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2003

H.C.S. (Exd.) - 2003

Code—01

AGRICULTURE

Time Allowed : 3 Hours

Maximum Marks : 150

**Note :** Attempt *Five* questions in all. All questions carry equal marks. Q. No. 1 is compulsory. Answer *two* questions from Part I and *two* questions from Part II. The parts of the same question must be answered together and must not be interposed between answers to other questions.

- I. Write critical notes on any *four* of the following : (4×7½=30)
- (a) Sustainable Agriculture
  - (b) W.T.O. and its impact on Indian Agriculture
  - (c) Integrated Nutrient Management
  - (d) Tissue Culture
  - (e) Asexual Propagation of Horticultural Crops
  - (f) Genetic Engineering.

P.T.O.

## Part I

2. (a) Explain the role of two advisory services available to farmers when they are considering a change in their farm management or farming system. (6)
- (b) Select an agricultural product for which there are overseas markets. Evaluate *three* impacts of international markets on farm business in that industry in India. (15)
- (c) Discuss the ways and means to increase the export of Agricultural Products. (9)
3. (a) What is 'Crop Weed Competition' ? (5)
- (b) What is the significance of critical period of weed control ? (5)
- (c) Explain with two examples for each of the Cultural, Biological and Chemical method of weed control. (12)
- (d) Differentiate the following terms with two examples each : (8)
- (i) Pre-Emergent herbicide and Post-Emergent herbicide
- (ii) Contact Herbicide and Translocation type of herbicide.

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4. (a) Explain the criteria of essentiality of nutrient elements in plants. (6)
- (b) How are these elements classified? Give the list of elements under each group. (10)
- (c) Give one example for the fertilizer or salt recommended for the supply of these elements. (5)
- (d) Give two important deficiency symptoms of Nitrogen, Phosphorous and Potassium in Maize. (9)

### Part II

5. (a) Explain the term 'Integrated Insect Management' with suitable examples. (10)
- (b) Discuss the Biological method of insect pest control with four classical examples. (10)
- (c) Discuss briefly the Prevention and Curation method for control of storage grain pests. (10)

6. (a) What are Composite Varieties ? (5)
- (b) List the operations in a sequence and their importance in the production of a composite variety of maize. (15)
- (c) Mention the merits and demerits of composite varieties. (5)
- (d) Describe the characters of high yielding improved plant type of wheat and rice, which has contributed for maximizing food production in the last 30 years. (5)
7. (a) Describe the Ecological classification of Horticultural Crops in India with examples. (6)
- (b) Differentiate between the terms with examples 'Climacteric' and 'Non-Climacteric fruits'. (6)
- (c) What is Ripening ? List out the physiological and biochemical changes taking place during ripening of fruits. (10)
- (d) Describe the factors responsible for Post-Harvest losses of fruits and vegetables and the measures to minimize the losses. (8)