M.Sc. (Previous) DEGREE EXAMINATION, DEC. – 2014
First Year
BOTANY

Paper - I : Biology and Diversity of Algae, Bryophytes, Pteridophytes and Gymnosperm

Time : 3 Hours   **Maximum Marks : 80**

Section - A   (5 x 8 = 40)

Answer any Five of the following

1)   Cyanophyta.

2)   Fossil alge.

3)   Life – cycle patterns in chlorophyta.

4)   Gemma cups.

5)   Bryosida.

6)   Fossil pteridophytes.

7)   Bennettitales.

8)   Gnetales

Section - B   (4 x 10 = 40)

Answer all of the following

9)   a)   Write the life cycle in Rhodophyta.

                            OR

        b)   Describe Reproduction patterns in Chlorophyta.

10)   a)   Describe the Evolutionary trends in Hepaticopsida.

                            OR

        b)   Explain the Reproduction in Anthocerotopsida.

11) a) Discuss the stealar evolution in Pteridophytes.

OR

b) Describe Reproduction patterns in Lycopsida.

12) a) Write the general characters of Bennettitales.

OR

b) Describe male reproductive organs in Gymnosperms.

(DBOT02)

M.Sc. (Previous) DEGREE EXAMINATION, DEC. - 2014

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Paper - II : Systematics of Angiosperms and Plant Ecology

Time : 3 Hours   **Maximum Marks : 80**

Section – A

Answer five of the following

1)   Pre-Darwinian Period.

2)   Endemic Plants.

3)   Red data Book.

4)   Cytological contribution to taxonomy.

5)   Continental drift.

6)   Homeostasis.

7)   Algal blooms.

8)   Air Pollution.

Section – B

Answer all the questions

9)   a)   Describe the types of vegetation and pattern of distribution in India.

OR

     b)   Elaborate on post-Darwinian system of classification.

10)   a)   Elucidate the phyto chemical and geographical contribution to taxonomy.

OR

     b)   Write an account on the criteria used in the classification of Angiosperms.

11) a) Define nitrogen fixation? Mention the role of microorganisms in nitrogen cycle.

OR

b) Give an account on aquatic ecosystem and compare it with desert ecosystem.

12) a) Suggest the remedies for control of soil and water pollution.

OR

b) Write an account on floristic regions in India.

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(DBOT03)

M.Sc. (Previous) DEGREE EXAMINATION, DEC. - 2014

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Paper - III : Cytology, Genetics and Plant Breeding

Time : 3 Hours   **Maximum Marks : 80**

Section – A

Answer any five of the following

1) Cellcycle.

2) Karyotype analysis.

3) Polytene chromosome.

4) Haploids.

5) Linkage.

6) Sex-limited inheritance.

7) Law of dominance.

8) Clonal selection.

Section – B

Answer all the questions

9)   a)   Describe the stages in mitotic cell division.

<div align="center">OR</div>

      b)   Compare the organisation of chromosomes in prokaryotic and eukaryotic cell.

10)   a)   Define Mutation? With example explain the abberations due to numerical changes in chromosomes.

<div align="center">OR</div>

      b)   Explain how structural changes in chromosome results in Mutations.

11) a)   Write an account on sex determination.

<div align="center">OR</div>

    b)   What is induced mutation? Mention the role of mutations in plant breeding.

12) a)   Define pedigree method? Elaborate on its importance in plant breeding.

<div align="center">OR</div>

    b)   Discuss on different approaches for plant breeding.

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Paper - IV : Plant Physiology and Metabolism

Time : 3 Hours   Maximum Marks : 80

Section – A   **(5 × 8 = 40)**

Answer five of the following

1)   Membrane transport proteins.

2)   Osmosis.

3)   Km value.

4)   Photo-oxidation of water.

5)   GS-GOGAT.

6)   Enzymes of Glycolysis.

7)   Phospholipids.

8)   Heat Shock Proteins.

Section – B   **(4 × 10 = 40)**

Answer all the questions

9)   a)   Define transpiration? Elucidate the theories involved in water up take by plants.

OR

     b)   Explain different mechanisms of nutrient transport and role of conducting tissue in plants.

10)   a)   Define TCA cycle? Elaborate it and add a note on its importance.

OR

     b)   Explain the process of carbon assimilation in C_3 plants.

11) a) Describe the bio-synthesis of proteins.

OR

b) Discuss on the catabolic and anabolic reactions of lipids.

12) a) Mention the physiological effects of plant growth regulators.

OR

b) Define vernalisation, mention the process and significance of it in plant growth and reproduction.

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