Sericulture IV: APPLICATION OF SERICULTURE IN THERAPEUTIC AND COSMETIC INDUSTRY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Sericulture IV: Application of Sericulture in Therapeutic and Cosmetic Industry	**2**	**0**	**0**	**2**	**Class XII**	**NIL**

Learning Objectives

The Learning Objectives of this course are as follows:

1. To make the students aware about the significance of sericulture as a profit-making enterprise.
2. To help the students to understand the biology of silkworms and its nutritional requirement to secrete quality silk.
3. To give an understanding about the techniques of silkworm rearing, reeling of silk and various measures to be taken to maximize the benefits.
4. To help the students to know about various uses of silk and develop entrepreneurial skills required for self-employment in sericulture and silk production sector.

Learning Outcomes

Upon completion of the course, students should be able to:

1. Learn about the history of sericulture and silk route.
2. Recognize various species of silk moths in India, and exotic and indigenous races.
3. Be aware about the opportunities and employment in sericulture industry- in public, private and government sector.
4. Gain thorough knowledge about the techniques involved in silkworm rearing and silk reeling.
5. Develop entrepreneurial skills necessary for self-employment in mulberry and seed production and be apprised about practicing sericulture as a profit-making enterprise.
6. Enhance collaborative learning and communication skills through practical sessions, team work, group discussions, assignments and projects.

Skill Development and Job Opportunities

1. Sericulture is multi-disciplinary activity consists of mulberry leaf production, silkworm rearing (cocoon production), silkworm egg production, silk reeling (yarn production), twisting, Warp and weft making, printing and dyeing, weaving, finishing, garment designing, marketing etc.

2. The demand for silk is bound to increase in the coming years This course will therefore help in generating employment, economic development and improvement in the quality of life of unemployed youth.
3. This course will generate entrepreneurs in this field. Sericulture offers gainful employment not only the rural masses but also for the educated youth in semi-urban and urban areas.
4. Effective utilization of waste generated in the industry will help in making the sericulture sector more viable, stable and create more employment opportunities.
5. Sericulturists fall under the category of primary activities. They usually find employment in sectors like government and research development centres.

Syllabus:

Sericulture as a tool for rural development. Uses of different by-products of sericulture in pharmaceuticals and Cosmetics **(60 hours)**

Practical

1. Identify and collection of different waste materials of mulberry, silkworm rearing and silk reeling
2. Prepare different useful products of mulberry leaf waste and sticks.
3. Silkworm sericin in- medical textiles, regenerative drugs, and tissue engineering, cosmeceuticals, food additives, and manufacturing of valuable biomaterials.
4. Silkworm pupa in the field of therapeutics, cosmetics, animal feed, fertilizer, etc.
5. Sericulture wastes in sustainable applications for biofuels generation.
6. Entrepreneurial ideas to convert waste material of sericulture into raw material for other industries.
7. IT/ non IT based projects of sericulture.

Essential Readings

- Manual on Sericulture (1976); Food and Agriculture Organisation, Rome Ullal, S.R. and Narasimhanna M.N. (1987) Handbook of Practical Sericulture; 3rd Edition, CSB, Bangalore

Suggested Readings

- Yonemura, M. and Rama Rao, N. (1951) A Handbook of Sericulture. I. Rearing of silk-worms. Government Branch Press, Mysore.
- Ananthanarayanan, S. K. (2008) Silkworm Rearing. Daya Publishing House Aruga, H. (1994). Principles of Sericulture. CRC Press
- Sathe, T. V. and Jadhav, A. (2002) Sericulture and Pest Management. Daya Publishing House Yup-Lian, L. (1991) Silkworm Diseases. Food and Agricultural Organization.

Examination scheme and mode:

Evaluation scheme and mode will be as per the guidelines notified by the University of Delhi

REGISTRAR