

K.T. S. P. Mandal's
Hutatma Rajguru Mahavidyalaya, Rajgurunagar.
Department of Zoology
Syllabus Completion report
A.Y.-2022-2023

Class- S.Y. B. Sc.

Paper II

Course Title: Applied Zoology II

| Month | Title | Teacher Name |
|-------|--|--------------|
| March | <p>Apiculture:</p> <p>1.1 An introduction to Apiculture, Systematic position, Study of habit, habitat and nesting behaviour of <i>Apis dorsata</i>, <i>Apis indica</i>, <i>Apis florea</i> and <i>Apis mellifera</i>.</p> <p>1.2 Life cycle, Colony organization and Division of labour.</p> <p>1.3 Bee behaviour and communication (Round Dance and Wag-Tail Dance) .</p> <p>1.4 Bee keeping equipment:</p> <p>a) Bee box (Langstroth type), b) Honey extractor, c) Smoker, d) Bee-veil, e) Gloves, f) Hive tool, g) Bee Brush, h) Queen excluder</p> | SVT |
| April | <p>1.5 Bee keeping and seasonal management.</p> <p>1.6 Bee products (composition and uses) :</p> <p>a) Honey, b) Wax, c) Bee Venom, d) Propolis, e) Royal jelly, f) Pollen.</p> <p>1.7 Diseases and enemies of Bees :</p> <p>a) Bee diseases - Protozoan (Nosema), Bacterial (American foul brood), Viral (Sac brood), Fungal (Chalk brood). b) Bee pests - Wax moth (Greater and Lesser), Wax beetle. c) Bee predators - GreenBee eater, King crow, Wasp, Lizard.</p> <p>1.8 Bee pollination and management of bee colonies for pollination.</p> | SVT |
| April | <p>2. Fisheries :</p> <p>2.2 An introduction to fisheries and its types (in brief) :</p> | SVT |

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| | <p>Freshwater fisheries, Marine fisheries, Brackish water fisheries.</p> <p>2.3 Habit, habitat and culture methods of following freshwater forms :</p> <p>a) Rohu (<i>Labeo rohita</i>), b) Catla (<i>Catla catla</i>), c) Mrigal (<i>Cirrhinus mrigala</i>).</p> <p>2.3 Harvesting methods of following marine forms:</p> <p>a) <i>Harpodon</i>, b) Mackerel, c) Pearl oyster.</p> | |
| May | <p>2.4 Crafts and Gears in Indian Fishery:</p> <p>a) Crafts – Catamaran, Machwa, Dinghi. b) Gears – Gill net, Dol net, Rampani net, Cast net.</p> <p>2.5 Fishery byproducts:</p> <p>a) Fish meal, b) Fish flour, c) Fish Liver oil, d) Fish manure, e) Fish fin soup.</p> <p>2.6 Fish preservation technique:</p> <p>a) Chilling, b) Freezing, c) Salting, d) Drying, e) Canning</p> | SVT |

As per mention above 95% syllabus is completed and remaining will be complete in third week of May 2023



Prof. Dr. Theurkar S.V.

Department of Zoology

Syllabus completion Report (A.Y. 2022 – 2023)
T. Y. B. Sc. Zoology
ZO- 364 Entomology

| Sr. No | Month | Topic | Professor |
|--------|------------|--|-----------|
| 1 | March 2023 | 1. Fundamentals of Entomology 1.1 Definition and scope of Entomology. 1.2 General Classification of Insects. 1.3 General Characters of Insects. | SVT |
| 2 | March 2023 | 2. Insect Morphology: 2.1 Insect Integument and its derivatives. 2.2 Insect Head, Head Orientations, Head articulations, Insect antennae and Mouth parts. 2.3 Insect Thorax, Insect Wing and modifications, Insect Leg and Modifications - a) Cursorial - Cockroach, b) Fossorial - Mole cricket, c) Saltorial - Grasshopper, d) Raptorial - Praying mantis, e) Pollen basket - Honey bee. 2.4 Insect Abdomen, Genital and Pre - genital appendages of Grasshopper. | SVT |
| 3 | March 2023 | 3. Insect Anatomy (Grasshopper): 3.1 Digestive System. 3.2 Circulatory System. 3.3 Nervous System. 3.4 Respiratory System. 3.5 Reproductive System. | SVT |
| 4 | April 2023 | 4. Insect Ecology: 4.1 Definition of Insect Ecology. 4.2 Abiotic Factors (Photoperiod, Temperature and | SVT |

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| | | Humidity) and Biotic Factors (Food, Foraging and Nesting). 4.3 Mimicry in insects with suitable examples. | |
| 5 | April 2023 | 5. Insect Metamorphosis: 5.1 Definition. 5.2 Types and examples of Metamorphosis. | SVT |
| 6 | April 2023 | 6. Insects as social groups: 6.1 Definition & significance of Eusociality, Intraspecific and Interspecific relationships among insects. 6.2 Social organization in Wasps and Termites. | SVT |
| 7 | May 2023 | 7. Economic Importance of Insects: 7.1 Insects in Research. 7.2 Insects in Medicines and Cosmetics. 7.3 Insects as Vectors. 7.4 Insects as food. | SVT |

As per mention above 90% syllabus is completed and remaining will be complete in third week of May 2023.



Prof. Dr. Theurkar S.V.

Department of Zoology

Syllabus completion Report (A.Y. 2022 – 2023)
T. Y. B. Sc. Zoology
ZO – 3610 Environmental Impact Assessment

| Sr. No | Month | Topic | Professor |
|---------------|--------------|--|------------------|
| 1 | April 2023 | 1. Environment: 1.1 Definition. 1.2 Divisions. 1.3 Importance. | SVT |
| 2 | April 2023 | 2. Pollution: 2.1 Definition and types. 2.2 Impact on wildlife, natural resources, development | SVT |
| 3 | April 2023 | 3. Sustainable development: 3.1 Definition and need. 3.2 Exploitation of natural resources. 3.3 Concept of carrying capacity. 3.4 Three pillars of Sustainability. 3.5 UN 17 Sustainable Development Goals (SDGs) | SVT |
| 4 | April 2023 | 4. Overview of Environmental Protection acts: 4.1 The Air (Prevention and Control of Pollution) Act 1981. 4.2 The Water (Prevention and Control of Pollution) Act 1974. 4.3 The Environment Protection Act 1986. 4.4 The National Green Tribunal Act 2010. 4.5 Biological Diversity Act 2002 | SVT |

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| 5 | May 2023 | <p>5. Environmental Impact Assessment (EIA):</p> <p>5.1 Definition, need and importance of EIA.</p> <p>5.2 EIA notification 2006 - key elements, History and Evolution of EIA.</p> <p>5.3 Categories of Industries / establishments requiring EIA, Types of EIA - strategic EIA, regional EIA, sectoral EIA, project level EIA and life cycle assessment.</p> <p>5.4 Rapid and comprehensive EIA</p> | SVT |
| 6 | May 2023 | <p>6. EIA Process:</p> <p>6.1 Screening, Scoping and consideration of alternatives.</p> <p>6.2 Baseline data collection, Impact analysis, Mitigation, Reporting, Public hearing.</p> <p>6.3 Review of EIA.</p> <p>6.4 Decision-making, monitoring clearance conditions</p> | SVT |
| 7 | May 2023 | <p>7. Stakeholders in EIA process:</p> <p>7.1 Project proponent, Environmental consultant.</p> <p>7.2 CPCB / MPCB.</p> <p>7.3 Public, EIA agency (IAA).</p> | SVT |
| 8 | May 2023 | <p>8. Overview of Scheme for Accreditation of EIA Consultant Organizations (NABET / QCI):</p> <p>8.1 Eligibility and benefits.</p> <p>8.2 EIA coordinator (EC), Functional area experts (FAEs).</p> <p>8.3 Functional area associate (FAA) and team members: Role, educational qualification, experience and functions.</p> | SVT |

As per mention above 80% syllabus is completed and remaining will be complete in third and fourth week of May 2023.

Prof. Dr. Theurkar S.V.

Department of Zoology

Syllabus completion Report

(A.Y. 2021 - 2022)

T. Y. B. Sc. Zoology

ZO - 3611 Project

Students have successfully completed the research project in the stipulated time and present the dissertation at the time of the examination in a proper format. Students were encouraged from laboratory work, hands-on practical investigation and design experimental setup. Field work to be carried out under proper supervision and permissions from the concerned authorities.

Possible key aspects of the project work -

- 1. Planning the project**
- 2. Selecting a suitable title**
- 3. Significance of the work**
- 4. Hypothesis, Objectives**
- 5. Reviewing the available literature**
- 6. Methodology to be used**
- 7. Outcomes of the Project work**
- 8. Conclusion and Discussion**
- 9. Future plans**

Future Plan:

All the students Research projects will try to publish in UGC care list Research Journals.



S. Theurkar

**Prof. Dr. Theurkar S.V.
Department of Zoology**