

| Course Code | Course Name                 | Credits |
|-------------|-----------------------------|---------|
| 26ZY603     | SILKWORM REARING TECHNOLOGY | 04      |

#### Course Objectives

- To understand the biology and life cycle of silkworms.
- To study the principles and practices of sericulture and silkworm rearing.
- To gain knowledge about mulberry cultivation and silkworm nutrition.
- To understand diseases and pest management in silkworm culture.
- To develop skills in silk production, processing, and sericulture entrepreneurship.

#### Learning Outcomes

- Explain the morphology, life cycle, and economic importance of silkworms.
- Demonstrate knowledge of silkworm rearing and mulberry cultivation techniques.
- Analyze the environmental requirements for healthy silkworm growth.
- Apply disease prevention and management strategies in sericulture.
- Evaluate the commercial importance and sustainable practices in silk production.

#### Unit 1 – Introduction to Sericulture (12 Hrs.)

History, scope, and importance of sericulture; species of silkworms; morphology and anatomy of silkworm; life cycle of silkworm; races and varieties of silkworms; economic importance of silk industry.

#### Unit 2 – Mulberry Cultivation and Silkworm Nutrition (12 Hrs.)

Mulberry cultivation and propagation; soil and climatic requirements; irrigation and fertilizer management; harvesting and preservation of mulberry leaves; nutritional requirements of silkworms; feeding methods and feeding schedules.

#### Unit 3 - Silkworm Rearing Technology (12 Hrs.)

Rearing house and rearing appliances; disinfection and sanitation methods; brushing and chawki rearing; late age silkworm rearing; environmental conditions for rearing; mounting and cocoon formation.

#### Unit 4 – Diseases, Pests, and Management (12 Hrs.)

Major diseases of silkworms: bacterial, viral, fungal, and protozoan diseases; silkworm pests and predators; symptoms, prevention, and control measures; hygienic practices in silkworm rearing; integrated pest and disease management.

#### Unit 5 - Silk Production and Sericulture Entrepreneurship (12 Hrs.)

Cocoon harvesting and storage; silk reeling and processing; types and quality of silk; by-products of sericulture; economics of sericulture; marketing, entrepreneurship, and recent advances in sericulture technology.

#### Reference Books:

1. Ganga, G. and Chetty, J.S. (2012). An Introduction to Sericulture. Oxford and IBH Publishing Co.
2. Krishnaswami, S. (1978). New Technology of Silkworm Rearing. Central Silk Board, Bangalore.
3. Sengupta, K. (1989). Silkworm Rearing and Disease Management. Tata McGraw-Hill Publishing.
4. Ullal, S.R. and Narasimhanna, M.N. (1987). Handbook of Practical Sericulture. Central Silk Board.
5. Hisao Aruga (1994). Principles of Sericulture. Oxford and IBH Publishing Co.

#### Websites and eLearning Sources:

<https://www.csb.gov.in/sericulture-technology/>  
<https://vikaspedia.in/agriculture/farm-based-enterprises/sericulture>  
<https://www.easybiologyclass.com/sericulture/>