

DEPARTMENT OF ZOOLOGY
VALUE ADDED COURSE

Semester	Course Code	Course Title	Hours
III	22UZOVAC1	SILKWORM REARING TECHNIQUES	30

Course Outcomes

On successful completion of the course, students will be able to:

- CO.1 Acquire knowledge on the basic requirements of silkworm rearing.
- CO.2 Understand the feeding of silk worm and culture of mulberry.
- CO.3 Comprehend the rearing of larval instars with optimal conditions.
- CO.4 Explain the types of montages and overcome the common silkworm diseases.
- CO.5 Create the opportunity for SHG for entrepreneurial development.

Unit I: 6 Hours

Introduction to Sericulture - Rearing houses: basic requirements –types- location – Orientation -utilization of locally available materials – vinyl sheds, tiled roof, thatched sheds; Mud houses and Double walled rearing house.

Unit II: 6 Hours

Silkworm Rearing appliances - feeding of worms – types of Mulberry – leaf harvesting and preservation - maintenance of hygienic conditions - disinfectants.

Unit III: 6 Hours

Maintaining optimum condition for larval rearing, brushing, frequency of spacing, bed cleaning - care during moulting. Rearing of instars.

Unit IV: 6 Hours

Mounting and mountages – methods of mounting – types of mountages – By-products of silkworm rearing and their utilization – common silkworm diseases - Flacherie - Grasserie – Muscardine – Pebrine.

Unit V: 6 Hours

Ministry of Textiles, Role of Central Silk Board (CSB) - Opportunity of SHG in Entrepreneurship development – Project Budget - Village industry: types and problems -Govt. agencies; NABARD, Co-operative Societies.

Field visit to Sericulture rearing unit

Text Book

1. G.Ganga and SulochanaChetty An Introduction to Seri Culture -, Ox ford and IBH Publishing. Co Pvt.Ltd . New Delhi ,2010.

Semester	Course Code	Course Title	Hours
V	22UZOVAC2	BASICS OF VACCINE AND VACCINATION	30

Course Outcomes:

On successful completion of the course, students will be able to:

- CO.1 Understand the scope and importance of vaccination
- CO.2 Comprehend the types of immune response and the different ways of immunization
- CO.3 Apply the knowledge on vaccination schedule for children and adults
- CO.4 Judge the safety issues, precautions and management of effective vaccination
- CO.5 Analyse the bacterial and viral components as vaccines

Unit I: 6 Hours

Historical background of Vaccination – Scope – Vaccine – Vaccination – Immunization: Active and passive immunity.

Unit II: 6 Hours

Principles of Vaccination: Types of Immune Response: Primary and Secondary Immune response - Passive Immunization: Different ways of passive immunizations – Limitations and Uses.

Unit III: 6 Hours

Active Immunization – Concept - Vaccination program for children and adults – Limitations. Vaccines for active immunization – concept.

Unit IV: 6 Hours

Features of effective vaccination – Success rate of Vaccination – Vaccine restricted to certain groups. Safety issues, precautions and management.

Unit V: 6 Hours

Classification of Vaccines – Whole - organism vaccines: Attenuated and killed – Purified macro molecules: Toxoid – Bacterial and viral components as vaccines - multivalent subunit vaccines - synthetic vaccines – edible vaccines – vaccine storage and transport.

Field visit to Vaccine Research Centre.

Text Book

1. Textbook of Immunology – including Immunotechnology & Immunotherapy – Ajoy Paul, Books and Allied (P)Ltd., Kolkata (2016).

Semester	Course Code	Course Title	Hours
III	22PZOVAC1	BASICS OF FORENSIC SCIENCE	30

Course Outcomes

On successful completion of the course, students will be able to:

- CO.1 Understand the basics of Forensic Science.
- CO.2 Analyse the body fluids & human blood and know the significance of other samples.
- CO.3 Apply the uses and forensic significance of DNA profiling.
- CO.4 Comprehend on wild life forensics and protect ill legal trading of wild life.
- CO.5 Evaluate the concepts of Entomology in forensics.

UNIT-I

6 Hours

History, Scope and Development of Forensic Science in India. Definitions, Concepts, Basic principles, Functions of Forensic Science.

UNIT-II

6 Hours

Serology Forensics: Body fluids- Composition and functions of blood, Difference between human and non-human blood, Forensic significance of blood, saliva, sweat, milk, urine and semen.

UNIT-III

6 Hours

DNA Forensics: DNA as biological blueprint of life. Extraction of DNA for analysis, Polymerase chain reaction –DNA testing in disputed paternity; Application and Forensic significance of DNA profiling.

UNIT-IV

6 Hours

Wildlife Forensics: Significance of wildlife forensic, Protected and endangered species of animals, Illegal trading in wildlife items; skin, fur, bone, horn, teeth and tusk.

UNIT-V

6 Hours

Forensic Entomology: Insects of forensic importance: House flies, Blow flies and Flesh flies- Collection of entomological evidence during death investigations.

Field trip: Visit to Forensic Science Department

Reference books:

1. Houck, M.M & Siegel, J.A; Fundamentals of Forensic Science, Academic Press, London, 2006.
2. Nanda B.B and Tewari, R.K; Forensic Science in India- A vision for the Twenty First Century, Select Publisher, New Delhi, 2001.
3. James, S.H and Nordby, J.J; Forensic Science- An Introduction to Scientific and Investigative Techniques, CRC Press, USA, 2003.
4. Saferstein; An Introduction of Forensic Science, Prentice Hall Inc, USA, 2007.