

K. T. S. P. Mandal's
Hudatma Rajguru Mahavidyalaya
Department of Zoology

Syllabus completion Report (A.Y.2021 – 2022)

Course Title - Applied Zoology I
Course Code - ZO - 232

Sr.No	Month	Topics	Teacher
1	Oct	<p>1) Sericulture:</p> <p>1.1 An introduction to Sericulture, Study of different types of silk moths, their distribution, Taxonomic position and varieties of silk produced in India : Mulberry, Tassar, Eri and Muga silk moths.</p> <p>1.2 External Morphology and life cycle of <i>Bombyxmori</i>.</p>	DRB
2	Nov	<p>1.3 Cultivation of mulberry :</p> <p>a) Varieties for cultivation, b) Rain fed and irrigated mulberry cultivation- Fertilizer schedule, Pruning methods and leaf yield.</p> <p>1.4 Harvesting of mulberry :</p> <p>a) Leaf plucking, b) Branch cutting, c) Whole shoot cutting.</p> <p>1.5 Silk worm rearing :</p> <p>a) Varieties for rearing, b) Rearing house, c) Rearing techniques, d) Important diseases and pests.</p>	DRB
3	Dec	<p>1.6 Preparation of cocoons for marketing.</p> <p>1.7 Post harvest processing of cocoons :</p> <p>a) Stiffling, sorting, storage, deflossing and riddling, b) Cocoon cooking, reeling equipment and rereeling, washing and polishing.</p> <p>1.8 Biotechnological and biomedical applications of silk.</p>	DRB

4	Jan	<p>2) Agricultural Pests and their control:</p> <p>2.1 An introduction to Agricultural Pests, types of pests (agricultural, store grain, veterinary).</p> <p>2.1 Major insect pests of agricultural importance (Marks of identification, life cycle, nature of damage and control measures).</p> <p>a) Jowar stem borer, b) Red cotton bug, c) Brinjal fruit borer, d) Mango stem borer, e) Blister beetle, f) Rice weevil, g) Pulse beetle, h) Tick.</p>	DRB
5	Feb	<p>2.3 Non insect pests: Rats, Crabs, Snails, and Squirrels</p> <p>2.4 Pest control practices in brief: Cultural control, Physical control, Mechanical control, Chemical control, Biological control, Pheromonal control, Autocidal control and Concept of IPM in-brief.</p> <p>2.5 Plant protection appliances: Shoulder type Rotary duster, Knapsack sprayer, Cynogas Pump.</p>	DRB

As per above mention theory syllabus of Semester I completed successfully.

D.R. Borhade

Prof. D. R. Borhade

F. Y. B. Sc. Zoology
Course Title: Animal Ecology
Course Code: ZO – 112

Sr.No	Month	Topics	Teacher
1	Oct	Introduction to Ecology 1.1 Concepts of Ecology, Environment, Population, Community, Ecosystem, Biosphere, Autecology and synecology.	DRB
2	Nov	Ecosystem 2.1 Types of ecosystems: Aquatic (Freshwater, estuarine, Marine and terrestrial (Forest, Grassland and Desert) 2.2 Structure and Composition of Ecosystem (Abiotic components and biotic components. 2.3 Food chain: Detritus and grazing food chains, Food web, Energy flow through the ecosystem, Ecological pyramids: Number, Biomass, and Energy. 2.4 concept of Eutrophication in lakes and rivers.	DRB
3	Dec	Population 3.1 Characteristic of population: Density, Natality, Mortality, Fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion. 3.2 Exponential and logistic growth, 3.3 Population regulation – density-dependent and independent factors. Population interactions, Gause's Principle with laboratory and field interactions, 3.4 Quadrant, line and belt transect methods.	DRB
4	Jan	Community 4.1 Community characteristics: species richness, dominance, diversity, abundance, vertical stratification, Eco tone and edge effect; Ecological succession with one example.	DRB
5	Jan & Feb	Animal interactions 5.1 Introduction to Animal interactions 5.2 Types of Animal interactions with at least to suitable examples of each 5.2.1- Competition: Interspecific and intraspecific 5.2.2- Beneficial Associations: Commensalism (remora fish on shark, Cattle egrets on livestock), Mutualism (Termite and Trichonympha, bees and flowers, cleaning symbiosis in fish by prawns. 5.3 Antagonistic associations: Parasitism (Ascaris and man, lice and humans), Prey predation (Lion and deer).	DRB

As per above mention theory syllabus of Semester I completed successfully.

DRB
Prof. D. R. Borhade

T.Y. B. Sc. (Zoology)
Course Title: Developmental Biology
Course code: ZO 355

Sr. No	Month	Topics	Teacher
1	Oct	1. Fundamentals of Developmental Biology: 1.1 Definition and scope. 1.2 Concepts in Developmental Biology: Growth, Differentiation, Dedifferentiation, Cell determination, Cell communication, Morphogenesis, Induction and Regeneration.	DRB
2	Nov	2. Theories of Developmental Biology: 2.1 Preformation. 2.2 Pangenesis. 2.3 Epigenesis. 2.4 Axial gradient. 2.5 Germplasm.	DRB
3	Nov	3. Gametogenesis: 3.1 Spermatogenesis & Structure of sperm with respect to human. 3.2 Oogenesis & Structure of ovum with respect to human. 3.3 Types of eggs.	DRB
4	Dec	4. Fertilization: 4.1 Concept and types. 4.2 Chemotaxis. 4.3 Sperm penetration: Acrosome reaction, Capacitation & Decapacitation. 4.4 Activation of ovum: Fertilization cone. 4.5 Prevention of polyspermy: Fast block & Slow block. 4.6 Significance of fertilization.	DRB
5	Dec	5. Cleavage and Blastula: 5.1 Planes and symmetry of cleavage. 5.2 Types of cleavage. 5.3 Significance of cleavage. 5.4 Definition and types of Blastula.	DRB
6	Jan	6. Gastrulation: 6.1 Definition and Concept. 6.2 Basic cell movements in gastrulation: Epiboly, Emboly, Convergence, Invagination, Ingression & Involution with reference to frog. 6.3 Concept of Organizer : Primary, Secondary and Tertiary.	DRB

↳ As per above mentioned syllabus is completed.

DRBhade