

[Total No. of Pages : 7

Roll No \_\_\_\_\_

1(CCE-M)4

**AGRICULTURE - II**

[01]

**Time : 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 question No :1 which is compulsory and any five more from 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.*

01-II /2017

(1)

[Turn Over

- 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.*

1. A) Answer any six of the following. (6×5=30)
- 1. Applications of micro - propagation.
  - 2. DNA Sequencing
  - 3. Gene cloning and its significance
  - 4. Seed borne diseases with examples
  - 5. Male annihilation techniques of pest control. With examples
  - 6. Root feeding methods of pest control.
  - 7. Coconut root wilt disease and its management
  - 8. Bunchy top disease of banana and its management.
- B) 1. Biological control of plant diseases with classical examples (10)
2. Describe the soil and climatic requirement, major pests and their control and advanced technologies for saffron cultivation. (10)
2. A) Differentiate between any 6 of the following. (6×5=30)

1. Monoecy v/s Dioecy
  2. Gametophytic and Sporophytic self incompatibility.
  3. Taungya systems v/s Jhoom cultivation
  4. Agro forestry v/s Silviculture
  5. Photo synthesis v/s photo respiration.
  6. Active absorption v/s passive absorption.
  7. Field capacity v/s Permanent wilting point.
  8. C3 plants v/s C4 plants.
- B)
1. Define germplasms? Explain different kind of germplasms and their significance in agricultural development (10)
  2. Explain the steps involved in hybrid seed production of chilli or okra (10)
3. A) Write a short note on any 6 of the following. (6×5=30)
1. Seed certification and steps involved in seed certification.
  2. Summer seed nurseries and their role.
  3. Cloned crops, their characteristics and clonal section.
  4. Theories of Heterosis.
  5. NBPGR, IPGRI, CIMMYT,
  6. Gene - gun mediated plant transformation.
  7. Applications of RAPDs.
  8. Applications of meristem culture.
- B) 1. Discuss the functions of N P and K in plants (10)

2. What is seed deterioration? Explain control methods during seed production & storage (10)
4. A) 1. Define antibiotic? Its advantages & disadvantages in plant diseases management. (10)  
2. Give four seed borne disease and their control.(10)
- B) Give short answers to any six of the following: (6×5=30)
  1. Non - parasitic diseases of plants.
  2. Major categories of fungicides.
  3. Major diseases of wheat and rice.
  4. Insect pheromones and their significance.
  5. Cotton Boll worms, economic significance and their control.
  6. Insects useful for biological control of pests.
  7. Insect vectors of plant diseases.
  8. Golden rice and its significance.
5. Give short answers to any six of the following. (6×5=30)
  - A) 1. Economic thresh hold level of pests.
  2. Chemosterilants.
  3. Meta morphosis in insects.
  4. Plant exploration and its significance.
  5. Hardly - Weinberg law.
  6. Mutation breeding with examples.
  7. Apomixis in plant breeding with examples.
  8. Bulk method of plant breeding with examples.

- B) 1. Define pureline and explain pureline selection and its advantages. (10)
2. Types and use of plants growth hormones with suitable examples. (10)
6. A) Answer the following any six (6×5=30)
1. Differentiate between climacteric fruits and non-climacteric fruits.
2. Richmand-Lang effect in plant.
3. Characteristics of class insecta.
4. Metal sheet banding in coconut and rhinoceros beetle control.
5. Vapor heat treatment in mango and its utility.
6. Gummosis and its consequences.
7. Monophagous pests with examples.
8. Hidden infestation with examples.
- B) 1. Narrate the significance of “Nano technology” in relation to plant diseases management & discuss its practical application in plant pathology. (10)
2. What are the important storage pests and how to control them? (10)
7. A) 1. Explain in details the major production constraints, pests, and diseases of apple and appropriate management strategy. (10)
2. Discuss the factors responsible for pest out break in nature with examples from history. (10)

B) Answer any six of the following : (6×5=30)

1. Locusts and their importance.
2. Domesticated honey bees and their management.
3. Important pests and diseases of sugar cane.
4. Major pests and diseases of potato.
5. Dr. M S Swaminathan and his recent contributions to agriculture sector.
6. Kranz anatomy of plants.
7. Drought hormone and growth retardants.
8. Introduced pests with 3 examples and difficulties in their control.

8. A) Answer any six of the following (6×5=30)

1. Coconut - eriophyid mite and its control.
2. BGA, significance with example.
3. Aqua forestry & coastal plantations and their utility
4. Shelter belts & wind breaks.
5. Pollination in vanilla
6. Katte diseases of cardamom and its management.
7. Nitrogen fixing trees and their role in farming.
8. Energy plantations and their scope in India with examples

B) 1. Explain the principles and practices of integrated pest management with at least two successful examples. (10)

2. What are the steps involved in organic certifying of farms, name agencies and advantages of having such a certification for farmers. (10)



