

CCE(M)/AGR-I/10/2024

AGRICULTURE

(PAPER—I)

Time : 3 hours]

[Full Marks : 250

Please read each of the following instructions carefully before attempting the questions :

- (i) There are **eight** questions divided in **two Sections**.
- (ii) Candidate has to attempt **five** questions in all.
- (iii) Question Nos. **1** and **5** are compulsory and out of the remaining, **three** are to be attempted choosing at least **one** question from each Section.
- (iv) The number of marks carried by a question/part is indicated against it.
- (v) Word limit in questions, wherever specified, should be adhered to.
- (vi) 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.

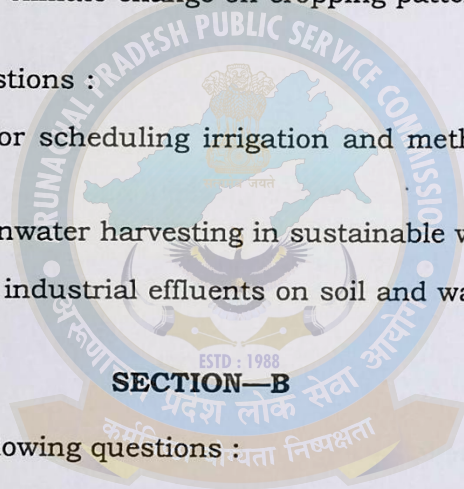
SECTION—A

1. Answer any five of the following questions :

10×5=50

- (a) Explain the relevance of ecology to human welfare and sustainable development.
- (b) Discuss the role of agroecology in determining cropping patterns in different agro-climatic zones.
- (c) Analyse the role of agro-ecological indicators in determining cropping patterns.
- (d) Discuss the hazards of environmental pollution on crops, animals and humans.
- (e) Explain the concept of precision farming and its advantages in modern agriculture.
- (f) Discuss the role of agroforestry in biodiversity conservation and soil health improvement.
- (g) Evaluate the impact of climate change on global agricultural systems and mitigation strategies.

2. Answer the following questions :
- (a) Define soil fertility and discuss the role of soil testing in integrated nutrient management. 20
 - (b) Explain the processes and factors involved in soil formation. How do they influence soil productivity? 15
 - (c) Discuss the challenges and strategies for dryland agriculture in India. 15
3. Answer the following questions :
- (a) Explain the principles of organic farming and its significance in sustainable agriculture. 20
 - (b) Discuss the role of biofertilizers in enhancing soil health and crop productivity. 15
 - (c) Analyse the impact of climate change on cropping patterns in India. 15
4. Answer the following questions :
- (a) Discuss the criteria for scheduling irrigation and methods to reduce water losses. 20
 - (b) Explain the role of rainwater harvesting in sustainable water management. 15
 - (c) Analyse the impact of industrial effluents on soil and water quality. 15
5. Answer *any five* of the following questions : 10×5=50
- (a) Discuss the role of international conventions in addressing climate change and global warming.
 - (b) Explain the concept of social forestry and its importance in rural development.
 - (c) Describe the propagation techniques for forest plants and their economic significance.
 - (d) Analyse the impact of high-yielding varieties on cropping patterns in India.
 - (e) Discuss the role of remote sensing and GIS in ecosystem analysis and agricultural planning.
 - (f) Explain the principles of integrated watershed management and its benefits.
 - (g) Discuss the role of agroforestry in carbon sequestration and climate change mitigation.



6. Answer the following questions :

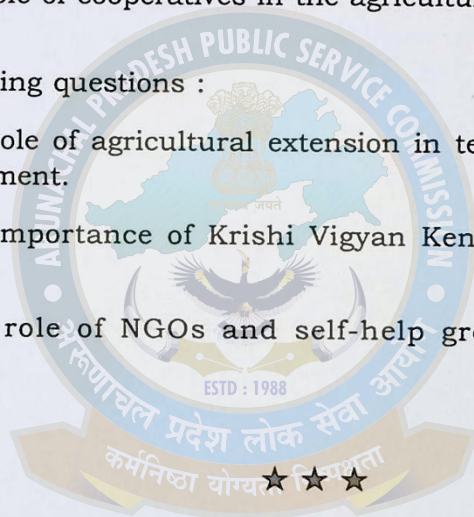
- (a) Define weed dissemination and discuss the cultural and biological methods of weed control. 20
- (b) Explain the role of herbicides in weed management and their environmental implications. 15
- (c) Discuss the impact of weeds on crop productivity and soil health. 15

7. Answer the following questions :

- (a) Discuss the importance of farm planning and budgeting in optimizing resource use. 20
- (b) Explain the economics of different farming systems and their sustainability. 15
- (c) Analyse the role of cooperatives in the agricultural economy of India. 15

8. Answer the following questions :

- (a) Discuss the role of agricultural extension in technology dissemination and rural development. 20
- (b) Explain the importance of Krishi Vigyan Kendras (KVKs) in agricultural innovation. 15
- (c) Discuss the role of NGOs and self-help groups in empowering rural communities. 15



SPACE FOR ROUGH WORK

