SRI KRISHNADEVARAYA UNIVERSITY: ANANTAPUR
S.T.S.N.GOVT DEGREE COLLEGE:: KADIRI

DEPARTMENT OF SERICULTURE

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

(SEMESTER PATTERN)

B.Sc. ZSC VI Semester 60 Hours

Paper – VIII.Cluster.A.1 VANYA SERICULTURE

Unit 1 -14 hrs

1. Status of vanya a silk in India-characteristic features, advantages, income and production and demand.
2. Host plants of vanya silkworms- Distribution and Economic importance.
3. Classification of non-mulberry silkworms: Geographical distribution, moultinism. voltinism, cocoon colour and shape.

Unit 2: 13 hrs

1. Establishment of Host plants of vanya silkworm and package of practices for their cultivation.
2. Pests and diseases of Primary host plants of Vanya silkworms
3. Management/Disinfection and hygiene practices in grainages and silkworm rearing house.

Unit 3: 13 hrs

1. Egg production technology of vanya silkworms
2. Rearing technology of young and late-age vanya silkworm
3. Pest and Diseases of vanya silkworm and their management.

Unit 4: 12 HRS

1. Cocoon Reeling and spinning of vanya silkworms
2. Economics of vanya sericulture and their utilization
3. By products of vanya sericulture and their Utilization.

Unit 5: **Role of Women in Sericulture-11 hrs**

Mulberry cultivation, silkworm rearing, Grainage operation, Reeling sector,

Role of Sericulture in empowering women through sustainable livelihood security.

Employment and income generation for women in sericulture

Practicals

1. Identification of Tasar, muga, Era silkworms Egg, larvae, pupae and moths
2. Identification of food plants of non mulberry silkworm such as Tasar, muga, Era Silkworm

REFERENCES:

1. Charsley, S.R. (1982). Culture and Sericulture. Academic Press Inc., New York, U.S.A

2. Chowdhury. S.N. (1998) Muga Culture. Central Silk Board, Bangalore, India

3. Dokuhon. Z.S.<I998). Illustrated Textbook on Sericulture. Oxford & IBH publishing Co.. Pvt. Ltd. Calcutta.

4. Jolly. M.S. Chowdhuty. S.N and Sen. (1975). Non-Mulberry Sericulture in India. Central Silk Board. Bombay. India.

5. Jolly, MS (1998). Tasar Culture. Central Silk Board. Bangalore, India.

6. Sarkar. D.C. (1998) Eri Culture. Central Silk Board, Bangalore

Wu Pang-Chuan and Chen Da-Chuang. (1994) Silkworm rearing. Oxford & IBHpublishing Co.. Pvt. Lid. New Delhi, India

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VI Semester. Paper – VIII .Cluster.A.2 **60 Hours**

ECONOMICS OF SERICULTURE INDUSTRY.

Unit l:

Sericulture scenario in India-

- History and region wise pattern of growth Sericulture in Andhra Pradesh, Recent trends, development programmes, problems and prospects.
- **Infrastructure development** -Grainages, TSC, Cocoon markets. Silk exchange, institutional finance, R&D base, filature, weaving factories and spun silk mills.
- Principles of farm management cost concepts and cost computation techniques. Law of diminishing marginal returns as applied to sericulture.

Unit 2: Economics of mulberry cultivation and silkworm rearing

- Costs & returns under rain fed and irrigated conditions, leaf -cocoon ratio.
- Cost benefit ratio of improved sericulture practices vis - a- vis traditional practices
- Income and employment generation in sericulture vis- a- vis other compotative crops
- Economics of seed production

Unit 3: Cost and returns

- Cocoon-Dfls ratio
- Economics of silk reeling
- Comparative economics between charaka, cottage basin and multi-end basin.
- Economic viability of filature in public sector of Andhra Pradesh Silk by -products; their nature, extent and re-Utilization (value addition)

Unit 4: Economics of silk weaving

- Comparative economics between hand loom and power loom
- Value addition due printing, dyeing and finishing
- Economics of tasar Eri and Muga cultivation

Unit 5: Exports of silk products

a. Extent, composition, and direction of India silk trade.
b. Export and import policies.
c. Impact of silk import on domestic silk industry.
d. Impact of WTO on sericulture industry.
e. Environmental issues in sericulture industry.
f. Entrepreneurship development- identification of potential entrepreneurial activities in sericulture from egg production to weaving.
Project evaluation techniques.

REFERENCES:

- Rajapurohit and Govindaraju < 1980). Employment generation in Sericulture, Ashish Publication. New Delhi.

- Charsley SR(1982): Culture and Sericulture Academic Press Inc; New York, USA
- Sanjay Sinha (1984): Development of India Silk. Oxford & IBH Publishing. Co Pvt Ltd, New Delhi.
- Aziz, A. and Hanumappa, H.G (1985): Silk industry- Problems and prospects, Ashish Publishing House New Delhi.
- Hanumappa, H.G. (1986). '"Sericulture for rural development'.
- Gopal (1991): Demand and supply Prospects for high quality raw silk. Oxford & IBH
- Ramanna. D.V (1992) "Economics of Sericulture and silk industry" Deep & Deep publication. New Delhi.
- Kahlon and Singh (1984). "Farm Management"
- Changappa (1994): "Strategies for export of Indian silk in the changing environment" in Global Silk Scenario-2001, Oxford and IBH
- Hanumappa . H.G. (1993). Sericulture Society and Economy. Ashish Publishing House New Delhi
- Puttaraju H.P. (1997). Roshme Krushi hagu Graminabhivrudhi Jin Kannada). Bangalore University Prasaranga, Bangalore, India.
- Puttaraju, H.P.(1997) Reshme Krushi Hagu Graminabhivrudhi (in Kamnada). Bangalore University Prasaranga. Bangalore

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(SEMESTER PATTERN)

III B.Sc. ZSC VI Semester **60 Hours**

Paper – VIII.Cluster.A.3. ORGANIC FARMING TECNOLOGY& MECHANIZATION

Unit 1:

Organic Farming- Need - Objectives-Organic inputs &Techniques. Bio Fertilizers –Plant nutrients – Definition and Scope of Biofertilizers – Types of Bio Fertilizers –Rhizobium-Azotobacter-Cyano bacteria-Azolla-PSM-AM fungi-SSB-PGPRB-Mass Production of Bio fertilizers-Method of preparation – Application of biofertiizers-N2 fixing-phosphate solubilizing-Phosphate mobilizing-Bio fertilizers for Micronutrients-Plant growth promoting Rhizo bacteria-Liquid Bio fertilizers-Charecteristics-Methodology-value of Technology-Constraints in Bio fertilizer technology-Economics

Unit2:

Green Manuring- Definition and Scope of green manuring-Green manure crops-Cropping systems-Plant species suitable for green manures-Manures Vs Fertilizers –Types of Green manures – production of green manures – Application of green manures

Unit 3:-

Vermicompost Technology:- Definition and Scope of Vermicompost technology – Types of Earth worms used in vermicomposting – Methods of preparation of Vermicompost –a) At Farmers level and 2) commercial production of vermicompost – Care during production of vermicompost – application of vermicompost for different crops – Vemiwash – definition , Preparation and application

Unit 4:

Biopesticides – Definition and Scope of Biopesticides – Types of Biopesticides – Botanical origin Biopesticides -Microbial origin- Nanotech origin- Methods of Preparation of Bio pesticides – Application of Bio pesticides.

Unit 5:

Mechanization in Sericulture- Definition and scope – Machines used in Moriculture – machines used in Rearing of Silkworms – Management and maintenance of Machinery used in sericulture.

Practicals

Organic Farming-

Biofertilizers

Green Manuring

Vermicompost Technology

Biopesticides

Machines used in Moriculture – machines used in Rearing of Silkworms – Management and maintenance of Machinery used in sericulture.