

Zoology Department
Dr shubha Srivastava

Programme class B.Sc	First Year	Sem I and II
----------------------	------------	--------------

Subject: Zoology

Course code	Course Title - Sericulture
--------------------	-----------------------------------

COURSE OBJECTIVES: Sericulture has a great role in rural employment, poverty alleviation and earning foreign exchange. A lot of entrepreneurial opportunities are available in various fields of sericulture. India has the unique distinction of being the only country producing all the five known commercial silks, namely, mulberry, tropical tasar, oak tasar, eri and muga. The main aim of this course is to create a skilled workforce in India, who can perform multiple roles in the field of sericulture. This will help make the sericulture scene in India more organized and productive.

LEARNING OUTCOME: after gaining basic knowledge students can take advance training in Weaving, Dyeing, Designing, Managerial and Information Technology under the Block Level Cluster of National Handloom Development Programme (NHDP) and Comprehensive Handloom Cluster Development Scheme (CHCDS), central silk board (CSB) etc. the course will give the scientific knowledge about mulberry cultivation, silkworm rearing techniques to the students and will give scientific knowledge about mulberry cultivation, silkworm rearing techniques to the students.

Credits : 3	Skill Development
Max Marks: 25+75	
Total no of lectures-Tutorials-Practical	In hrs / week 2-0-2

75 –Theory ; 25- Practicals]

CREDITS: 03 [02 –Theory; 01- Practical]

CONTACT HOURS: THEORY : 45 HOURS (02 LEC/WEEK)

PRACTICALS: 30 HOURS (01 PRACTICAL /WEEK)

Unit I	Title	No of Lectures
I	1. Gen. Sericulture Introduction of sericulture	

	<ul style="list-style-type: none"> ● introduction to Sericulture ● Species of Silkworms ● History of sericulture ● Principles of Agronomy 	12
II	Mulberry cultivation and Management Biology of Mulberry Silkworm and Silkworm rearing Technology <ul style="list-style-type: none"> ● Plant Cultivation ● Crop Protection 	12
III	Silk Agro climatic conditions for mulberry cultivation, Site suitability for mulberry garden establishment, soil management,classification of different types of soil, kisan nursery Technology, Silk Marketing and Extension –	12
IV	Practical Preparation of Different Disinfectant Solutions Recommended in Sericulture Experiment -- Identification of Major Silkworm Pests Demonstration of Management Practices Against Silkworm pests	09

This training program is available in formats such as – workshops, distance education and regular classroom.

Internal Assessment on the basis of practical work, field visit and quiz

References

1. Anonymous (1972): FAO Manuals on Sericulture Vol. I – IV
2. Hanumappa (1978): Sericulture for Rural Development, Himalaya Publications, Delhi.
3. Gubrajani, M.L. (1986): Silk Dyeing, printing and finishing, IIT, New Delhi.
4. Ferguson, A. (1980): Biochemical Systematics and Evolution: Blankie Publications: Glasgo, London.
5. Yokoyama, T. (1959): Silkworm Genetics illustrated: Japan Society for Promotion of Science, Tokyo.
6. King, L.A. and Posse R.D. (1990): Baculovirus Expression System? Chapman and Hall, London.
7. Byung, Jo. (1987): Silk Textile Engineering, Moon, Halk Publication Scol. Korea.

Shaurabh
Nalwa

8. Rayner Hollin (1903): Silk Throwing and Waste Silk Spinning Scott. Greew

Greew

Maurabh
28/10/2021

MS

Zoology Department

Dr Dr Shubha Srivastava

Programme class B.Sc	First Year	Sem I and II
----------------------	------------	--------------

Course Title : IMMUNOLOGY

COURSE OBJECTIVES: Familiarize students and make them learn about the structural features of the components of the immune system as well as their functions, and understand the mechanisms involved in immune system development and responsiveness.

LEARNING OUTCOME: Upon successful completion of the course, students will be able to: Understand the components of the immune system and their function. Be able to explain the mechanisms of immune response. Perform immunoassays to detect the presence of antigens or antibodies(disease detection).

Credits : 4	Minor Elective
Max Marks: 25+50+25	
Total no of lectures-Tutorials-Practical	In hrs / week 3-0-2

75 –Theory ; 25- Practicals]

CREDITS: 04 [03 –Theory; 01- Practical]

CONTACT HOURS: THEORY : 60 HOURS (02 LEC/WEEK)

PRACTICALS: 30 HOURS (01 PRACTICAL /WEEK) 1 practical = 2hrs

Unit I	Title	No of Lectures
I	INTRODUCTION TO IMMUNOLOGY 1: i Basic concepts in immunology Components of the immune system ii : INNATE AND ADAPTIVE IMMUNITY. Innate immunity-Anatomical barriers/ layers of defense, cells and molecules involved in innate immunity .Adaptive immunity-cell	12

Saurabh
22/10/2021

	mediated and humoral immunity, passive immunity (artificial and natural) iii ANTIGENS AND IMMUNOGLOBULINS Antigens, Immunogens, adjuvants and haptens Factors influencing immunogenicity B and T cell epitopes	
II	IMMUNOGLOBULINS: Structure and function I. different classes of Immunoglobulin. Antigen-Antibody interactions ii. Immunoassays, monoclonal & polyclonal antibodies iii Structure and function of endogenous and exogenous pathways of antigen presentation	12
III	HYPERSENSITIVITIES, AUTOIMMUNITY AND TRANSPLANTATION I Autoimmune responses against self antigens (SLEs), Major histocompatibility complex ii: responses to alloantigens iii: transplant rejection (graft rejection, types and mechanisms of transplant rejection)	12
IV	I Immune system in health and disease Classification and brief description of various types of hyper sensitivities II Introduction to concepts of autoimmunity and immunodeficiency VACCINES III Types of vaccines - inactivated, attenuated, toxoid, subunit, conjugate , experimental (DNA and recombinant vaccine),	12

Shaurabh
28/10/2021

V	<p>Practical:</p> <p>1 Preparation of serum from goat blood.</p> <p>2 Slide Agglutination Reaction(blood groups – A / AB / O with Rh)</p> <p>3 Differential count of leukocytes</p> <p>4 Detection of presence of antigen / antibody -immunodiffusion</p> <p>5 Antigen –antibody reaction by immunoelectrophoresis</p> <p>6 Elisa TEST-</p> <p>7 Histological study of spleen, thymus and lymph nodes (through prepared slides)</p>	12
----------	--	-----------

REFERENCE BOOKS:

Abbas KA, Lechtman HA(2007). Basic Immunology, Updated Edition 2006-2007: STUDENT CONSULT. Access (Paperback). 2) David M, Jonathan B, David RB and Ivan R(2006). Immunology. VII Edition, Mosby, Elsevier Publication. 3) Abbas KA, Lechtman HA(2003). Cellular and Molecular Immunology. Saunders Publication. 4) Kindt TJ, Goldsby RA, Osborne BA and Kuby J(2006). Immunology. VI edition. W H Freeman and company. Ebooks: 5) Frank SA(2002). Immunology and evolution of infectious diseases. Princeton University Press, Princeton and Oxford. 6) PRACTICALS:

1) Talwar GP and Gupta SK(2012).A handbook of practical and Clinical Immunology, CBS publishers.

Internal Assessment

Discussion	5 marks
Quiz	5 marks
Demonstration	5 marks
Minor Visit to pathological laboratories/ Medical college	10 marks

Shamabh
28/10/2021