

Loknete Dr. Balasaheb Vikhe Patil (Padmabhushan Awardee)
Pravara Rural Education Society's
Arts, Commerce and Science College Alkuti
Tal-Parner Dist- Ahmednagar

Certificate Course on Sericulture **Syllabus**

Syllabus Framework

- 1. Title: Certificate Course in Sericulture**
- 2. Basic information about sericulture:**
- 3. Management and marketing of sericulture**

Sericulture is an agro-based industry. It involves rearing of silkworms for the production of raw silk, which is the yarn obtained out of cocoons spun by certain species of insects. The major activities of sericulture comprises of food-plant cultivation to feed the silkworms which spin silk cocoons and reeling the cocoons for unwinding the silk filament for value added benefits such as processing and weaving. Although there are several commercial species of silkworms, Bombyx mori is the most widely used and intensively studied. According to Confucian texts, the discovery of silk production by B. mori dates to about 2700 BC, although archaeological records point to silk cultivation as early as the Yangshao period (5000 – 10,000 BCE). By the first half of the 1st century AD it had reached ancient Khotan, and by AD 140 the practice had been established in India. Later it was introduced to Europe, the Mediterranean and other Asiatic countries. Sericulture has become

one of the most important cottage industries in a number of countries like China, Japan, India, Korea, Brazil, Russia, Italy and France. Today, China and India are the two main producers, together manufacturing more 90% the world production each year.

Evaluation:

Gradation based on the students' performance

Course Outcomes:

- 1) On completion of the sericulture course, students will be able to understand overall aspects of sericulture, namely, Mulberry and non-mulberry silkworms and their food plants, Rearing of the silkworm, Silkworm pathology, process of silkworm seed production and silk technology.
- 2) This course creates awareness among students about the economic importance and suitability of sericulture in Indian conditions.
- 3) Students will learn various technologies involved in sericulture.
- 4) Student will get hands-on training on Mulberry nursery management, silkworm rearing, and silk reeling.

1. AN INTRODUCTION TO SERICULTURE

UNIT I- MORPHOLOGY OF MORICULTURE

Mulberry – Origin and distribution – Morphology of mulberry plant – Nutritional value of mulberry leaves. Planting system - Irrigation – Manuring – Weeding - Interalteration - Mulching – Pruning and Harvesting.

UNIT II – PROPAGATION OF MULBERRY PLANT

Seeding propagation – Vegetative propagation – Cutting – Layering and grafting – Diseases and pest of mulberry plant.

UNIT III- MORPHOLOGY OF SILK WORM

Origin – Distribution – Classification of silk worm – Life cycle and morphology of Egg – Larva, Pupa and Adult.

UNIT IV- ANATOMY OF SILK WORMe

Digestive silk gland – Reproduction – Excretion – Neuron and Endocrine gland – Reproduction

UNIT V- PEST AND DISEASES OF SILK WORM

Pest of silk worm – Uzifly Dermestid beetle- Diseases of silk worm – Viral –Bacterial – Fungal – Protozoan – Causative agents – Mode of infections – Prevention and control of diseases.

Reference:

1. An Introduction to Seri Culture - G.Ganga and Sulochana Chetty, Oxford and IBH Publishing. Co Pvt.Ltd .New Delhi(2010)
- 2.Principles and Techniques of Silkworm Seed Production, Discovery publishing House New Delhi

2: MANAGEMENT AND MARKETING OF SERICULTURE

UNIT I: REARING HOUSE AND APPLIANCES

Environmental condition for silk worm rearing – Rearing technology – Incubation – Brushing – Feeding – Bed cleaning – Mounting – Monntages – Harvesting rearing of Chawki and late age worm

UNIT II: GRAINEGE TECHNOLOGY

The silk worm seed production – Reproduction and commercial seed – Breeding stations – P1, P2, P3 and P4 stations – Moth emotions – Egg laying – Mother moth examination Egg card and loose egg.

UNIT III: SILK TECHNOLOGY

Physical and commercial properties of silk –Uses of silk processing of cocoons- Stifling -Cocoon boiling and Cocoon brushing.

UNIT IV: PROCESSING OF REELING

Process of reeling – Study of yarn –Type of reeling appliances –Raw silk testing –Classification of raw silk – Byproduct of silk.

UNIT V: COCOON MARKETS

Commercial characteristics of cocoon- Assessment of shell Ratio- Renditta-Price fixation- silk

**Faculty: The classes shall be conducted by the faculty Of Zoology
Department, A.C.S. College Alkuti
Parner**

Duration of the Course: 30 Hrs.

Scheme of Study: Theory= 50% Practical / Field Visit and Report -50%

No. of times offered in a year: Once

Maximum Participant: 17 Students

Certification: All successful shall be awarded a certificate.