C-MNS-U-AGL

# AGRICULTURE

## Paper – I

*Time Allowed : Three Hours* | *Maximum Marks : 200*

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### 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.*

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### SECTION A

**Q1. Answer the following in about 150 words each :** *8×5=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 :** *10×4=40*

(a) Bio-fertilizers and bio-herbicides and their benefits. *10*

(b) Biological nitrogen fixation bacteria and their modes of action. *10*

(c) Role of phosphorus solubilizing and/or mobilizing organisms in crop production. *10*

(d) Azolla, its production technology and role in rice culture. *10*

**Q3. Give the recommended package of practices for wheat, maize, pigeon-pea and potato under the following heads :** *10×4=40*

(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 :** *10×4=40*

(a) Agro-forestry and its benefits. *10*

(b) Cloning technology for propagation of forest tree species. *10*

(c) Role of social forestry in the present situation of global warming. *10*

(d) Green house gases (GHG), their effects on crop production and possible remedial measures. *10*

## SECTION B

**Q5. Answer the following in about 150 words each :** *8×5=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 :** *10×4=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 :** *10×4=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 :** *10×4=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*