

1(CCE.M)3

Agriculture-I

(01)

Time : Three Hours]

[Maximum Marks : 300

INSTRUCTIONS

- (i) Answers must be written in English.
- (ii) The number of marks carried by each question is indicated at the end of the question.
- (iii) The answer to each question or part thereof should begin on a fresh page.
- (iv) Your answer should be precise and coherent.
- (v) The part/parts of the same question must be answered together and should not be interposed between answers to other questions.
- (vi) Candidates should attempt question number **1** which is compulsory and any **four** more out of the remaining questions.
- (vii) If you encounter any typographical error, please read it as it appears in the text-book.
- (viii) Candidates are in their own interest advised to go through the General Instructions on the back side of the title page of the Answer Script for strict adherence.
- (ix) No continuation sheets shall be provided to any candidate under any circumstances.

- (x) Candidates shall put a cross (x) on blank pages of Answer Script.
- (xi) No blank page be left in between answers to various questions.
- (xii) No programmable Calculator is allowed.
- (xiii) No stencil (with different markings) is allowed.
1. (A) What are the important elements/components of our ecosystem ? How are they important in deciding crop distribution and productivity ? How the changing of these over a period of time is affecting agriculture and human life ? 40
- (B) Explain any **five** of the following :
- Gypsum application in groundnut.
 - Minor millets and their speciality.
 - SRI method of rice cultivation.
 - Agronomic and economic importance of soy bean.
 - Ideal soils and management for lowland rice cultivation.
 - Growth stages and their importance in wheat.
 - Nutrient management in leguminous crops. 5×8=40
2. (A) Differentiate between any **five** :
- Bunchy type groundnut v/s spreading groundnut.
 - G-hirsutum v/s G-arborium.
 - Cereals v/s Millets.
 - Puddled rice v/s SRI rice.
 - Normal cotton v/s Bt cotton.
 - Saline soils v/s Sodic Soils.
- (B) Explain in detail principles and practices of Integrated Watershed management. List various Watershed development programs implemented so far and their essential features. 30
7. (A) Justify any **five** of the following with reasons :
- Arrowing in sugarcane is not desirable.
 - Indian farmers need small customized farm machinery for day to day use.
 - Harvesting safflower is a skilled job.
 - Older seedlings of paddy/rice are not desirable for planting.
 - Forage crops need more of nitrogenous fertilizer and tobacco needs less nitrogen application.
 - Rajmash crop planted in North Indian plains needs higher dose of nitrogen application even though it is a legume.
 - Hybrid rice in India have not become popular so far. 5×5=25
- (B) Give in detail the reasons for farmers, suicides in various States of India and measures initiated by governments to mitigate. Give your ideas to mitigate the farmers' distress situations. 30

- (vii) Participatory technology development v/s Formal methods of agricultural extension. 5×5=25
- (B) What are the principles and practices of organic farming ? Explain with appropriate examples. 30
3. (A) Give scientific reasons for any **five** of the following :
- (i) Boll shedding in cotton.
 - (ii) Intercropping is good for soil health.
 - (iii) Sorghum cannot be used as fodder during its early stages.
 - (iv) Customized fertilizer use results in better fertilizer use efficiency.
 - (v) Leguminous crops need less of nitrogenous fertilizers.
 - (vi) Lowland rice cultivation in high rainfall regions has its ecological importance.
 - (vii) Increased CO₂ level in atmosphere results in higher crop yields in C-4 plants. 5×5=25
- (B) Describe the essential features and principles of farm-forestry for Indian conditions where more farmers are small holders. 30
4. (A) Explain any **five** of the following :
- (i) Different types of mulching and their merits and demerits.
 - (ii) Krishi Vigyan Kendras.
 - (iii) Farmers field schools.
 - (iv) LEISA.
 - (v) How to reduce the cost of cultivation and maximise profitability on the farm.
 - (vi) Soil organic matter and its content in Indian soils and importance.
 - (vii) Green manuring. 5×5=25

- (B) Explain in detail Information Technology tools that can be employed for efficient transfer of technology under Indian conditions with case studies. 30
5. (A) Differentiate between any **five** of the following :
- (i) Manures and fertilizers.
 - (ii) Drip irrigation and sprinkler irrigation.
 - (iii) Green manuring and green leaf manuring.
 - (iv) Fertilizers and soil amendments.
 - (v) Grain sorghum and sweet sorghum.
 - (vi) Irrigation and Fertigation.
 - (vii) Basal dose of fertilizer and top dressing of fertilizer. 5×5=25
- (B) Describe in detail the various measures initiated by governments for efficient marketing of agricultural products. Explain with case studies. Give your ideas for increasing better share for farmers in consumer's rupee. 30
6. (A) Answer any **five** of the following :
- (i) Multifaceted role of women in agriculture.
 - (ii) Objectives of tillage.
 - (iii) Farmers' visit to progressive farmers' fields is an effective extension tool.
 - (iv) Farmer is more interested in maximizing profit and not yield from his farm.
 - (v) Ratoon management in sugarcane.
 - (vi) Agro-techniques for improving the productivity of forage crops.
 - (vii) Common parasitic weeds and their control. 5×5=25