

**(DBOT01)**

Total No. of Questions : 12]

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**M.Sc. (Previous) DEGREE EXAMINATION, DEC. – 2016**

**First Year**

**BOTANY**

**(Paper – I) : Biology and Diversity of Algae, Bryophytes, Pteridophytes  
and Gymnosperms**

**Time : 3 Hours**

**Maximum Marks : 70**

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**SECTION – A**

**(5 × 6 = 30)**

**Answer any five of the following**

- Q1)** Reproduction in Cyanophyta
- Q2)** Protista
- Q3)** General characters of Bryophytes
- Q4)** Thallus organisation in Hepaticopsida
- Q5)** Psilotum
- Q6)** Reproduction in Lycopsida
- Q7)** Caytoniales
- Q8)** Classification of Gymnosperms

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**SECTION – B**  
**Answer all of the following**

**(4 × 10 = 40)**

**Q9)** a) Describe the life cycles in Chlorophyta.

OR

b) Describe the reproduction in Rhodophyta.

**Q10)** a) Describe the reproduction in Anthocerotopsida.

OR

b) Describe the evolutionary trends in Bryophytes.

**Q11)** a) Give an account of fossil Pteridophytes.

OR

b) Compare and contrast the reproductive structures in Sphaenopsida and Pteropsida.

**Q12)** a) Describe the structure of wood in Coniferales.

OR

b) Give an account of Bennettitales.



**(DBOT02)**

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**M.Sc. (Previous) DEGREE EXAMINATION, DEC. – 2016**

**BOTANY**

**(Paper - II) : Systematics of Angiosperms and Plant Ecology**

**Time : 3 Hours**

**Maximum Marks : 70**

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**SECTION – A**

**(5 × 6 = 30)**

**Answer five of the following**

- Q1)** Carolus Linnaeus
- Q2)** Plant distribution at present
- Q3)** Types of nomenclature
- Q4)** Anatomy in relation to taxonomy
- Q5)** Food chains
- Q6)** Population interactions
- Q7)** Evolution of present day vegetation
- Q8)** Alternate energy sources

**SECTION – B**

**(4 × 10 = 40)**

**Answer all of the following**

**Q9)** a) Describe any post – Darwinian system of classification studied by you.

OR

b) Describe the vegetation types of Andhra Pradesh.

**Q10)** a) Give an account of taxonomic categories.

OR

b) Explain the role of cytology in resolving taxonomic disputes.

**Q11)** a) Describe biogeochemical cycle with reference to carbon.

OR

b) Describe energy flow in an ecosystem.

**Q12)** a) What are the causes and consequences of environmental pollution.

OR

b) Give a detailed account of floristic regions of India.



**(DBOT03)**

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**M.Sc. (Previous) DEGREE EXAMINATION, DEC. – 2016**

**First Year**

**BOTANY**

**(Paper - III) : Cytology, Genetics and Plant Breeding**

**Time : 3 Hours**

**Maximum Marks : 70**

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**SECTION – A**

**(5 × 6 = 30)**

**Answer any five of the following**

- Q1)** Distinguish between euchromatin and heterochromatin.
- Q2)** Distinguish between prokaryotic and eukaryotic cell.
- Q3)** Distinguish between euploids and aneuploids.
- Q4)** Distinguish between auto and allopolyploids.
- Q5)** Distinguish between multiple alleles and pseudoalleles.
- Q6)** Distinguish between spontaneous and induced mutations.
- Q7)** Distinguish between test cross and back cross.
- Q8)** Distinguish between pure line selection and mass selection.

**SECTION – B**  
**Answer all questions**

**(4 × 10 = 40)**

**Q9)** a) Describe cell cycle in detail.

OR

b) Describe the various banding techniques studied by you.

**Q10)** a) Give an account of structural alterations in chromosomes.

OR

b) Describe the meiosis in haploids.

**Q11)** a) Give an account of cytoplasmic inheritance.

OR

b) Explain the role of mutations in plant breeding.

**Q12)** a) Describe the breeding methods in self pollinated crops.

OR

b) Describe the breeding methods in cross pollinated crops.



**(DBOT04)**

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**M.Sc. (Previous) DEGREE EXAMINATION, DEC. – 2016**

**BOTANY**

**First Year**

**(Paper - IV) : Plant Physiology and Metabolism**

**Time : 3 Hours**

**Maximum Marks : 70**

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**SECTION – A**

**(5 × 6 = 30)**

**Answer five of the following**

**Q1)** Physical properties of water

**Q2)** Membrane transport proteins

**Q3)** Km value

**Q4)** C3 cycle

**Q5)** Glyoxalate cycle

**Q6)** GS-GOGAT

**Q7)** Heat shock proteins

**Q8)** Phytochrome

**SECTION – B**  
**Answer all of the following**

**(4 × 10 = 40)**

**Q9)** a) Describe water transport through xylem.

OR

b) Describe the role of micro and macro nutrients in nutrition.

**Q10)** a) Describe the structure of chloroplast.

OR

b) Describe photorespiration and its significance.

**Q11)** a) Describe the mechanism of nitrogen fixation.

OR

b) Give an account of classification, structure and functions of storage and membrane lipids.

**Q12)** a) Write an essay on physiological effects and mechanism of action of auxins.

OR

b) Describe photoperiodism and role of vernalisation.

