**DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY**

**CIRCULAR NO. SU/Sci./B.Sc. Syll./38/2015**

It is hereby inform to all concerned that, on the recommendation of the various Board of Studies, Ad-hoc Boards & Committees, the Hon'ble Vice-Chancellor has accepted the revised semester-wise syllabi on behalf of the Academic Council under Section-14[7] of the Maharashtra Universities Act, 1994 in the Faculty of Science as under :-

| Sr. No. | Name of the Subject | Semester |
|---|---|---|
| [1] | B.Sc. Polymer Chemistry IIInd Year, [Optional] | V & VI |
| [2] | B.Sc. Networking and Multimedia IIInd Year, Three Year Degree Course | V & VI |
| [3] | B.Sc. Dry Land Agriculture IInd Year, [Optional] | III & IV |
| [4] | B.Sc. Sericulture IInd Year, [Optional] | III & IV |
| [5] | B.Sc. Workshop Technology IInd Year, Three Year Degree Course | III & IV |
| [6] | M.Sc. Botany IInd Year [at college level] | III & IV |

This is effective from the Academic Year 2015-16 & onwards as appended herewith.

All concerned are requested to note the contents of the circular and bring the notice to the students, teachers and staff for their information and necessary action.

University Campus,
Aurangabad-431 004.
REF. NO. ACAD/ SU / SCI./ 2015/
Date:- 28-07-2015.

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Director,
Board of College and University Development.

**Copy forwarded with compliments to:-**

1] The Principals, affiliated concerned colleges,
Dr. Babasaheb Ambedkar Marathwada University

**Copy to :-**

1] The Controller of Examinations,
2] The Director, [E-Suvidha Kendra], in-front of Registrar's Quarter, Dr. Babasaheb Ambedkar Marathwada University,
3] The Superintendent, [B.Sc. Unit],
4] The Superintendent, [M.Sc. Unit],
5] The Superintendent, [B.C.S. Unit],
6] The Programmer [Computer Unit-1] Examinations,
7] The Programmer [Computer Unit-2] Examinations,
8] The Record Keeper.
Dr. Babasaheb Ambedkar Marathwada University.

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S*/-030815/-

Dr. Babasaheb Ambedkar Marathwada University Aurangabad

M.S., INDIA

# Syllabus Of

# B.Sc. Second Year

# SERICULTURE

[Optional]

[With Credit System]

Semister- III and IV

Effective from 2015-2016 and onwards progressively

# B.Sc.(SERICULTURE) Syllabus

## B.Sc. II Year Sericulture

| Semister | |
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Semester-wise

[With Credit System]

Semester III and IV 2015-16

B.Sc. Third Semester

| | |
|---|---|
| Paper VII | Mulberry Silkworm Biology. |
| Paper VIII | Mulberry Silkworm Rearing Technology. |
| Paper IX | Practical Based on VII Theory Paper. |
| Paper X | Practical Based on VIII Theory paper. |

B.Sc. Fourth Semester

| | |
|---|---|
| Paper XI | Diseases and Past Management of Mulberry Silkworm. |
| Paper XII | Diseases and Past Management of Mulberry |
| Paper XIII | Practical Based on XI Theory Paper. |
| Paper XIV | Practical Based on XII Theory Paper. |

B.Sc. Semester III

Course Code SERI-201

Sericulture Theory Paper-VII

(Mulberry Silkworm Biology)

1) Systematic position of Bombyx mori. With detailed information of phylum, class, order, family and type.
2) Silkworm races with their characteristic features (Univoltine, Bivoltine, multivoltine )
3) Basic principles of voltinism and moultinism.
4) Environmental and physiological aspects of Diapause and voltinism.
5) Anatomy and physiology of silkworm.
   A. Integument.
   B. Digestive system.
   C. Excretory system.
   D. Circulatory system.
   E. Respiratory system.
   F. Nervous system
   G. Reproductive system.

B.Sc. Semester III

Course Code SERI-202

Sericulture Theory Paper-VIII

(Mulberry Silkworm Rearing Technology)

1) Silkworm rearing and environmental requirement general concepts of humidity, air, light and other requirements for different stages of larvae.
2) Types of rearing houses, location, orientation etc. Model rearing house and its necessity.
3) Rearing appliances and their uses.
4) Disinfection of rearing house and equipments and its significance.
5) Procurement of disease free layings. Incubation- environmental conditions and their role, black boxing etc.
6) Hatchings and brushing- methods of brushing chowky rearing and their methods with their advantages and disadvantages.
7) Rearing of late age silkworm with different methods.
8) Schedule of feeding, spacing, cleaning and application of disinfectants during rearing.
9) Moulting and care during moulting.
10) Moulting methods and different mountages and their impact on production of quality cocoon.
11) Difference between seed and Commercial rearing and its economics.

B.Sc. Semester III

Course Code SERI-203

Paper-IX

(Practical based on VII theory Paper)

1) Study of different races of Bombyx mori.
2) Dissection of digestive system of silk worm larva.
3) Mounting of mouth parts of larva.
4) Dissection of silk gland.
5) Dissection of nervous system of larva.
6) Dissection of reproductive system of adult moth.
7) Histological studies of digestive, reproductive, excretory and silk gland.
8) Haemocytes types and their counts in larvae and adults.
9) Collection and submission of different races cocoons.

B.Sc. Semester III

Course Code SERI-204

Paper-X

(Practical based on VIII theory Paper)

1) Study of different models of rearing house-plan.
2) Study of different rearing appliances and their uses.
3) Disinfectants- identification, preparation of the solution as per requirements.
4) Study of different types of eggs, incubation, black boxing, hatching.
5) Calculation of hatching percentage.
6) Different methods of brushing.
7) Study of rearing methods, mounting, harvesting.
8) Sorting and study of defective cocoons.

Note: Each candidate should undertake individual rearing of silkworm and submit the report.

B.Sc. Semester IV

Course Code SERI-205

Sericulture Theory Paper-XI

(Disease and Pest Management of Mulberry Silkworm)

1) Introduction and classification of Different types of silkworm diseases.
2) Influence of environment and nutrition on the occurrence of diseases.
3) Diseases of silkworm - causative agent, occurrence, symptoms, pathogenicity, control and prevention of following-
   A. Bacterial diseases
   B. Fungal diseases
   C. Viral diseases
   D. Protozoan diseases.
4) Important pests of mulberry silkworm – classification, life cycle, Symptoms, occurrence, damage and control measures of following-
   A. Uzi fly
   B. Dermistid beetle
   C. Other pests/ predators like ants, rodents and lizards.
5) Necessity and concepts of Integrated Pest Management(IPM).
6) Common insecticides, pesticides, fungicides used in sericultural Crop protection.
7) Different types of insecticidal and fungicidal applicators and formulations of common fungicides and insecticides.

B.Sc. Semester IV

Course Code SERI-206

Sericulture Theory Paper-XII

(Disease and Pest Management of Mulberry)

1) Concepts of plant diseases and importance of plant protection.
2) Classification of diseases of mulberry.
3) Influence of biotic and abiotic variables on the incidence of mulberry diseases.
4) Diseases of mulberry – causative agent, occurrence, symptoms, damage and control measures of following
    A. Leaf spot
    B. Leaf Blight
    C. Powdery mildew
    D. Leaf rust
    E. Root rot
    F. Root knot(nematode).
5) Nutritional deficiency diseases in mulberry.
6) Introduction to pests, parasitoide and predators.
7) Common pests of mulberry – classification, life cycle, symptoms, occurrence, damage and control measures of following-
    A. Bihar hairy caterpillar
    B. Mealy bugs
    C. Scale insects
    D. Thrips and jassids
    E. Borers and termites

B.Sc. Semester IV

Course Code SERI-207

Paper-XIII

(Practical based on theory paper XI)

1) Collection of disease silkworm study and their preservation.
2) Collection, Identification and Preservation of pest of silkworm.
3) Study of different predators of Bombyx mori.
4) Study of different bed disinfectants and formulation of required solutions.
5) Study of different types of applications.
6) Field visits, collection and submission of report.

B.Sc. Semester IV

Course Code SERI-208

Paper-XIV

(Practical based on theory paper XII)

1) Collection, study and diseased parts of mulberry.
2) Collection, identification and preservation of mulberry pest
3) Study of soil nematode from mulberry garden.
4) Determination and preparation of various concentration of different insecticide/ pesticide/ fungicides.
5) Study of various types of applicators.
6) Field visit, collection of different pest and diseased part samples and their submission.