

1(CCE-M)6

AGRICULTURE - II

[01]

Time Allowed -3 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 there of 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 Five questions. Q.No. 1 and 2 are compulsory and any three from remaining.***
- vii) *If you encounter any typographical error, please read it as it appears in the textbook.*
- 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 answer to various questions.*
- xii) *No programmable Calculator is allowed.*
- xiii) *No stencil(With different markings) is allowed.*
- xiv) *In no circumstances help of scribe will be allowed.*

1. a) i) Explain the principles of plant breeding and their relevance for increasing production of major field crops. (30)
ii) Elaborate climatic requirements for cultivation of major fruit and vegetable crops. (30)
- b) Write notes on **any five** of the following (5×6=30)
 - i) Chromosomal aberrations and their consequences.
 - ii) Classification of plant diseases.
 - iii) Spontaneous and induced mutations.
 - iv) Storage pests of cereals and pulses.
 - v) Enzymes and pigments associated with photosynthesis.
 - vi) Heterosis and its importance.
 - vii) Functions of auxin and cytokinin.
2. a) Critically examine production, processing and testing of seeds of major field crops. (30)
- b) Write notes on **any five** of the following (5×6=30)
 - i) Solarisation.
 - ii) Cytoplasmic inheritance.
 - iii) Importance of physiology in agriculture.
 - iv) Vernalisation.
 - v) Abiotic factors related to plant diseases.
 - vi) Pesticides and their impacts on health of farmers.
 - vii) Plant quarantine and its importance.

3. a) Critically examine food production and consumption trends in India and national and international food policies influencing them. (30)
- b) Write notes on **any five** of the following : (5×4=20)
- i) Antibiotics.
 - ii) Mitosis.
 - iii) Replication of viruses.
 - iv) Cross protection
 - v) Seed dormancy
 - vi) Usefulness of parasites
 - vii) Osmosis and surface tension
4. a) Explain the principles of plant disease control and integrated pest management. (30)
- b) Write notes on **any five** of the following : (5×4=20)
- i) National and state organizations dealing with seeds.
 - ii) Sex linked characters.
 - iii) Origin of cereal crops
 - iv) Physical and chemical properties of protoplasm.
 - v) Preservation of fruits and vegetables.
 - vi) Exclusion in plant disease control.
 - vii) Plant protection equipments.

5. a) Explain availability, absorption, translocation and transpiration of water in crops. (30)
- b) Write notes on **any five** of the following : (5×4=20)
- i) Mendel's laws of inheritance.
 - ii) Quantitative characters.
 - iii) Factors affecting photosynthesis.
 - iv) Hygiene of storage godowns.
 - v) Dietary patterns in India.
 - vi) Replication and recombination of DNA
 - vii) Rust disease
6. a) Giving suitable examples explain that horticulture provides opportunity for improving farmers income. (30)
- b) Write notes on **any five** of the following : (5×4=20)
- i) Differences between C_3 and C_4 crops.
 - ii) Self and cross pollinated crops.
 - iii) Role of fruits and vegetables in human nutrition.
 - iv) Immunisation.
 - v) Rhizotrons.
 - vi) Gene interaction
 - vii) Active vs passive absorption.

7. a) Explain chromosomal theory of inheritance and its application in crop management. (30)
- b) Write notes on **any five** of the following : (5×4=20)
- i) Bio pesticides.
 - ii) Golden rice
 - iii) Metamorphosis
 - iv) Cytoplasmic inheritance
 - v) Field capacity
 - vi) Sterile insect technique
 - vii) Floriculture.

