

0000173

## AGRICULTURE

## Paper I

Time Allowed : Three Hours

Maximum Marks : 200

## QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

There are EIGHT questions in all, out of which FIVE are to be attempted.

Question No. 1 and 5 are compulsory. Out of the remaining SIX questions, THREE are to be attempted selecting at least ONE question from each of the two Sections A and B.

Attempts of questions shall be counted in sequential order. Unless struck off, attempt of a question shall be counted even if attempted partly. Any page or portion of the page left blank in the answer book must be clearly struck off.

All questions carry equal marks. The number of marks carried by a question/part is indicated against it.

Answers must be written in ENGLISH only.

## SECTION 'A'

1. Answer the following : 5×8=40
  - 1.(a) How does untimely rains become hazardous to wheat crop ? Discuss preventive methods to save grains from spoilage.
  - 1.(b) Do you observe any changes in foliage of paddy plants due to change in environmental conditions ? Discuss.
  - 1.(c) Describe rice-wheat cropping system, depletion of nutrient and soil health.
  - 1.(d) Discuss inter-cropping to meet food production sustainability.
  - 1.(e) Explain package of practices for production of pigeonpea.
2. Explain the following : 4×10=40
  - 2.(a) How is cereals production increasing in the country inspite of climate change ?
  - 2.(b) How does social forestry differ from agro-forestry ? Enlist suitable plants in each category.
  - 2.(c) How should one dispose wheat straw in field for good health of soil after harvesting the crop ?
  - 2.(d) Discuss the role of seed characters responsible for extended survival in the soil.
3. Write short notes on the following : 4×10=40
  - 3.(a) Nutrient availability to the crops from vermicompost is faster as compared to other organic manures.
  - 3.(b) How do calcium, aluminium and iron result in low phosphorus use efficiency ?
  - 3.(c) Significance of pre-sowing, pre-emergence and post emergence in weed control.
  - 3.(d) How you will identify saline and alkali soils in the field without chemical analysis ? Describe the basic differences in approaches to management of saline and alkali soils.

4. Describe the following : 4×10=40
- 4.(a) What are the factors of soil formation and discuss the role of active factors ?
- 4.(b) Justify the capacity of soil to produce food grains in relation to physical, chemical and biological properties.
- 4.(c) Describe the basis of crop and management requirements for success of multiple cropping and relay cropping.
- 4.(d) How does in situ humus formation help in success of natural forest plantation on hills ?

### SECTION 'B'

5. Answer the following : 5×8=40
- 5.(a) Why irrigation water resources are shrinking ? Discuss the ways of water conservation.
- 5.(b) Discuss the importance of neem coated urea and release of nitrogen.
- 5.(c) Objectives of MNREGA and its future scope.
- 5.(d) Explain the advantage of micropropagation in popularising the extension forestry.
- 5.(e) Discuss the problems of sugarcane growers in respect of price and marketing.
6. Describe the following : 4×10=40
- 6.(a) Why soil biological properties may be a better indicator of soil health as compared to physical and chemical properties ?
- 6.(b) Discuss the elements of farm planning, stages of farm planning and basic steps of farm planning to maximise net income.
- 6.(c) How does run off management in watershed help water harvesting and its reuse, and also nutrient soil loss reduction in hilly areas ?
- 6.(d) Productivity of dry-land agriculture needs research emphasis on integrated approach, involving management of soil, plant and environment.
7. Write critical comments on the following : 4×10=40
- 7.(a) How do micro irrigation methods help in improving water use efficiency, reduction in nutrient loss, soil conservation and fertigation ?
- 7.(b) Discuss the impact of raw sewage water on quality of vegetables and soil health.
- 7.(c) Discuss the role of agricultural price commission in recommending minimum support price and procurement price of food grains.
- 7.(d) How does crop insurance ensure farmers a minimum guaranteed return in case of crop failure due to natural calamities.
8. Explain the following : 4×10=40
- 8.(a) Discuss the role of cooperatives in agriculture.
- 8.(b) Justify that scheduling of irrigation depends on crop and availability of water.
- 8.(c) Discuss the role of improved farm implements in improving efficiency of agricultural operations.
- 8.(d) Discuss the role of extension workers in assessing farmers need, technology assessment and refinement of technology.