

V Semester /Horticulture Core Course - 5
Pests and Diseases of Horticulture Plants and their Management
(Total hours of teaching – 60 @ 04 Hrs./Week)

Theory :

Learning Outcomes: On successful completion of this course, the students will be able to:

- Develop a critical understanding of insect pests and plant disease symptoms.
- Examine and identify the pests and diseases of vegetable crops and their management
- Examine and identify the pests and diseases of ornamental crops and their management
- Examine and identify the pests and diseases of fruit crops and their management
- Identify and classify various insect pests on horticulture plants.
- Justify the significance of Integrated Plant Disease Management for horticultural crops.
- Classify the pesticides based on use, chemical nature, formulation, toxicity and action.

Unit – 1 :Basics of Entomology and Plant Pathology

12 Hrs.

1. Classification of Insects up to orders and families of economic importance; Study of insect pests (Distribution, host range, biology, nature of damage and management) in horticultural crops.
2. Disease triangle and disease pyramid; Plant Pathology : Definition
3. A general account on symptoms of plant diseases caused by Viruses and Bacteria.
4. A general account on symptoms of plant diseases caused by Fungi.

Unit – 2 :Pests and diseases of Vegetables crops

12 Hrs.

1. Bhendi : Spotted boll worms, Red cotton bug, Yellow vein mosaic.
2. Cucurbits : Fruit flies, Pumpkin beetles; Downy and powdery mildews.
3. Potato : Potato tuber moth, Golden cyst nematode; Late blight.
4. Sweet Potato : Sweet potato weevil, Vine borer; Mottled necrosis.

Unit – 3 :Pests and diseases of Fruit crops

12 Hrs.

1. Coconut : Rhinoceros beetle, Burrowing nematode; Ganoderma root rot, Grey blight
2. Banana : Banana weevil, banana aphids; Panama wilt. Bunchy top
3. Cashew : Tea mosquito bug. Cashew stem borer; Anthracnose, 2. Pink disease
4. Custard apple : Mealy bug, Fruit boring caterpillar; Anthracnose, Glomerella fruit rots.

Unit – 3 :Pests and diseases of Commercial Flower crops

12 Hrs.

1. Rose : Rose aphid, Dieback, and black spot
2. Marigold : Aphids, leaf spot, and bud rot
3. Gerbera : Thrips, white flies and Blossom blight
4. Gladiolus : Cut worms, leaf eating caterpillar and corm rot.

Unit – 4 :Management of Pests and Diseases

12 Hrs.

1. Principles and methods of plant disease management.
2. Integrated Plant disease management.
3. Fungicides classification based on chemical nature; commonly used insecticides, fungicides, bactericides and nematicides.
4. Preparation of fungicidal solutions, slurries, pastes and their application.

Practical syllabus of Horticulture Core Course – 5/ Semester-IV
Pests and Diseases of Horticulture Plants and their Management
 (Total hours of teaching – 30 @ 02Hrs./Week)

1. Study of characteristics of insect pests, microbial pathogens, nematodes causing diseases on different plants given in the theory syllabus.
2. Identification of disease symptoms on different plants given in the theory syllabus.
3. Observing and acquiring knowledge on pesticides, fungicides etc.,
4. Acquaintance with methods of application of common fungicides.
5. Field visit and acquaintance with disease of crops

Model Question Paper for Practical Examination
IV Semester /Horticulture Core Course - 5

Pests and Diseases of Horticulture Plants and their Management

Max. Time: 3 Hrs.

Max. Marks: 50

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| 1. Identify and comment on insect diseases A & B | 2 x 5 = 10 M |
| 2. Identify and comment on microbial diseases C & D | 2 x 5 = 10 M |
| 3. Identify and comment on nematodal diseases E & F | 2 x 5 = 10 M |
| 4. Identify and comment on Pesticide/ Fungicides G & H | 2 x 4 = 6 M |
| 5. Record + Herbarium + Viva Voice | 10 + 4 = 14 M |

Text books :

- **Verma L R and R C Sharma 1999.** Diseases of Horticultural Crops – Fruits, Indus Publishing, New Delhi.
- Diseases of Horticulture Crops and their management, TNAU Publ. Agrimoon.Com
- **Jagatap G P, D N Dhutraj and Utpal Dey. 2001.** Diseases of Horticultural crops and their management, Agrobios Publications

Suggested co-curricular activities for Semester- V :