



UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE UNIVERSITY)
Baba Sahib Ambedkar Road, Jammu-180006 (J&K)

Academic Section

Email: academicsectionju14@gmail.com

NOTIFICATION (23/April/Adp./17)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Academic Council, is pleased to authorize the adoption of the Syllabi and Courses of Studies in the subject of **Sericulture** of **Semester IIIrd and IVth** for **Four Year Under Graduate Programme (FYUGP)** under the **Choice Based Credit System** as per **NEP-2020** (as given in the annexure) for the examinations to be held in the years as per the details given below:

Subject	Semester	For the examinations to be held in the year
Sericulture	Semester-III	December 2023, 2024 and 2025
	Semester-IV	May 2024, 2025 and 2026

The Syllabi of the courses is also available on the University website: www.jammuuniversity.ac.in.

Sd/-

DEAN ACADEMIC AFFAIRS

No. F. Acd/II/23/1885-1925

Dated: 8-5-2023

Copy for information and necessary action to:

1. Dean Faculty of Life-Science
2. HOD/Convener, Board of Studies **Sericulture**
3. All members of the Board of Studies
4. C.A. to the Controller of Examinations
5. Director, Computer Centre, University of Jammu
6. Deputy Registrar/Asst. Registrar (Conf. /Exams. UG)
7. Incharge University Website for necessary action please

Sumitshampo
Deputy Registrar (Academic) 4/5/23

SS
04/05/23

AK
11/5

H
4/5/23

University of Jammu

Syllabi of Sericulture under CBCS as per NEP-2020

SEMESTER- III

(Examination to be held in 2023, 2024, 2025)

Major Course

Course Code: UMJSET-301

Course Title: Mulberry Crop Protection

Credits : 04 {03(Theory) + 01(Practical)}

Total no. of Lectures: Theory: 45 hours

Practical: 30 hours

Maximum Marks: 100

Theory: 75

Practical/ Tutorial: 25

Major Course

Course Code: UMJSET-302

Course Title: Organic Farming in
Sericulture

Credits : 04 {03(Theory) + 01(Practical)}

Total no. of Lectures: Theory: 45 hours

Practical: 30 hours

Maximum Marks: 100

Theory: 75

Practical/ Tutorial: 25

Minor Course

Course Code: UMJSET-303

Course Title: Basics of Mulberry Crop
Protection

Credits : 03 {02(Theory) + 01(Practical)}

Total no. of Lectures: Theory: 45 hours

Practical: 30 hours

Maximum Marks: 100

Theory: 75

Practical/ Tutorial: 25



Multidisciplinary Course

Course Code: UMDSET-304

Credits : 03 (Theory)

Maximum Marks: 75 (Theory)

Course Title: Principles of Sericulture

Total no. of Lectures: 45 hours (Theory)

Skill Enhancement Course

Course Code: USESET-305 Course

Credits : 02 (Theory)

Maximum Marks: 50

Theory: 45

Practical/ Tutorial: 5

Title: Practices of Silkworm Rearing

Total no. of Lectures: Theory: 15 hours

Practical: 30 hours

UNIVERSITY OF JAMMU

SYLLABI AND COURSE OF STUDY IN SERICULTURE

For the Examination to be held in Year 2023, 2024 & 2025

SERICULTURE COURSE

UG SEMESTER III

UNDER NEP-2020



UNIVERSITY OF JAMMU
SYLLABI AND COURSE OF STUDY IN SERICULTURE
UNDER CBCS AS PER NEP-2020
(For the Examination to be held in Year 2023, 2024 & 2025)
(MAJOR COURSE)

UG SEMESTER-III

MAJOR CORE COURSE NO.	:	UMJSET-301
MAJOR CORE COURSE TITLE	:	Mulberry Crop Protection
CREDITS	:	04 (03 Theory) + (1Practicum)
MAXIMUM MARKSTHEORY	:	75
I) External Theory (University Exam)	:	60
II) Internal Assessment	:	15
DURATION OF UNIVERSITY THEORY EXAM:	:	03 Hours
MAXIMUM MARKS PRACTICALS	:	25
I) Continuous Assessment	:	10
II) Final Examination	:	15

Objectives and Expected Learning Outcomes

The Course has been designed with an objective to make the students familiar with various diseases and pests of mulberry as well as their control measures. The knowledge thus gained by the students shall be useful for better management in sericulture industry. Students may also be able to identify the mulberry diseases and pests that attack mulberry plant during its growth.

Unit-I

(13 Hours)

- 1.1 Concept of Disease & diagnosis. Disease cycle and concept of signs and symptoms. Influence of environmental factors on the occurrence and spread of mulberry diseases.
- 1.2 Fungal diseases: Leaf spot, powdery mildew, leaf rust and root rot: their causative agent, symptoms, disease cycle and control.
- 1.3 Leaf blight, trunk rot, stem canker; their causative agents, symptoms, disease cycle and control.

Unit-II

(10 Hours)

- 2.1 Bacterial diseases: its causative agents, symptoms and control measures.
- 2.2 Viral diseases: its causative agents, symptoms and control measures.
- 2.3 Mineral deficiency symptoms in mulberry and reclamation.

Unit-III

(10 Hours)

- 3.1 Nematode disease; causative agent, symptoms, disease life cycle and control.



- 3.2 Extent of damage of fungal, bacterial, viral and nematode diseases of mulberry.
3.3 Season of outbreak of mulberry diseases in temperate and tropical areas.
3.4 Concept of integrated disease management (IDM).

Unit-IV

(12 Hours)

- 4.1 A brief account of Pests, Predators and Parasitoids. Classification of pests.
4.2 Pests of mulberry; Major and minor pests of mulberry, their management.
4.3 Common pests of mulberry under rainfed and irrigated system of cultivation.
4.4 Integrated pest management (IPM) in mulberry.

PRACTICUM

(30 Hours)

1. Collection of mulberry diseased samples and their preservation.
2. Identification of root knot disease, root galls, egg-masses, larvae and nematodes.
3. Preparation of fungicide formulations.
4. Collection, mounting/preservation of insects from mulberry garden
5. Identification of local pests of mulberry.
6. Identification of developmental stages of pests of mulberry with special reference to caterpillars, borers and defoliators.
7. Identification of the symptoms of pest (mulberry) attack.
8. Field visit to mulberry garden to assess the incidence of pests and the types of damage caused by them, application/demonstration of prevention and control measures.
9. Commercial characters of mulberry- some evolved varieties.

NOTE FOR PAPER SETTING

Examination Theory/Practical	Syllabus to be covered in examination	Time allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr & 30 Minutes	15
External Theory End Semester	100%	3 Hrs	60
Continuous assessment	-	-	10 (Based on Daily Performance only)
Final examination	-	-	15

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}
Section A : Four short answer questions representing all units/syllabi i.e., atleast one question from each unit. Each question shall be of 3 marks.

Section B: Eight long answer questions representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks. The candidate has to attempt 4 questions selecting one from each unit.

Internal Assessment {Total marks 15}

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.



Recommended Readings

1. Ganga, G. and Chetty, S. (2008) An Introduction to Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Ganga, G., (2003) Comprehensive Sericulture- Vol.-1 Moriculture, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
3. Madan Mohan Rao, M. (2019). An Introduction to Sericulture. (Ed. 2). B S Publications.
4. Singh, R.N. and Saratchandra, B. (2011) Sericultural Entomology. APH Publishing Corporation, New Delhi.
5. Govindaiah, Gupta, V.P., Sharma, D.D., Rajadurai, S. and Naik, Nishitta (2005) Mulberry Crop Protection. Central Silk Board, Bangalore.
6. Aruga, H. Principles of Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi, Bombay and Calcutta.
7. Khan, M.A., Dhar, A., Zeya, S.B and Trag, A.R. (2004) Pests and Diseases of Mulberry and their Management. Publisher Bishan Singh and Mahendra Pal Singh, New Connaught Palace, Dehradun.
8. Kamili, A.S. and Masoodi, A.M. (2004). Principles of Temperate Sericulture. Kalyani Publishers, New Delhi.



UNIVERSITY OF JAMMU
SYLLABI AND COURSE OF STUDY IN SERICULTURE
UNDER CBCS AS PER NEP-2020
(For the Examination to be held in Year 2023, 2024 & 2025)
(MAJOR COURSE)
UG SEMESTER-III

MAJOR CORE COURSE NO.	:	UMJSET-302
MAJOR CORE COURSE TITLE	:	Organic Farming in Sericulture
CREDITS	:	04 (03 Theory) + (1Practicum)
MAXIMUM MARKSTHEORY	:	75
I) External Theory (University Exam)	:	60
II) Internal Assessment	:	15
DURATION OF UNIVERSITY THEORY EXAM:	:	03 Hours
MAXIMUM MARKS PRACTICALS	:	25
I) Continuous Assessment	:	10
II) Final Examination	:	15

Objectives and Expected Learning Outcomes The course is designed in such a way that the students could understand the use of sustainable practices for the production of mulberry by using organic resources and giving more stress on organic farming practices with the application of bio fertilizer, green manures and vermicomposting. The students will also able to get knowledge about the preparation and application of bio pesticides.

Unit-I

(12 Hours)

- 1.1 Need of organic farming, its objectives
- 1.2 Bio Fertilizers: Definition and scope, Types of Biofertilizers-Rhizobium-Azotobactor-Cyno bacteria-Azolla-PSM-AM fungi-SSB
- 1.3 Mass Production of Biofertilizers and method of preparation.

Unit-II

(10 Hours)

- 2.1 Application of Nitrogen fixing, Phosphate solubilizing, phosphate mobilizing Biofertilizers for Micronutrients.
- 2.2 Plant growth and promoting Rhizo bacteria
- 2.3 Liquid Biofertilizers, their characteristics.
- 2.3 Constraints in Biofertilizers technology
- 2.4 Economics of Biofertilizers

Unit-III

(10 Hours)

- 3.1 Definition and scope of bio pesticides
- 3.2 Types, Methods of preparation of bio pesticides
- 3.3 Application of bio pesticides.
- 3.4 Definition and scope of vermicomposting, method of preparation of Vermicompost pit, application dose for mulberry

Unit-IV

(13 Hours)



- 4.1 Definition and scope of green manuring
- 4.2 Green manuring crops, cropping system, Plant species suitable for green manuring
- 4.3 Manures vs chemical fertilizers
- 4.4 Types of green manures, production of green manures and application of green manures

PRACTICUM

(30 Hours)

1. Preparation of Vermicompost.
2. Preparation of Bio pesticides
3. Preparation of Bio fertilizers
4. Identification of Green Manure Crops
5. Raising of 1-2 Green manure crop
6. Establishment of Vermicompost pit
7. Preparation of organic manure pit
8. Observation of Organic farming activities in the area

NOTE FOR PAPER SETTING

Examination Theory/Practical	Syllabus to be covered in examination	Time allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr & 30 Minutes	15
External Theory End Semester	100%	3 Hrs	60
Continuous assessment	-	-	10 (Based on Daily Performance only)
Final examination	-	-	15

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}

Section A : Four short answer questions representing all units/syllabi i.e., atleast one question from each unit. Each question shall be of 3 marks.

Section B: Eight long answer questions representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks. The candidate has to attempt 4 questions selecting one from each unit.

Internal Assessment {Total marks 15}

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

Recommended Readings

1. Hortmann and Kesler (1993) Plant propagation, Principal and practices. Prentice Hall, Hemel Nemstead.
2. Govindaiah, Gupta, V.P., Sharma, D.D., Rajadurai, S. and Naik, Nishitta (2005) Mulberry Crop Protection. Central Silk Board, Bangalore.
3. Krishnamurthy, N. (1981) Plant growth substances including application in Agriculture. Tata McGraw Hill Pub. Co. Ltd. New Delhi.

4. Shankar., M.A (1998) Handbook of mulberry Nutrition, Multiplex, Bangalore.
5. Subha Roa, N.S (1998) Biofertilizers in Agriculture. Oxford & IBH Pub. Co. Pvt. Ltd. New Delhi.



UNIVERSITY OF JAMMU
SYLLABI AND COURSE OF STUDY IN SERICULTURE
UNDER CBCS AS PER NEP-2020
(For the Examination to be held in Year 2023, 2024 & 2025)
(MINOR COURSE)

UG SEMESTER-III

MINOR CORE COURSE NO.	:	UMISET-303
MINOR CORE COURSE TITLE	:	Basics of Mulberry Crop Protection
CREDITS	:	03 (Theory) +1 (Practicum)
MAXIMUM MARKSTHEORY	:	75
I) External Theory (University Exam)	:	60
II) Internal Assessment	:	15
DURATION OF UNIVERSITY THEORY EXAM	:	03 Hours
MAXIMUM MARKS PRACTICALS	:	25
I) Continuous Assessment	:	10
II) Final Examination	:	15

Objectives and Expected Learning Outcomes

The Course has been designed with an objective to make the students familiar with various diseases and pests of mulberry as well as their control measures. The knowledge thus gained by the students shall be useful for better management in sericulture industry. Students may also be able to identify the mulberry diseases and pests that attacks mulberry plant during its growth.

Unit-I

(13 Hours)

- 1.1 Concept of Disease & diagnosis. Disease cycle and concept of signs and symptoms. Influence of environmental factors on the occurrence and spread of mulberry diseases.
- 1.2 Fungal diseases: Leaf spot, powdery mildew, leaf rust and root rot: their causative agent, symptoms, disease cycle and control.
- 1.3 Leaf blight, trunk rot, stem canker; their causative agents, symptoms, disease cycle and control.

Unit-II

(10 Hours)

- 2.1 Bacterial diseases: its causative agents, symptoms and control measures.
- 2.2 Viral diseases: its causative agents, symptoms and control measures.
- 2.3 Mineral deficiency symptoms in mulberry and reclamation.

Unit-III

(10 Hours)

- 3.1 Nematode disease; causative agent, symptoms, disease life cycle and control.
- 3.2 Extent of damage of fungal, bacterial, viral and nematode diseases of mulberry.
- 3.3 Season of outbreak of mulberry diseases in temperate and tropical areas.
- 3.3 Concept of integrated disease management (IDM).

Unit-IV

(12 Hours)

- 4.1 A brief account of Pests, Predators and Parasitoids. Classification of pests.
- 4.2 Pests of mulberry; Major and minor pests of mulberry, their management.
- 4.3 Common pests of mulberry under rainfed and irrigated system of cultivation.
- 4.4 Integrated pest management (IPM) in mulberry.

PRACTICUM

(30 Hours)



1. Collection of mulberry diseased samples and their preservation.
2. Identification of root knot disease, root galls, egg-masses, larvae and nematodes.
3. Preparation of fungicide formulations.
4. Collection, mounting/preservation of insects from mulberry garden
5. Identification of local pests of mulberry.
6. Identification of developmental stages of pests of mulberry with special reference to caterpillars, borers and defoliators.
7. Identification of the symptoms of pest (mulberry) attack.
8. Field visit to mulberry garden to assess the incidence of pests and the types of damage caused by them, application/demonstration of prevention and control measures.
9. Commercial characters of mulberry- some evolved varieties.

NOTE FOR PAPER SETTING

Examination Theory/Practical	Syllabus to be covered in examination	Time allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr & 30 Minutes	15
External Theory End Semester	100%	3 Hrs	60
Continuous assessment	-	-	10 (Based on Daily Performance only)
Final examination	-	-	15

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}

Section A : Four short answer questions representing all units/syllabi i.e., atleast one question from each unit. Each question shall be of 3 marks.

Section B: Eight long answer questions representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks. The candidate has to attempt 4 questions selecting one from each unit.

Internal Assessment {Total marks 15}

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each.

Recommended Readings

1. Ganga, G. and Chetty, S. (2008) An Introduction to Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Ganga, G., (2003) Comprehensive Sericulture- Vol.-1 Moriculture, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
3. Madan Mohan Rao, M. (2019). An Introduction to Sericulture. (Ed. 2). B S Publications.
4. Singh, R.N. and Saratchandra, B. (2011) Sericultural Entomology. APH Publishing Corporation, New Delhi.
5. Govindaiah, Gupta, V.P., Sharma, D.D., Rajadurai, S. and Naik, Nishitta (2005) Mulberry Crop Protection. Central Silk Board, Bangalore.
6. Aruga, H. Principles of Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi, Bombay and Calcutta.
7. Khan, M.A., Dhar, A., Zeya, S.B and Trag, A.R. (2004) Pests and Diseases of Mulberry and their



- Management. Publisher Bishan Singh and Mahendra Pal Singh, New Connaught Palace, Dehradun.
8. Kamili, A.S. and Masoodi, A.M. (2004). Principles of Temperate Sericulture. Kalyani Publishers, New Delhi.



UNIVERSITY OF JAMMU
SYLLABI AND COURSE OF STUDY IN SERICULTURE
UNDER CBCS AS PER NEP-2020
(For the Examination to be held in Year 2023, 2024 & 2025)
(MULTIDISCIPLINARY COURSE)

UG SEMESTER-III

MULTIDISCIPLINARY COURSE NO.	:	UMDSET-304
MULTIDISCIPLINARY COURSE TITLE	:	Principles of Sericulture
CREDITS	:	03
MAXIMUM MARKS THEORY	:	75
I) External Theory (University Exam)	:	60
II) Internal Assessment	:	15
DURATION OF UNIVERSITY THEORY EXAM	:	03 Hours

Objectives and Expected Learning Outcomes

To acquaint the students with basic understanding of Sericulture, its history, characteristics, world output of silk, Central Silk Board and a detail account of textile fibre including silk. Upon successful completion of this course, the student should be able to know about Sericulture, organizational set up the apex bodies and the properties of silk and other textile fibres.

UNIT-I

(13 Hours)

- 1.1 Introduction to Sericulture: Scope and Importance of mulberry and non-mulberry sericulture in India
- 1.2 Origin and history of sericulture in India and other Countries, Silk route
- 1.3 World Output of Silk in different countries. Silk Industry in India – West Bengal, Jammu and Kashmir, Karnataka, Tamil Nadu, Andhra Pradesh, and other states. Mulberry areas, sericulture villages, no. of families, cocoon and silk production
- 1.4 Characteristics of sericulture industry.
- 1.5 Role of sericulture in rural development.

UNIT-II

(10 Hours)

- 2.1 Organization set up of Central Silk Board, Jammu and Kashmir Development Department with special reference to Sericulture
- 2.2 Role of Central Silk Board in research and development of sericulture in different states of India.
- 2.3 Participation of women in Mulberry garden

UNIT-III

(10 Hours)

- 3.1 Silk grading
- 3.2 Brief account of silk conditioning and testing
- 3.3 By-products of sericulture
- 3.4 Utilization of by-products of mulberry silkworm, pupae and moths

UNIT-IV

(12 Hours)

- 4.1 Introduction to textile fibers; types: natural and synthetic fibers; importance, role of silk



fibers amongst natural fibres

- 4.2 Physical and chemical properties of silk
- 4.3 Advantages of silk fiber over the natural fibres
- 4.4 A comparative study of mulberry sericulture vis-à-vis other agriculture crops
- 4.5 Prospects and problems of sericulture industry.

NOTE FOR PAPER SETTING

Examination Theory/Practical	Syllabus to be covered in Examination	Time allotted for Exam	Marks
Internal Theory Assessment	50%	1 Hr. & 30 Minutes	15
External Theory End Semester	100%	3 Hrs.	60

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}

Section A : Four short answer questions representing all units/syllabi i.e., one question from each unit. Each question shall be of 3 marks.

Section B: Eight long answer questions representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks. The candidate has to attempt 4 questions selecting one from each unit.

Internal Assessment {Total marks 15}

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each

Recommended Readings

1. Ganga, G. and Chetty, S. (2008) An Introduction to Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Ganga, G., (2003) Comprehensive Sericulture- Vol.-2 Silkworm Rearing and Silk Reeling, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
3. Singh, Tribhuwan and Sarachandra, Beera (2004) Principles and Techniques of Silkworm Seed Production. Discovery Publishing House, New Delhi.
4. Rajan, R. K., and Himantharaj, M. T. (2005) Silkworm Rearing Technology. Central Silk Board, Bangalore.
5. Johnson, M. and Kesary, M. (2020). Sericulture. (Ed. 1). Saras Publication.
6. Sarkar, S. (2022). A Textbook on Sericulture. (Ed. 1). Publisher Techno World.
7. Sarwar, S., Hussain, I. and Ahmad, A. Introduction to Sericulture Industry (Latest Edition). Bisma Books.
8. Chawala, N. K., (2017). Comprehensive Sericulture: Silkworm Rearing and Silk Rearing. Indian Books and Periodicals.
9. Madan Mohan Rao, M. (2019). An Introduction to Sericulture. (Ed. 2). B S Publications.
10. Ramamoorthy, R., Umapathy, G., Ambethgar, V. and Selvanarayanan, V. (2019). Glossary of Sericulture (Ed. 1) Aknik Publications
11. Bhaskar, R. N. and Anusha, H. G. (2002) Objective Question Bank on Sericulture, Agri Biovet Press.
12. , D. Halliyal, V.G. et. al., (2000) Mulberry Silk Reeling Technology. Oxford and IBH publishing Co. Pvt. Ltd, New Delhi.
13. Sonwalker, T.N. (2001) Hand Book of Silk Technology. New Age International (P) limited, New Delhi and Mumbai.
14. Ananthanarayan, S.K. (2008) Silk Reeling. Biotech Books, Delhi.

NOTE FOR PAPER SETTING

Examination Theory/Practical	Syllabus to be covered in Examination	Time allotted For Exam	Marks
Internal Theory Assessment	50%	1 Hr. & 30 Minutes	15
External Theory End Semester	100%	3 Hrs.	60

External End Semester Theory Examination will have two sections (A & B) {Total marks 60}

Section A : Four short answer questions representing all units/syllabi i.e., one question from each unit. Each question shall be of 3 marks.

Section B: Eight long answer questions representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 12 marks. The candidate has to attempt 4 questions selecting one from each unit.

Internal Assessment {Total marks 15}

Fifteen (15) marks for theory paper in a subject reserved for internal assessment shall have one long answer type question of 7 marks and four short answer type questions of 2 marks each

Recommended Readings

1. Singh, R.N., Sinha, M.K., Bajpeyi, C.M., Sinha, A.K. and Tikader, A. (2014) *Tasar Culture*. APH Publishing Corporation, New Delhi.
2. Singh, R.N. and Saratchandra, B. (2012) *Eri Culture*, APH Publication Corporation New Delhi-110002.
3. Sarakar, D.C., Thangavelu, K, *et. al.*, *Ericulture in India*. Central Silk Board, Bangalore.
4. Anonymous. *Wild Silk of India (Vol.-I) An Introduction to Vanaya Silk*. Central Silk Board, Bangalore.
5. Goel, R.K., Krishna Rao, J.V. (2004) *Oak Tasar Culture*. A.P.H. Publishing Corporation, New Delhi.
6. Mohanty, P.K., (1998) *Tropical Tasar Culture in India*. Daya Publishing House, Delhi.
7. Mohanty, P.K. (2003) *Tropical Wild Silk cocoons of India*. Daya Publishing House, Delhi.



UNIVERSITY OF JAMMU
SYLLABI AND COURSE OF STUDY IN SERICULTURE
UNDER CBCS AS PER NEP-2020
(For the Examination to be held in Year 2023, 2024 & 2025)
(SKILL ENHANCEMENT COURSE)

UG SEMESTER-III

SKILL ENHANCEMENT COURSE NO.	:	USESET-305
SKILL ENHANCEMENT COURSE TITLE	:	Practices of Silkworm Rearing
CREDITS	:	02
MAXIMUM MARKSTHEORY	:	50
I) External Theory (University Exam)	:	40
II) Internal Assessment	:	10
DURATION OF UNIVERSITY EXAM	:	02 Hours

Objectives and Expected Learning Outcomes

The course is designed to introduce the Students to the basic theoretical and technological aspects of silkworm rearing and other aspects essential for Sericulture industry. The knowledge thus gained by the students could not only be useful for them as an extension specialist in Sericulture but would also be helpful in case the students wish to do something for self-employment or for generating supplementary income for their families.

Unit-I

(7 Hours)

- 1.1 Introduction to Silkworm Rearing; life cycle of silkworm *Bombyx mori* L.
- 1.2 Rearing appliances and their uses. C.S.B. proposed model rearing house.
- 1.3 Disinfection and its methods; common disinfectants,
- 1.4 Concept of bed cleaning, frequency of bed cleaning and feeding of worms
- 1.5 Estimation of leaf quality and yield- appropriate time for estimation of leaf yield, method and calculation of brushing capacity based on yield.

Unit-II

(8 Hours)

- 2.1 Maintaining optimum condition of rearing, brushing, frequency of spacing.
- 2.2 Moulting; symptoms of moulting worms and care during mounting
- 2.3 Ecdysis and metamorphosis: its importance.
- 2.4 Rearing method: chawki and Late age Silkworm rearing, Chawki garden and Chawki Rearing Centers (CRC's)
- 2.5 Mounting and mountage, process of spinning, cocoon harvesting, Defective cocoons and its types.

Unit-III Practical

(30 Hours)

1. Cocoon characters of popular uni, bi, and multi voltine races
2. Model rearing house-types of rearing houses
3. Rearing appliances
4. Disinfection-Types of disinfectants, effective concentration of disinfectants, preparation of disinfectants.



5. Incubation of silkworm eggs- black boxing, percentage of hatching, recording of temperature and humidity.
6. Estimation of leaf yield, moisture contents and harvesting methods.
7. Mulberry leaf estimation -Harvesting and preservation techniques -leaf selection for different instars.
8. Moulting -identification of moulting, larvae, moulting care
9. Mountages and harvesting, cocoon assessment and preparation of harvest report.
10. Visit to local progressive sericulturists.
11. Rearing of silkworms (Compulsory)

NOTE FOR PAPER SETTERS

Total Marks of the USESET-305 is 50 of which 20% marks shall be reserved for internal assessment (10 marks). Remaining 80% of the marks (40 marks) shall be reserved for external examination to be conducted by the University/Colleges.

Internal Assessment Test (10 Marks)

Internal Assessment Paper of 10 Marks shall consist of Theory Question/s of 5 Marks from Unit I/II and 5 Marks of Practical Exercise from Unit III.

External End semester University / College Examination

External Theory Exam shall be of 40 Marks and consist of 2 sections:

Section A: Four (4) short answer questions representing all Units/Syllabi i.e., atleast one question from each unit. Each question shall be of 2.5 marks (All Compulsory)

Section B: Six long answer questions representing whole of the syllabi i.e., two questions from each unit. Each question shall be of 10 marks. The candidate has to attempt 3 questions selecting one from each unit.

RECOMMENDED READINGS

1. Ganga, G. and Chetty, S. (2008) An Introduction to Sericulture. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Ganga, G., (2003) Comprehensive Sericulture- Vol.-1 Moriculture, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
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