

**SRI KRISHNADEVARAYA UNIVERSITY: ANANTAPUR**  
**DEPARTMENT OF SERICULTURE**

**CURRICULUM FOR B.Sc Z.S.C (Zoology, Sericulture & Chemistry) COURSE**  
**(SEMESTER PATTERN)**

(Effective from the Academic Year 2015-2016)

**B.Sc ZSC III Semester**

**60 Hours**

**Paper -3      SILKWORM BIOLOGY & PHYSIOLOGY**

Unit 1: BIOLOGY OF SILKWORM: 10  
hrs

1. Systematic position of Mulberry and Non mulberry silkworms in the animal kingdom (Taxonomic Classification).
2. Kinds of Silkworms & geographical distribution (Mulberry and Non Mulberry Silkworms)
3. Life cycle (Holometabola) of silkworm – egg stage, larva stage, pupa stage and adult stage

Unit 2: MORPHOLOGY & PHYSIOLOGY OF SILKWORM: 14 hrs

1. Morphology of Silkworm Egg, Larva, Pupa & Moth.
2. Anatomy of Silkworm larva
  - A. Digestive System, Excretory System of Larva
  - B. Respiratory, Circulatory and Central Nervous System of Larvae and Silk glands
  - C. Male and Female reproductive system in silkworm larva and moth.

Unit 3: THE SILKWORM AND THE ENVIRONMENT: 10 hrs

1. Introduction of silkworm rearing
2. Rearing Equipment - rearing stand, rearing trays, ant wells, paraffin papers, foam rubber pads, chopsticks, feathers, chopping boards, leaf chambers, cleaning nets, mountages.
3. Disinfection of rearing house - methods, eco-friendly disinfectants-Precautions during disinfection.
4. Rearing and Impact of Environmental factors.

Unit 4: INCUBATION AND PRESERVATION OF SILKWORM EGGS: 10 hrs

1. Preparatory Work for Incubation of Silkworm Egg
2. Development of Silkworm Embryo
3. Environmental conditions for Incubation
4. Technical Management in Incubation
5. Preservation of eggs for initiation of rearing.

Unit 5: SILKWORM REARING & METHODS OF REARING: 16 hrs

1. Rearing of Chawki Silkworms:
  - A. Paraffin Paper method,
  - B. Box rearing
  - C. Cooperative Rearing
2. Scientific Rearing Technology (Package of Practices):Brushing, feeding, bed cleaning, spacing,
3. Moulting and care during moulting
4. Adult Silkworm Rearing Methods:
  - A. Shelf Rearing,
  - B. Floor Rearing
  - C. Shoot Rearing.
5. Mounting-Methods-Variou Mountages
6. Spinning and Harvesting

### **PRACTICALS**

#### **1. Biology of silkworms:**

1. Morphology and life cycle of silkworms.
2. Comparative stages of egg, larva.
3. Male pupa, Female pupa, Male moth and Female moth.
4. Digestive system and silk glands of silkworm.
5. Female Reproductive system and Nervous system.

#### **2. Silkworm Rearing:**

1. Model rearing house.
2. Chopping Boards, Chopping Knives, Leaf Chambers, Ant wells.
3. Basin Stand, Cleaning Nets.
4. Feeding Stand, Chopsticks and feathers.
5. Hygrometer, Thermometer.
6. Rearing Stands, Chandrikae, Wooden tray.