

CURRICULUM PLAN (Aug.-Dec, 2022)

Dr. MAYANGLAMBAM ROJINA DEVI

Subject- Apiculture (SEC; Theory)

Class- B. Sc. (H) Zoology Sem. III

Contents	Allocation of lectures	Monthwise schedule to be followed	Tutorial/ Assignments / Presentations
Unit1: Biology of Bees History, Classification and biology of Honey Bees, different species of honey bees- <i>Apis dorsata</i> , <i>Apis cerana indica</i> , <i>Apis florea</i> , <i>Apis mellifera</i> , <i>Melipona</i> sp. Social Organization of bee colony, behavioural patterns (Bee dance, swarming)	5 lectures	August	<ul style="list-style-type: none"> • Lecture followed by interactive open session • Screening of videos relevant with the topic
Unit 2: Rearing of Bees Artificial bee rearing (Apiary), Beehives- Newton and Langstroth; Bee Pasturage; Selection of bee species for Apiculture- <i>Apis cerana indica</i> , <i>Apis mellifera</i> ; Bee keeping equipment, Methods of extraction of Honey (Indigenous and Modern) and processing; Apiary management- Honey flow period and Lean period	14 lectures	September	<ul style="list-style-type: none"> • 2 minutes recap on previous class • Lecture with PPT • Screening of videos relevant with the topic
Unit 3: Diseases and Enemies Bee diseases, control and preventive measures; Enemies of bees and their control	3 lectures	October	<ul style="list-style-type: none"> • Discussion • Lecture through PPT
Unit 4: Bee Economy	3 lectures	October	<ul style="list-style-type: none"> • Discussion • Lecture through PPT

<p>Products of Apiculture Industry (Honey, Bees Wax, Propolis, Royal jelly, Pollen etc.) and their uses; Modern methods in employing artificial beehives for cross pollination in horticultural gardens</p>			<ul style="list-style-type: none"> • Screening of videos relevant with the topic
<p>Unit 5: Entrepreneurship in Apiculture Bee Keeping Industries- Recent efforts, Employment opportunities, Economics in small scale and large-scale beekeeping, Scope for women entrepreneurs in beekeeping sector</p>	<p>4 lectures</p>	<p>November</p>	<ul style="list-style-type: none"> • Discussion • Lecture through PPT • REVISION

CURRICULUM PLAN (Aug.-Dec, 2020)

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Class- B. Sc. Zoology Sem. III

Date	Contents
21/08/2020	Study of morphological structures of honey bee through permanent slides/photographs- mouth parts, antenna, wings, legs (antenna cleaner, mid leg, pollen basket), sting apparatus
28/08/2020	Study of the life history of honey bee, <i>Apis cerana indica</i> and <i>Apis mellifera</i> from specimen/ photographs - Egg, larva, pupa, adult (queen, drone, worker)
04/09/2020	Study of natural bee hive and identification of queen cells, drone cells and brood
11/09/2020	Study of artificial hive (Langstroth/Newton), its various parts and beekeeping equipment
18/09/2020	Permanent/temporary mount of pollen grains from flowers
25/09/2020	Analysis of honey- purity, biochemical analysis
October till November	Revision and Test