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. Answer the following in about 150 words each: 8x5=40

(a) Describe the basis of classification of agro-ecological zones of India. Give the important characteristics of any two zones with their states/regions and major cropping patterns. 8

(b) Differentiate between multi-storey cropping and relay cropping. Write their importance. 8

(c) What is the physiological effect of low temperature on seed germination? What are its remedies? 8

(d) Describe the integrated weed control measures involving both pre- and post-emergence herbicides in rice and cotton. 8

(e) How can we manage erosion and run-off in valley land? 8
Q2. Write short notes on the following in about 200 words each:  

(a) Bio-fertilizers and bio-herbicides and their benefits.  
(b) Biological nitrogen fixation bacteria and their modes of action.  
(c) Role of phosphorus solubilizing and/or mobilizing organisms in crop production.  
(d) Azolla, its production technology and role in rice culture.  

Q3. Give the recommended package of practices for wheat, maize, pigeon-pea and potato under the following heads:  

(a) Time of sowing/season  
(b) Spacing pattern  
(c) Seed rate  
(d) Nutrient management  
(e) Weed control  

Q4. Explain the following in about 200 words each:  

(a) Agro-forestry and its benefits.  
(b) Cloning technology for propagation of forest tree species.  
(c) Role of social forestry in the present situation of global warming.  
(d) Green house gases (GHG), their effects on crop production and possible remedial measures.
Q5. Answer the following in about 150 words each: 8x5=40
(a) How is plant growth affected by water-logging conditions? Suggest suitable measures to improve crop productivity under these situations. 8
(b) Explain run-off losses of irrigation water and their management. 8
(c) What are the various irrigation systems followed in crop production? Describe the merits and demerits of the system you prefer the most. 8
(d) What measures are taken for increasing economic viability of farming? 8
(e) What is crop diversification? What are the factors affecting it? 8

Q6. Describe the following in about 200 words each: 10x4=40
(a) Important characteristics of dryland and rainfed farming. 10
(b) Constraints of pulse production in India and measures to improve their production and productivity. 10
(c) Polyhouse technology and its impact on farmers’ prosperity. 10
(d) Stabilization of agricultural product prices. 10

Q7. Answer the following in about 200 words each: 10x4=40
(a) What is the need of farm mechanization in the present situation? 10
(b) Mention the benefits of advance planning in agriculture. 10
(c) What is the basis of classification of water for irrigation? 10
(d) Write a short note on Lab-to-Land programme. 10

Q8. Discuss the following in about 200 words each: 10x4=40
(a) Role of SAUs and NGOs in effective dissemination of agricultural technologies. 10
(b) Need for survey of extension programmes in agriculture and its method of survey. 10
(c) Role of APMC for the benefits of farming community. 10
(d) Important characteristics of sodic soils and their reclamation. 10