

**SEMESTER-III (Pool-B)**  
**Course Name: APICULTURE**  
**(CHOI-B45)**

**Number of Credit: 02**

**Maximum Marks: 50**

**Objectives of the course:**

- To impart education about modern beekeeping.
- To build human resource in the beekeeping sector.
- Diversification of beekeeping to increase income of the farmers; and
- To develop entrepreneurial skills in youth for the beekeeping.

**UNIT-I**

**Introduction to Apiculture:** History, scope, importance and apiculture centres in India; types of bee keeping in India; qualities of good bee flora; some important bee flora and their general characters.

**UNIT-II**

**Honey Bee:** Systematics, general morphology, anatomy, physiology, life-cycle, and behavioral aspects of honey bee.

**UNIT-III**

**Enemies and Diseases of Honeybee:** Major enemies - Mites, Wax Moths, Ants, Bee Eaters, Garden Lizards, and Bears; Disease management: Identification of symptoms of *Nosema*, Sac brood Virus, Thai sac brood virus, American foul brood, and European foul brood diseases; Preventive and control measures of the diseases.

**UNIT-IV**

**Entrepreneurship:** Basic requirements for beekeeping start up; Beekeeping: BIS standard in tools and equipment for apiculture; apiculture industry and its uses; expenditure, net income, and additional benefits.

**UNIT-V**

**Beehive Products and Processing:** Extraction and handling of honey, wax, royal jelly, and other valuable products; quality control standards; bee venom and its uses.

**Suggested readings:**

1. Beekeeping: David Cramp; Lorenz Books Publisher

2. A Guide to Beekeeping: Ivor Davis; Bloomsbury Wildlife Publisher
3. The Beekeeper's Handbook: Diana Sammataro; Comstock Publishing Associates