

Course: Economic Zoology	Course code:
L-T-P per week: 4-0-0	No. of Credits: 03
Internal Assessment: 40 marks	Semester End Examination: 60 marks
Total Contact Hours: 42	

Course Outcomes (COs):

At the end of the course the student should be able to:

CO1	Gain knowledge about silkworms rearing and their products.
CO2	Gain knowledge in Bee keeping equipment and apiary management.
CO3	Acquaint knowledge on dairy animal management, the breeds and diseases of cattle and learn the testing of egg and milk quality.
CO4	Acquaint knowledge about the culture techniques of fish and poultry.
CO5	Acquaint the knowledge about basic procedure and methodology of vermiculture.
CO6	Learn various concepts of lac cultivation.
CO7	Students can start their own business i.e. self-employments
CO8	Get employment in different applied sectors

Course Content	Hrs
Module-1	8
Chapter 1. Sericulture: <ul style="list-style-type: none"> ● History and present status of sericulture in India ● Mulberry and non-mulberry species in Karnataka and India ● Mulberry cultivation ● Morphology and life cycle of <i>Bombyxmori</i> ● Silkworm rearing techniques: Processing of cocoon, reeling ● Silkworm diseases and pest control 	
Module-2	8
Chapter 2. Apiculture: <ul style="list-style-type: none"> ● Introduction and present status of apiculture ● Species of honey bees in India, life cycle of Apisindica ● Colony organization, division of labour and communication ● Bee keeping as an agro based industry; methods and equipments: indigenous methods, extraction appliances, extraction of honey from the comb and processing ● Bee pasturage, honey and bees wax and their uses ● Pests and diseases of bees and their management 	

Module-3	9
<p>Chapter 3. Live Stock Management:</p> <ul style="list-style-type: none"> ● Dairy: Introduction to common dairy animals and techniques of dairy management ● Types, loose housing system and conventional barn system; advantages and limitations of dairy farming ● Establishment of dairy farm and choosing suitable dairy animals-cattle ● Cattle feeds, milk and milk products ● Cattle diseases ● Poultry: Types of breeds and their rearing methods ● Feed formulations for chicks ● Nutritive value of egg and meat ● Disease of poultry and control measures 	
Module-4	8
<p>Chapter 4. Aquaculture:</p> <ul style="list-style-type: none"> ● Aquaculture in India: An overview and present status and scope of aquaculture ● Types of aquaculture: Pond culture: Construction, maintenance and management; carp culture, shrimp culture, shellfish culture, composite fish culture and pearl culture <p>Chapter 5. Prawn culture:</p> <ul style="list-style-type: none"> ● Culture of fresh and marine water prawns. ● Preparation of farm. ● Preservation and processing of prawn, export of prawn. 	
Module-5	9
<p>Chapter 6. Fish culture:</p> <ul style="list-style-type: none"> ● Common fishes used for culture. ● Fishing crafts and gears. ● Ornamental fish culture: Fresh water ornamental fishes- biology, breeding techniques ● Construction and maintenance of aquarium: Construction of home aquarium, materials used, setting up of freshwater aquaria, aquarium plants, ornamental objects, cleaning the aquarium, maintenance of water quality. control of snail and algal growth. ● Modern techniques of fish seed production <p>Chapter 7. Vermiculture:</p> <ul style="list-style-type: none"> ● Scope of vermiculture. ● Types of earthworms. ● Habit categories - epigeic, endogeic and anecic; indigenous and exotic species. ● Methodology of vermicomposting: containers for culturing, raw materials 	

Text Books:

1. Jaiswal Vinita and Jaiswal Kamal Kumar, Economic Zoology. Prentice Hall India Learning Private Limited, 2014.
2. Aminul Islam, A Textbook of Economic Zoology. Wiley.
3. Parul Yadav, Applied and Economic Zoology. KEDAR NATH RAM NATH; 2021st edition (1 January 2020)

Reference Books:

1. Eikichi, H. (1999). Silkworm Breeding (Translated from Japanese). Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
2. Ganga, G. (2003). Comprehensive Sericulture Vol-II: Silkworm Rearing and Silk Reeling. Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
3. Mahadevappa, D., Halliyal, V.G., Shankar, D.G. and Bhandiwad, R., (2000). Mulberry Silk Reeling Technology Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.
4. Roger, M (1990). The ABC and Xyz of Bee Culture: An Encyclopedia of Beekeeping, Kindle Edition.
5. Shukla and Upadhyaya (2002). Economic Zoology, Rastogi Publishers
6. YadavManju (2003). Economic Zoology, Discovery Publishing House.
7. JabdePradip V (2005). Textbook of applied Zoology, Discovery Publishing House, New Delhi.
8. Cherian & Ramachandran Bee keeping in-South Indian Govt. Press, Madras.
9. Sathe, T.V. Vermiculture and Organic farming.
10. Bard. J (1986). Handbook of Tropical Aquaculture.
11. Santhanam, R. A. Manual of Aquaculture.
12. Zuka. R.1 and Hamiyn (1971). Aquarium fishes and plants
13. Jabde, P.V. (2005) Text Book of Applied Zoology: Vermiculture, Apiculture, Sericulture, Lac culture.
14. Animal Disease- Bairagi K. N. Anmol Publications Pvt.Ltd 2014
15. Economics Of Aquaculture - Singh(R.K.P) - Danika Publishing Company 2003
16. Applied and Economic Zoology (SWAYAM) web
https://swayam.gov.in/nd2_cec20_ge23/preview

Pedagogy: Chalk and Talk, PPT, Group discussion, Seminar, Field visit