

MFS

2007

HORTICULTURE (Optional)

000984

Time : 3 hours

Maximum Marks : 200

- Note :
- (i) In all attempt Five questions.
 - (ii) Question No. 1 is compulsory.
 - (iii) Of the remaining questions, attempt Any four by selecting One Question from each section.
 - (iv) Numbers of optional questions upto the prescribed in the order in which questions have been solved, will only be assessed and excess answers of the question/s will not be assessed.
 - (v) Candidate should not write roll number, any names (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he will be penalised.

1. (a) What is zero tillage, discuss its advantages and disadvantages with special reference to environmental protections and soil fertility restoration. 10
- (b) Discuss the objective and role of horticulture mission in horticulture development. 10
- (c) What do you understand by dieback of fruit trees ? Explain the causes and control measures for dieback in citrus, mango and guava. 10
- (d) How IPM is helpful in reducing pesticide load in food chain ? Discuss its role with special references to acquiring resistance in insect-pest. 10

SECTION - A

2. (a) Discuss the role of mutation breeding and embryo rescue culture in fruit crop improvement. 20
- (b) Write short notes on : 20
 - (i) Physiological disorders of cauliflower and tomato.
 - (ii) Irrigation scheduling based on soil-plant-atmosphere continuum.
 - (iii) Water use and water use efficiency.
 - (iv) Dormancy breaking chemicals.

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3. (a) What is global warming? Describe the effects of global warming on earth climate. Also explain the opinion of scientists on environmental pollution during 21st century. 20
- (b) What is diffusion in membrane transport of solute. Discuss the role of transport proteins - carrier and channels in active transport process. 20

SECTION - B

4. (a) Enlist the major problems in exporting of horticultural produce? Discuss the steps taken by Government during 10th Five Year Plan for boosting the export of horticultural produce. 20
- (b) Write short notes on : 20
- (i) Unfruitfulness
 - (ii) Bud wood selections and certification program
 - (iii) Quality improvement in grapes
 - (iv) Graft incompatibility
5. (a) Draw a classical production function along with marginal and average production function. Demarcate the different stages of production function and mentioned which are rational and why? Also explain the relationship between total, marginal and average production function. 20
- (b) What do you understand by plant growth hormone and plant bioregulator? Discuss the role of auxins and gibberellins in flowering and fruit drop physiology. 20

SECTION - C

6. (a) How inbreeding depression occurs in cross pollinated vegetable crops? Discuss the breeding methods for crop improvement in chilli and tomato. 20
- (b) Write on following : 20
- (i) Soil and climatic requirement, seed rate, fertilizer requirement of ashwagandha, safed musli, lemon grass, aloe and citronella.
 - (ii) Blight of Potato.
 - (iii) Gene banks and their role in genetic conservation.
 - (iv) Seed certification standards for okra and cauliflower.

7. (a) Discuss the cultivation of tomato mentioning with climate, time of sowing, seed rate, fertilizer, varieties, plant protection, weed management irrigation and post-harvest practices. 20
- (b) Discuss the symptoms, causes and control of : 20
- (i) Citrus greening.
- (ii) Downy mildew in vegetables.
- (iii) Anthracnose of grapes.
- (iv) Viruses in cucurbits, chilli and tomato.

SECTION - D

8. (a) Discuss the cultivation of gladiolous. Also work out the economics of gladiolus cultivation. 20
- (b) Write short notes : 20
- (i) English gardens.
- (ii) Cultivation of orchids along with classification.
- (iii) Making and maintenance of lawn.
- (iv) Flower seed production.
9. (a) What is the significance of pre-cooling and grading in post-harvest management. Discuss the effect of pre-harvest factors on post-harvest life of fruits and vegetables. 20
- (b) Explain the life cycle, damage, causes and control of fruit fly in guava and fruit borer in pea. 20