

**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.*

*Neat sketches may be drawn, wherever required.*

*Answers must be written in **ENGLISH** only.*

## SECTION A

- Q1.** (a) Analyse how crop diversification and production are dependent on nature and culture in the Indian context. 8
- (b) Describe the criteria of essentiality of plant nutrients given by Arnon. 8
- (c) Give an account of criteria for selecting component crops for intercropping system. 8
- (d) Explain the term relay cropping. Describe its role in increasing cropping intensity and productivity in rice-fallow areas. 8
- (e) Explain soil structure. Describe the factors affecting soil structure. 8
- Q2.** (a) Write an account of shift in cropping patterns in different parts of India along with factors responsible for the same. 15
- (b) Explain the critical period of crop-weed competition with suitable examples. Describe the factors affecting critical period of crop-weed competition. 15
- (c) Describe water erosion. Explain the factors affecting water erosion. 10
- Q3.** (a) Explain the term "Agroforestry system". Justify the statement that "Agroforestry systems are more sustainable than cropping systems". 15
- (b) Give an account of sources of air, water and soil pollution. Describe the impact of increasing pollution on crops. 15
- (c) What is wind erosion ? Describe the factors affecting wind erosion. 10
- Q4.** (a) Describe the cultivation of sugarcane in respect of the following : 15
- (i) Methods of planting
- (ii) Planting season
- (iii) Seed cane
- (iv) Propping
- (v) Ratooning
- (b) Differentiate between soil productivity and soil fertility. Explain the factors affecting soil productivity. 15
- (c) Explain the biological properties of soil. Write the factors responsible for soil formation. 10

## SECTION B

- Q5.** (a) Write an account of factors affecting choice of irrigation methods. 8
- (b) Describe the important measures to measure the size of farm business. 8
- (c) How is marketing of agricultural outputs different from industrial outputs ? Explain with examples. 8
- (d) Write a brief historical background of Krishi Vigyan Kendra. Explain the mandates and activities of Krishi Vigyan Kendra. 8
- (e) Establish the relationship between farm management and other sciences. Explain the ways and means of application of farm management to agriculture and allied sciences. • 8
- Q6.** (a) Explain the criteria for judging the quality of irrigation water. What problems can be found if poor quality water is used for irrigation ? 15
- (b) What is secondary agriculture ? Explain with suitable examples how group approach can help small and marginal farmers to improve socio-economic status. 15
- (c) Write a brief account of various extension methods used by extension professionals. 10
- Q7.** (a) Enumerate the reasons behind decelerated progress of cooperative societies in India. Briefly describe the role of apex marketing cooperatives in the country – NAFED, NCDC and TRIFED. 15
- (b) Describe scheduling of irrigation based on critical stages, depletion of available soil moisture and climatological approach. 15
- (c) Describe the “Platform of Platforms” (PoP) feature of e-NAM and its implications on enhancing income of farmers. 10
- Q8.** (a) Elaborate the features of Farmer FIRST (Farm Innovations, Resources, Science and Technology) Programme. 15
- (b) What are the tools adopted for farm management analysis ? Explain with examples. 15
- (c) Write an account of causes of water logging and its adverse effect on crops. 10