

## SEMESTER- 3

### Core course: Sericulture Paper-III

#### Silkworm and Mulberry Pathology

(Credits: Theory-04, Practical-02)

### **THEORY**

#### **UNIT I. DISEASES OF THE SILK WORM, *BOMBYX MORI***

1. Introduction and classification of different types of silk worm diseases. Concept of disease triangle and its factors
2. Microsporidian and Bacterial disease: disease cycle, symptomology, sources and mode of infection, prevention and control.
3. Viral and Fungal diseases: Types, Disease cycle, symptomology, sources and mode of infection, prevention and control.
4. General account of disinfection and relative efficiencies of different disinfectants.

#### **UNIT 2: PESTS OF THE SILKWORM, *BOMBYX MORI***

1. Introduction: Definition of pests, parasitoids and predators.
2. Economic injury level and economic threshold.
3. Tachinid fly: Life cycle, nature of damage and other important behaviors in relation to mating, oviposition and flight, prevention, chemical control
4. Dermestid beetles: Life cycle, Nature of damage, prevention and control.

#### **UNIT 3. DISEASES OF MULBERRY**

1. Fungal diseases of mulberry and their occurrence, symptoms and control
2. Bacterial diseases of mulberry and their occurrence, symptoms and control.
3. Viral and mycoplasma diseases of mulberry: Symptomology and control.
4. Nematode disease: Root knot nematode- causative agent, symptoms, disease life cycle and control.

#### **UNIT 4: PESTS OF MULBERRY**

1. Caterpillars: Nature of damage and Management
2. Grass hoppers: Nature of damage caused by grass hoppers and their management.
3. Mealy bugs: Nature of damage caused by mealy bugs and their management
4. General account of damage caused by scale insect, thrips and termites.
5. Management of pests – Concept of IPM, chemical and biological methods.

## **PRACTICALS**

1. Morphological features of pebrine infected eggs, larvae, pupae and its-Isolation and microscopic examination staining of spores (Giemsa staining).
2. Collection of diseased mulberry samples and their preservation.
3. Identification of diseases, symptoms and spores of major fungal diseases in mulberry.
4. Identification of bacterial, viral and minor diseases and their symptoms in mulberry.
5. Collection, mounting/preservation of the insects from mulberry garden and silkworm rearing house, grainage, reeling units.
6. Identification of developmental stages of pests of silkworm with special reference to tachinid fly and domestic beetle.
7. Field trip to important state and central Sericultural units of India