

AGRICULTURE

Note: Attempt five questions in all. All questions carry equal marks i.e. 30, Question 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.

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

- a) Apomixis
- b) Relay cropping
- c) No Tillage
- d) Soil texture
- e) Biopesticides
- f) Composites and synthetic varieties
- g) Vernalization

PART – I

2. a) Discuss in detail the problems of green revolution
b) What is integrated nutrient management? Explain its advantages.
c) What are the different mineral and organic constituents of soils? Discuss their role in maintaining soil productivity. (3x10=30)

3. a) Explain the factors affecting choice of method of irrigation.
b) Discuss the agronomic practices for the production of wheat and sugarcane crops.
c) Explain the advantages of crop diversification? (3x10=30)

4. a) Discuss principles, objective and scope of extension in agriculture.
b) What is soil fertility and describe the strategies for its maintenance.
c) Differentiate between farm planning and budgeting. Describe various types of farm budgeting. (3x10=30)

PART – II

5. a) What is quality seed production and discuss various factors affecting it?
b) Describe back cross method of breeding. Discuss its requirements and implications.
c) Explain different mechanisms which promote self and cross pollination in crop plants. (3x10=30)

6. a) Differentiate between C₃, C₄ and CAM plants along with suitable examples.
b) Discuss in detail the causes and classification of plant diseases.
c) Discuss in detail the insect pests of pulses along with their damage and control measures. (3x10=30)

7. a) What is photosynthesis and describe factors affecting this process?
b) Describe in detail the various types of insect biological control agents.
c) Discuss important diseases of wheat crop along with their symptoms and control. (3x10=30)