

CSM : 17

AGRICULTURE

PAPER - II

Time Allowed : 3 hours

Full Marks : 100

Marks for each question is indicated against it.

Attempt any 5 (five) questions taking not more than 3 (three) questions from each Part.

PART - A

1. Differentiate between C_3 , C_4 and CAM Mechanisms in plants. Describe mechanisms in plant for adaptation to various abiotic stresses. Briefly describe photoperiodism and vernalization. (6+10+4=20)
2. Differentiate any four of the followings: (4×5=20)
 - (a) Pure line and Inbred line
 - (b) Cyclic and non-cyclic photophosphorylation
 - (c) Calvin cycle and Hatch & Slack cycle
 - (d) Early and late blight in potato
 - (e) Vertical and horizontal resistance
3. What is quality seed? State the importance of quality seed in agriculture. Discuss critically the strengths and weakness of seed industry in India. (4+8+8=20)
4. (a) What do you mean by “Intellectual Property”? How can the Intellectual Property be protected? What is the relevance of Intellectual Property Right (IRP) in agriculture? (10)
(b) What is stress? Discuss in brief about the stresses in plants and the mechanism of tolerance in plant against moisture stress. (10)

PART - B

5. What is the protected cultivation and high-tech horticulture? Discuss its type and significance in case of Indian scenario. (20)
6. What are systemic and non-systemic insecticides? Write about the mode of action of organophosphatic insecticides. (6+14=20)
7. List the storage pests of the major cereals and pulses of the NE region. Elaborate the management practices of the storage pests of pulses in the NE region. (20)

8. Answer **any four** of the followings: **(4×5=20)**

- (a) Bio-pesticides and their application in Agriculture.
- (b) Write in detail the considerations/requirements to be taken while setting up a small scale fruits and vegetable processing unit
- (c) What do you mean by value addition? What are the avenues for value addition in potato and tomato?
- (d) Mission for Integrated Development of Horticulture (MIDH)
- (e) Protein Energy Malnutrition (PEM)

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