

## IAS Mains Agriculture Papers 2006

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#### Paper-I

#### Section A

1. Write short notes on any three of the following in about 200 words each: (20 × 3 = 60)
  - a. Organic farming
  - b. Soil structure and steps for development
  - c. Cropping and farming system
  - d. Weed control in wheat
2. Describe the principles and limitations of dryland farming. Suggest suitable technologies based on watershed management to enhance crop production under such conditions (60).
3. How does the nitrogen become available to plants when urea is applied to soil? Briefly write on nitrogen use efficiency under submerged paddy conditions (60).
4. Write in tabular form seed rate, sowing time, fertilizer schedule, irrigation management and average yield of barley, cotton, lentil, sugarcane, oat and toria crops for higher production (60).

#### Section B

1. Write short notes on any three of the following in about 200 words each: (20 × 3 = 60)
  - a. Accelerated erosion
  - b. Scheduling irrigation
  - c. Production function
  - d. Extension-teaching methods
2. What is sustainable agriculture? Give its limitations and strategies to achieve food security for the 21st century (60).
3. Discuss farm planning with the principal characteristics of a good farm plan. How is it helpful in farm operation to Indian farmers (60)?

4. Describe the role of co-operative marketing to Indian farmers. Give its main functions and the reasons of slow progress in India (60).

## Paper-II

### Section A

1. Answer any THREE out of the following each in about 200 words: ( $3 \times 20 = 60$ )
  - a. Describe briefly the types of changes in chromosomes number.
  - b. Define diffusion. What factors influence the rate of diffusion?
  - c. Describe briefly the mechanism of self-incompatibility.
  - d. Write on the judicious use of pesticides.
2. Answer the following in about 200 words each:
  - a. What are auxins? Mention their characteristics and practical use in agriculture (20).
  - b. Write on tissue culture and its application in modern agriculture (20).
  - c. Describe the genetic purity of seed and its importance in agriculture (20).
3. Answer the following in about 200 words each:
  - a. Critically discuss on vector borne diseases and their management (20).
  - b. Describe the laws of heredity and their significance in plant breeding (20).
  - c. Write on cultural practices for the management of pest and diseases (20).
4. Distinguish between the following in about 200 words each:
  - a. Certified seed and foundation seed (20).
  - b. Respiration and photosynthesis (20).
  - c. Mass selection and recurrent selection (20).

### Section B

1. Answer any THREE of the following in about 200 words each: ( $3 \times 20 = 60$ )
  - a. Give the climatic requirements of tomato, garlic, sweet orange and dahlia crops.
  - b. Discuss briefly on handling and marketing problems of vegetables.
  - c. Write on the role of fruits in human nutrition.
  - d. Describe the different formulations of pesticides with examples.

2. Answer the following in about 200 words each:

- a. Describe in brief the package of practices for cultivation of pineapple (20).
- b. List five important diseases of sugarcane and mention their nature of incidence and management (20).
- c. Bring out five important pests of rice and mention their nature of damage and management (20).

3. Write the following in about 200 words each:

- a. Mention the procurement and processing constraints of foodgrains in India (20).
- b. Write the present status and expected prospects of vegetable crops cultivation in India (20).
- c. Describe the causes of low productivity of crops in India in the past. How new technologies application have improved the productivity of different crops (20)?

4. Write short notes on the following in about 200 words each: (3 × 20 = 60)

- a. Pheromones
- b. Pedigree method
- c. Photoperiodism.

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