

BOTANY CODE: 03
Time: 3 hours
Maximum Marks : 150

Note: Answer Five Questions in all. All questions carry equal marks. Question no. 1 is compulsory. Answer two questions from each part. The parts of the same question must be answered together and must not be interposed between answers to other questions.

1. Write short explanatory notes on any five of the following: (5 X 6 = 30)
- a. Late blight of potato.
 - b. Lichens.
 - c. Endemic Plants of India.
 - d. Polyploidy.
 - e. Ecological Pyramids.
 - f. Anomalous secondary growth in Boerhaavia.
 - g. Transgenic plants

PART - 1

2. Answer any three : (3 X 10 = 30)
- a. Morphological nature and medicinal use of Opium.
 - b. Describe Polygonum type of embryo sac.
 - c. Describe morphology and life- cycle of Volvox.
 - d. What is TMV? Discuss its life-cycle.
3. Answer any three: (3 X 10 = 30)
- a. What is " Red-Rot" of sugarcane? Discuss its infection, multiplication and spread in India.
 - b. What is sporophyte? Describe it's formation and structure in Marchantia.
 - c. Briefly describe diagnostic morphological and floral features of Leguminosae.
 - d. Give a brief account of distribution, morphology, and life-cycle of cycas.

4. Answer any three: (3 X 10 = 30)
- a. Give important medicinal uses of bacteria.
 - b. Write a brief account of occurrence, morphology and distribution of Batrachospermum.
 - c. Compare and contrast mature monocot and dicot embryo and seed.
 - d. Briefly describe economic importance of fungi.

PART - 2

5. Answer any three: (3 X 10 = 30)
- a. What is Ecosystem? Discuss structure and function of a Pond ecosystem.
 - b. What are CAM plants? Discuss importance of photorespiration.
 - c. Give a brief account of introduction, selection, hybridization, and back - crossing in plants.
 - d. Briefly discuss " Sex determination" in lower and higher plants.

6. Answer any three : (3 X 10 = 30)
- a. What is recombinant DNA technology? Discuss its importance in agriculture.
 - b. Explain the terms : ' Endangered', ' Threatened' and ' Extinct' plants. Give a brief account of "Biosphere Reserves" in India.
 - c. 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 : (3 X 10 = 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.