

## BOTANY

1. Write short explanatory notes on any five of the following: (5x6=30)

- Late blight of potato.
- Lichens
- Endemic Plants of India
- Polyploidy.
- Ecological Pyramids.
- Anomalous secondary growth in Boerhaavia.
- Transgenic plants

### PART – I

2. Answer any three: (3x10=30)

- Morphological nature and medicinal use of Opium.
- Describe Polygonum type of embryo sac.
- Describe morphology and life-cycle of Volvox.
- What is TMV? Discuss its life-cycle.

3. Answer any three: (3x10=30)

- What is "Red-Rot" of sugarcane? Discuss its infection, multiplication and spread in India.
- What is sporophyte? Describe its formation and structure in Marchantia.
- Briefly describe diagnostic morphological and floral features of Leguminosae.
- Give a brief account of distribution, morphology, and life-cycle of cycas.

4. Answer any three: (3x10=30)

- Give important medicinal uses of bacteria.
- Write a brief account of occurrence, morphology and distribution of Batrachospermum.
- Compare and contrast mature monocot and dicot embryo and seed.
- Briefly describe economic importance of fungi.

### PART - II

5. Answer any three: (3x10=30)

- What is Ecosystem? Discuss structure and function of a Pond ecosystem.
- What are CAM plants? Discuss importance of photorespiration.
- Give a brief account of introduction, selection, hybridization, and back – crossing in plant.
- Briefly discuss "Sex determination" in lower and higher plants.

6. Answer any three: (3x10=30)

- What is recombinant DNA technology? Discuss its importance in agriculture.
- Explain the terms : 'Endangered', 'Threatened' and 'Extinct' plants. Give a brief account of "Biosphere Reserves" in India.
- What is extra – chromosomal inheritance? Explain its merits with suitable examples.

d. Give a brief account of the use of biostatics in plant breeding.

7. Answer any three:

(3x10=30)

- a. Distinguish between Macro and Micro environment. Give a brief account of edaphic and physiographic factors influencing plant growth and distribution.
- b. Discuss role of “Micronutrients” in plant growth and distribution.
- c. What are Cytokinins? Discuss their role in plant growth and development.
- d. Give an illustrative account of transcription and translation process in Prokaryotes.

