10. Describe the Dicot stem and Monocot stem with neat diagrams.

11. Describe in detail nodal anatony and Internodes with diagrams.

12. Explain the detail account on Pollination.

13. Describe the fertilization and formation of Apomixis and Parthenocrpy.

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PG-AN-1044 MBOTN-15

P.G. DEGREE EXAMINATION –
JULY, 2024.

Botany

First Year

PLANT TAXONOMY AND ECONOMIC BOTANY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions each in 300 words

1. Write short note on Botanical Survey of India.

2. What are the uses of world and National Herbarium?

3. Explain the floral characters of the family Asclepiadaceae.

4. Write notes on Kew Botanical Garden.

5. Write note is on family discretion of Nyctanginaceae and Economic importance.

6. Explain Monographs.

7. Describe the Origin of Wheat and Cultivation.

8. Write about the Fibres and Economic Importance.

PART B — (3 × 15 = 45 marks)

Answer any THREE questions each in 1000 words

9. Describe the Principals of Numerical Taxonomy and Applications.

10. Write the family description of the following families.

    (a) Poaceae

    (b) Arecaeae

    (c) Liliaceae

11. Write a descriptive note on the importance of Dendrogram and Molecular and Taxonomy in plant identification.

12. Explain the Engler and Prantl's system of Classification Merits and Demerits.

13. Write a detailed account on about Medicinal Plants and its Importance.

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PG–AN-1045 MBOTN–21

P.G. DEGREE EXAMINATION — JULY 2024.

Botany

Second Year

CELL AND MOLECULAR BIOLOGY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions in 300 words.

1. What are Plastids and explain the types of Plastids?

2. Explain the synthesis of Mitochondrial DNA.

3. Write notes on the significance of Mitotic cell Division.

4. Write short notes on types of DNA.

5. Explain the translation of Eukaryotes.

6. Write short notes on Genetic Engineering.

7. Explain the structure and function of tRNA with diagram.

8. Write short note on 70S and 80S Riosome.

PART B — $(3 \times 15 = 45$ marks)

Answer any THREE questions each in 1,000 words.

9. Describe in detail Nucleus and Nuclear Matrix.

10. Explain the Watson and Crick model of DNA Structure.

11. Describe the process of regulation of gene expression in Lac Operon.

12. Explain in detail mRNA Splicing and Copping.

13. Briefly describe the process of DNA replication in *E.coli*.

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PG–AN–1046 MBOTN–22

P.G. DEGREE EXAMINATION – JULY 2024

Botany

Second Year

PLANT PHYSIOLOGY

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions out of Eight questions in 300 words

All questions carry equal marks

1. Differentiate Apoplast and Symplast.
2. Write notes on Glycolysis and its significance.
3. Write notes on the formation of amino acids and protein.
4. Explain the role of Ethylene.
5. Illustrate the impact of the environment on Senescence.
6. Comment on Climacteric and Non–climacteric fruits with examples.

7. Write about the 'carrier proteins' and 'channel proteins.'

8. Write notes on the comparison of C3 and C4 leaf anatomy.

PART B — $(3 \times 15 = 45$ marks)

Answer any THREE questions out of Five questions in 1000 words

All questions carry equal marks

9. Describe the role of essential nutrient elements in higher plants and their role.

10. Describe the difference between Cyclic and Non-cyclic photophosphorylation.

11. Write an essay on symbiotic Nitrogen fixation.

12. Give a detailed account of the Biosynthesis of Abscisic acid and its physiological role.

13. Write an essay on the importance of phytochrome-mediated response.

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PG–AN–1047 MBOTN–23

P.G. DEGREE EXAMINATION – JULY, 2024.

Botany

Second Year

PLANT GENETICS PLANT BREEDING AND BIOSTATISTICS

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions out of Eight questions in 300 words.

All questions carry equal marks.

1. Write an account on monohybrid cross with examples.

2. Give an account of one gene one enzyme concept.

3. Write a short essay on the origin of Rice and Brinjal.

4. Write notes on the methods of data collection.

5. Describe the Null hypothesis and alternative hypothesis.

6. Write briefly the RFLP marker methods and their advantages.

7. Write about Vavilov's theories of crop domestication and different steps.

8. Give a short note on the Co-efficiency of variation with an example.

PART B — ($3 \times 15 = 45$ marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Describe the Mendelian laws of heredity.

10. Write in detail about the molecular basis of mutation.

11. Write an essay on pure-line selection methods and their merits and demerits.

12. Describe neatly the principles of experimental designs and their advantages.

13. Give a detailed account measures of central tendency.

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PG–AN–1048 MBOTN–24

P.G. DEGREE EXAMINATION — JULY 2024

Botany

Second Year

PLANT ECOLOGY FORESTRY AND EVOLUTION

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions out of Eight questions in 300 words.

All questions carry equal marks.

1. Describe the Synecology and its sub-divisions.

2. Write notes on the Quadrat method and its different types.

3. Discuss in brief the Marine pollution sources and consequences.

4. Explain the economic importance of forest products.

5. Illustrate the Genetic drift and Gene flow.

6. Give an account of forest management.

7. Describe the advantages of Coppice with standards.

8. Write notes on the Biological Nitrogen Cycle.

PART B — $(3 \times 15 = 45$ marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Give a detailed account of Classifications of Ecology and its types.

10. Write in detail an account of the Classification of Xerophytes with suitable examples.

11. Write an essay on Noise pollution and their control measures.

12. Give a detailed account of Agroforestry.

13. Write an essay on the Modem synthetic theory.

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PG–AN–1049 MBOTN–25

P.G. DEGREE EXAMINATION — JULY 2024

Botany

Second Year

BIOCHEMISTRY PLANT BIOTECHNOLOGY AND BIOINFORMATICS

Time : 3 hours Maximum marks : 70

PART A — ($5 \times 5 = 25$ marks)

Answer any FIVE questions out of Eight questions in 300 words.

All questions carry equal marks.

1. Write notes on Buffer and its components.

2. Write a note on lipids and the importance of fatty acids.

3. Write in detail about the Enzyme kinetics.

4. Describe the Nucleic acid hybridization technique.

5. Write a note on the application of Bioinformatics in medicine.

6. Give an account of Strategies in Genetic Engineering.

7. Write about the different structures of the Proteins.

8. Write short notes on types of enzyme inhibition with examples.

PART B — $(3 \times 15 = 45$ marks)

Answer any THREE questions out of Five questions in 1000 words.

All questions carry equal marks.

9. Give a detailed essay on Monosaccharides.

10. Write an essay on the physical and chemical properties of amino acids.

11. Write a detailed account of enzyme action – Lock and Key model.

12. Describe the Principles and procedure for Callus culture from Carrot root.

13. Describe the origin and history of Bioinformatics.

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