

E.M.G. YADAVA WOMENS COLLEGE, MADURAI -14.**(An Autonomous Institution – Affiliated to Madurai Kamaraj University)****Re –accredited (3rd cycle) with Grade A⁺ and CGPA 3.51 by NAAC****CBCS with OBE****DEPARTMENT OF ZOOLOGY – UG****ADD ON COURSE****Entrepreneurial Bee Keeping****(w.e.f. 2022 – 2023 Batch onwards)****COURSE STRUCTURE****Contact Hours: 30 hrs****Credit: 1**

S.No.	Sem	Course Code	Title of the Course
1.	I	22ZOAOC	Theory: Entrepreneurial Bee Keeping
2.	I	22ZOAOC P	Practical: Lab in Entrepreneurial Bee Keeping

Department of Zoology				Class: I B.Sc	
Sem	Category	Course Code	Course Title	Credit	Contact Hours
I	Add on course	22ZOAOC	Entrepreneurial Bee Keeping	1	30
		22ZOAOC P	Lab in Entrepreneurial Bee Keeping		

Objectives:

1. To inculcate importance of Bee keeping and honey processing in relation with entrepreneurship development.
2. To give students knowledge about various techniques of Bee keeping and honey processing and its marketing to make them self sustainable after graduation.
3. To teach techniques of construction of Bee Hives and its maintenance.
4. To teach students about Honey production and health related problems with Honey bees.

Unit I : Introduction to Bee Keeping

Importance of Honey bees – Benefits of Bee keeping – Honey Bee products – Nature of work.

Unit – II : Indian Honey Bees

Caste of Bees-Commercially important Bee species and their life Cycle.(*Apis dorsata*, *Apis cerana indica*)

Unit III : Apiary site selection and Management

Location of Apiary, starting a colony and establishment of a beehive-Seasonal management of Apiary.

Unit IV : Diseases of Honey Bees and their management

Viral diseases-Sac Brood and Thai sac Brood disease

Bacterial diseases – American Fowl Brood and Septicemia

Fungal diseases – Chalk Brood

Protozoan diseases – Amoeba disease

Unit V: Entrepreneurship Skills& Government Funds

Preparing a Business plan for Bee keeping – Keeping Records-Hiring People – Economics of Bee Keeping.

Books for study :

1. Arumugam.N, Jayashree.K.V & Tharadevi.C.S .,(2017) Bee Keeping,Saras Publication,Nagercoil.
2. Arumugam.N, Jayashree.K.V & Tharadevi.C.S .,(2018) Apiculture ,Saras Publication, Nagercoil.

Books for reference:

1. Sardar Singh. (1962) Beekeeping in India Hardcover,Indian Council of Agricultural Research, First Edition first Printing,.New Delhi.
2. Dharm Singh and Devender Pratap Singh, (2006) A Handbook of Beekeeping, Agrobios, India.
3. G. K. Ghosh. (1994) Bee Keeping in India, Ashish publication house, New Delhi.

PRACTICALS

List of Experiments:

1. Identification of Honey Bees-Drone Bee, Queen Bee, Worker Bee.
2. Bee Keeping Equipment's-Typical Bee Hive, Hive stand, Smoker, Queen Excluder, Bee Brush, Honey Extractor
3. Harvest, Processing and Marketing of Honey.
4. Field visit and interaction with Bee keepers and other supportive agencies