

IAS Mains Paper: Agriculture 2002

Paper-II

Section A

1. Answer any three of the following in about 200 words each:
 - a. Define dichogamy. Describe in brief protogyny and protandry.
 - b. What is self-incompatibility? Describe in brief the mechanism of self incompatibility.
 - c. What is biometry? Discuss the usefulness of biometrical techniques to the plant breeders.
 - d. Define hybridization. Describe in-brief the various types of hybridization.
2. Answer the following questions
 - a. Describe in brief emasculation and discuss the various methods of emasculation.
 - b. What is inbreeding? Discuss in brief the effects of inbreeding.
 - c. Define mass selection. Explain the procedure of mass selection and discuss its merits and demerits.
3. Answer the following questions
 - a. Briefly describe the bulk method of breeding and its applications in crop improvement programme.
 - b. Discuss in brief the progeny selection and describe its merits and demerits.
 - c. Define and discuss plant growth regulators and their use in agriculture.
4. Write short notes on the following:
 - a. Transgenic plants
 - b. Pheromones
 - c. Disease complex of cotton

Section B

5. Answer any three of the following in about 200 words:
 - a. Define and discuss insecticide resistance management (I. R M) for a pest.
 - b. Define Grain storage and describe integrated pest management of a storage pest.
 - c. Discuss in brief the package of practices for the cultivation of tomato.
 - d. Briefly describe the Indian Seed Act (1966).
6. Describe the nature of damage, life history and management of following insect-pests and diseases:
 - a. Melong fruit fly
 - b. Spotted ball worm of cotton

c. Rice Tungro Virus

7. Answer the following questions

- a. List the various international agencies and institutes concerned with the improvement of agriculture production. Briefly describe the objectives and functions of any two of them.
- b. Give an account in brief on Genetically Modified Crops.
- c. Discuss in brief the post harvest losses in fruits and vegetables, and the measures to minimize these losses.

8. Write short notes on the following:

- a. Carbamate insecticides
- b. Methods of raising ornamental plants
- c. Neem in pests control