

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.*

*Questions 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 Question-cum-Answer Booklet 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

- Q1.** (a) Discuss the influences of human beings and natural resources on ecology and nature. 8
- (b) Describe the role of diversification and intensification of the cropping systems in enhancing farm productivity and nutritional security. 8
- (c) Enumerate the production technologies of sweet corn and baby corn, which are different from normal maize cultivation. 8
- (d) What are different types of noxious weeds ? Describe with suitable examples. Enumerate the measures to prevent noxious weed entry in the country. 8
- (e) What are the various diagnostic techniques employed in evaluating soil fertility ? Enumerate advantages and disadvantages of each technique. 8
- Q2.** (a) "Global warming is due to human activities." Justify the statement with appropriate examples. 15
- (b) Discuss the factors considered for selection of a cropping system. Suggest efficient and productive cropping systems for Indo-Gangetic plains. 15
- (c) How do herbicides control weeds selectively ? Write down the classification of herbicides with suitable examples. 10
- Q3.** (a) Explain the agronomic approaches to reduce the impact of climate change on crops. 15
- (b) Describe the multi-storied cropping system. Discuss in detail its advantages and feasibility in horticultural crops. 15
- (c) Explain different types of soils in India based on ICAR classification and their main characteristics in relation to crop production. 10
- Q4.** (a) Enumerate various types of nitrogenous fertilizers. Briefly describe the role and benefits of neem-coated urea and nano urea in improving nitrogen use efficiency. 15
- (b) Enunciate the different types of problematic soils and briefly discuss the RKVY guidelines for reclamation of problematic soils. 15
- (c) Describe the ecological benefits of agroforestry systems and also substantiate the efforts of the Government for promoting agroforestry in the country. 10

SECTION B

- Q5.** (a) Write down the consequences of soil erosion on our environment. Enlist the various agronomic measures for soil and water conservation and specify the role of cropping systems in controlling soil runoff and erosion. 8
- (b) Describe the various means for sustaining crop production with available water resources. 8
- (c) Discuss the characteristics of a good farm plan in context of Indian agriculture situation. 8
- (d) Describe the role of diversified farming in managing risk and uncertainty. 8
- (e) Explain the role of the Government in stabilizing the food grains prices in India. 8
- Q6.** (a) Explain major constraints of dryland areas. Describe various soil moisture conservation practices and contingent crop plan in dryland areas for sustaining crop productivity. 15
- (b) Explain the assumptions and steps for developing an optimum resource use plan using Linear Programming (LP) with suitable examples. 15
- (c) Describe the advantages and disadvantages of Lab to Land programme. 10
- Q7.** (a) Describe water saving approaches employed in pressurized irrigation systems. Enlist the advantages, disadvantages and applicability of drip and sprinkler irrigation systems. 15
- (b) Discuss the causes of high price spread in agriculture commodities and suggest measures to minimize the price spread. 15
- (c) Explain the approaches and benefits of market-led extension. 10
- Q8.** (a) Describe the functions of National Agricultural Cooperative Marketing Federation (NAFED) and its present role in stabilizing the prices of pulses. 15
- (b) Discuss the role of farm mechanization and custom hiring centres on farm production and profitability. 15
- (c) Enlist the different risks associated with poor quality irrigation water. Discuss the management practices for effective application of brackish water in crop production. 10

