



Department of Zoology
Apiculture

Short-Term/ Certificate Course/Diploma
(Skill Enhancement Course)

Course Title: Apiculture

Course Code: ~~DSM~~- ZOO-SKC-303

Theory

Objective: To acquire knowledge about Apiculture, its cultural practices, and foraging behavior of honey bees for the purpose of Economic production of honey and by-products.

Unit I: Introduction to Apiculture

- History of Bees and Beekeeping.
- Systematics, Bee species, Bee morphology and Life cycle.
- Colony organization, Polymorphism, caste system, Division of labor.
- Bees' flora, Foraging, and Honey flow periods.

Unit II: Bees Behaviour and Communication

- Behaviour of bees and their types.
- Bee Communication and its types (Chemical, Mechanical, and Optical communication).
- Bees dance language, Dance types (Round, joy, massage, Tremble, Whir, Shake, Alarm, Cleaning, and Waggle dances).

Unit III: Applied Apiculture

- Purchase of a colony, the Apiary site, how to manage a colony, the manipulation of a colony.
- Bee products: Honey, Beeswax, Pollens, Royal jelly, Propolis, and Bee venom.
- Bee diseases and enemies.

Unit IV: Apiculture as an Occupation

- Extent of Beekeeping in India.
- Limitations on the development of beekeeping.
- Advantages of extensive beekeeping.
- Beekeeping equipment: Bee box and tools and initiation into keeping a colony.

Unit V: Beekeeping Techniques and Apiary Management

- Establishment of a colony. Bee flora and planned pollination services.
- Important institutions pertinent to apiculture: National Bee Board, Bee Research and Training Institute, Apiaries.
- Routine and Seasonal Management of Bees, Migratory beekeeping.
- Harvesting and marketing of bee products, Future Scope of Apiculture in the Context of Economy in India.

CHAIRMAN

Board of Studies in Zoology
Dr. H. S. Grew University
New Delhi, 110 003

Chindar
12.7.24

12/7/24

12/7/24

Department of Zoology
Apiculture

Suggested Readings:

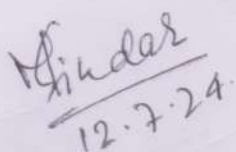
1. Abrol, D.P. (1997), Bees and Beekeeping. Kalyani Publisher, New Delhi.
2. David Cramp, 2012. The Complete Step-by-step Book of Beekeeping: A Practical Guide to Beekeeping, from Setting Up a Colony to Hive Management and Harvesting the Honey. Lorenz Books. London.

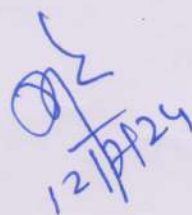
Expected Outcomes:

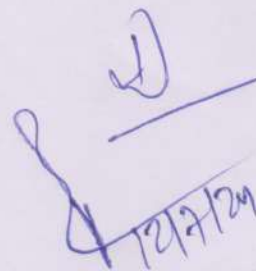
By the end of the course, the students should be able to:

- Identify and describe the fundamentals and Scientific basis of Apiculture.
- Recognize biological principles applications of Apiculture as a study subject.
- The learner understands the basics of beekeeping tools, equipment, and managing beehives.
- To understand the basic life cycle of the honeybees, beekeeping tools, and equipment.
- To learn about managing beehives for honey production and pollination.
- The course is useful for providing self-employment to learners.
- The beekeeping is useful in pollination of the flora.
- Learner will understand the marketing of various bee products.




12.7.24


12/7/24


12/7/24

Department of Zoology
Apiculture

Short-Term/ Certificate Course/Diploma
(Skill Enhancement Course)

Course Title: Apiculture

Course Code: ~~DSM~~ **200-SKC-304**

Practical

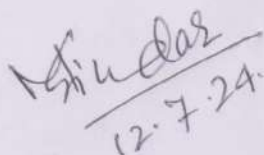
1. Visit to Apiary, Bee Research Institute, and Apiculture Farm.
2. Identification of different bee species and castes.
3. Study about Honey extraction, processing, and bottling.
4. Study of Morphology, and Anatomy of honey bee.
5. Study about life cycle of Honey bees with colorful diagrams.
6. Handling of honey bee's colony, and maintenance of apiary record.
7. Value-added honey product preparation.
8. Prepare Charts and Models.

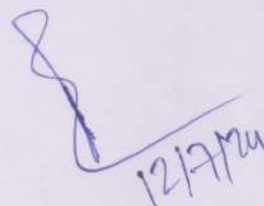
Suggested Readings:

1. David Cramp, 2012. The Complete Step-by-step Book of Beekeeping: A Practical Guide to Beekeeping, from Setting Up a Colony to Hive Management and Harvesting the Honey. Lorenz Books. London.




12/12/24


12.7.24


12/7/24



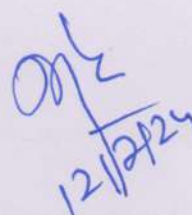
Proposal for Short term course on Bee-keeping at the Department of Zoology

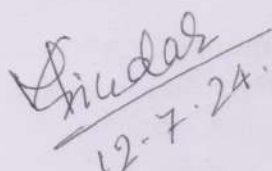
S. No.	Title of the program	Bee-keeping
1.	Intake (Seats)	Minimum 10, Maximum 20
2.	Course structure	16 Credit
3.	Duration	3 Month's
4.	Fee Structure	10,000/-
5.	Coordinator of the program	Prof. Versha Sharma

- To Study the morphology of Honeybees and identification of different species and class of Honeybees. To Study different stages in life cycle of Honeybees. Bee-keeping Unite-
- Handling of frames with colonies. Colony inspection, maintenance- writing up of infection report.
- Identification of queen cells drone cells and brood.
- Steps for strengthening of colonies.
- Extraction of Honey using Honey Extractor. Method Extraction of wax, Royal jelly and bee venom.

Note:- The Training Program will not run, if the total number of registered candidate will be bellow ten.




12/12/24


12-7-24


12/7/24

