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S.I.Patil Arts, G.B.Patel Science and S.T.K.V.S. Commerce College
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Syllabus of certificate Course of Beekeeping

Beekeeping Paper-I

Unit-1 Honeybees and human beings

- 1.1 Introduction and Scope.
- 1.2. Importance of bee flora and floral calendar
- 1.3. Honey bees and pollination
- 1.4. Role of bee in sustainable agriculture
- 1.5 Profiting from Beekeeping
- 1.6 Coping with bee stings
- 1.7 Making a hobby of beekeeping

Unit-2 External morphology

- 2.1 Honey bee species and their distribution
- 2.2 The external morphology of all castes:
- 2.3 Head – Eyes, antennae, mouth parts and salivary gland
- 2.4 Thorax – Legs and wings
- 2.5 Abdomen- sting apparatus and Wax gland

Unit-3 Anatomy of bee

- 3.1 Digestive system
- 3.2 Circulatory system
- 3.3 Respiratory system
- 3.4 Nervous system
- 3.5 Reproductive system: a) Reproductive organs of male (Drone) bee, b) Reproductive organs of female (Queen) bee.

Unit-4 Colony organization and life cycle

- 4.1 Colony organization and polymorphism – a) the queen b) the drone and c) the worker 4.2 (division of labour)
- 4.3 Life cycle of honey bee- a) nuptial flight b) metamorphosis and caste determination
- 4.4 Bee behavior and communications
- 4.5 Nesting behavior and nest architecture
- 4.6 Communication in bees- a) Round dance b) Wagtail dance c) Cleaning dance d) DVAV (Joy dance) e) Massage dance f) Alarm dance
- 4.7 Mating behaviour in the honey bee

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Beekeeping Paper-II

Unit- 1Bee keeping equipments and apiary management

1.1 Introduction

1.2. Bee hive (box) - a) Langstroth hive b) Newton hive c) I.S. I. (A and B) type hive.

1.3. Bee keeping equipments – a) the bee veil b) the smoker c) the hive tool d) Gloves e) queen cage f) Comb foundation sheet g) the queen excluder h) wire entrance guard i) the queen cell protector j) dummy board k) the feeder l) the uncapping knife m) the honey extractor n) the bee brush o) Overall p) ant barrier q) the honey tank r) the drone trap.

1.4. Procurement and hiving of colonies.

1.5. Routine management – a) Cleaning, b) feeding and c) watering

1.6. Seasonal management - a) Rainy season b) Winter, c) Spring and d) Summer management.

1.7. Migration, Division and Uniting of colonies.

1.8. Queen rearing- Natural and artificial method.

Unit-2Bee diseases and enemies

2.1. Bee diseases – a) Viral b) Fungal - Chalk brood and Stone brood c) Bacterial – American foul brood, European foul brood, Septicemia, d) Protozoan disease.

2.2. Bee Parasites – a) External parasites – Mite, Louse. b) Internal parasites – Acarine disease.

2.3. Bee pest and predators

Unit- 3Bee products

3.1. Honey – Chemical composition, adulteration of honey and economic importance.

3.2. Other products and their uses - a) Pollen, b) Propolis c) bee wax d) bee venom e) royal jelly.

3.3 The world honey market.

Unit-4 Exploring products and career possibilities

4.1 Pollination and agricultural demand.

4.2 Harvesting other products of the hive

4.3 Going organic

4.4 Making a career in beekeeping

4.5 Beekeeping around the world

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Practical's

1. Study of Apis species of honey bee and Study of life cycle of honey bee.

2. Study of architecture of honey comb and Study of bee box (Langstroth hive).

3. Study of diseases, pests, parasites and predators of honey bee.

4. Study of bee keeping equipments and their uses.

5. Study of honey bee products and their uses.

6. Study of honey adulteration detection test.

Project work