

**D-GT-M-BHA**

## **AGRICULTURE**

**Paper—I**

*Time Allowed : Three Hours*

*Maximum Marks : 200*

### **INSTRUCTIONS**

*Candidates should attempt Question Nos. 1 and 5 which are compulsory, and any **THREE** of the remaining questions, selecting at least **ONE** question from each Section.*

*The number of marks carried by each part of a question is indicated against each.*

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

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#### **Important Note :—**

*All parts/sub-parts of a question must be attempted contiguously. That is, candidates must complete attempting all parts/sub-parts of a question being answered in the answer-book before moving on to the next question.*

*Pages left blank, if any, in the answer-book(s) must be clearly struck out. Answers that follow pages left blank may not be given credit.*

## SECTION—A

1. Write critical comments on the following, each not exceeding 150 words :— 5×8=40
  - (a) Integrated nutrient management and nutrient use efficiency
  - (b) Principles of reclamation of alkali soils
  - (c) System of rice intensification
  - (d) Selectivity of herbicides
  - (e) Eutrophication of water bodies.
2. Describe in detail (about 200 words each) :— 4×10=40
  - (a) Agroecosystem and its components
  - (b) Greenhouse gases and their impact on plant growth
  - (c) Role of calcium, alumina and pH in Phosphate fixation
  - (d) Agri-silviculture versus silvipasture.
3. Write short notes on the following (about 200 words each) :— 4×10=40
  - (a) Intercropping—advantages and disadvantages
  - (b) Soil nitrogen loss through denitrification
  - (c) Integrated farming system
  - (d) Significance of seed replacement rate (SRR).

4. Discuss the package of practices of maize, arhar, sesame and potato crops under following heads :—  $5 \times 8 = 40$
- (a) Seed rate and spacing between rows and plants
  - (b) N, P and K nutrient application
  - (c) Recommended weed control practices
  - (d) Critical stages of irrigation
  - (e) Average yield (q/ha).

### SECTION—B

5. Answer the following in about 150 words each :—  $5 \times 8 = 40$
- (a) Discuss types of Watershed. What are the salient features of the National Watershed Development Programme for Rainfed Areas (NWDPA) ?
  - (b) Techniques of reducing evaporation and evapotranspiration losses under dry land agriculture.
  - (c) *In situ* water conservation methods.
  - (d) Concept of minimum tillage and how it differs from zero tillage.
  - (e) Interaction of households and business firms in our economy (Highlight with the help of flow chart).

6. Describe the following in brief (about 200 words each) :—

4×10=40

- (a) The role and salient features of the Agricultural Technology Management Agency (ATMA).
- (b) Need of skill development in adoption of improved technologies.
- (c) Factors responsible for the slow progress of Cooperative Movement in India.
- (d) Situations of partial and complete farm budgeting.

7. Write short notes on the following in about 200 words each :—

4×10=40

- (a) Maximum net return (Profit) in terms of total cost and total return (Explain with the help of diagram)
- (b) National Agricultural Innovation Project (NAIP)
- (c) Group contact and mass contact
- (d) Concept of farmers field school.

8. Differentiate between the following (in about 200 words each) :—

4×10=40

- (a) Monitoring and evaluation
- (b) Teaching and training
- (c) Frontline demonstration and method demonstration
- (d) Conventional and PRA method of survey.