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Adv. M. N. Deshmukh Arts, Science and Commerce College, Rajur

Annual Teaching Planning 2024-25

T.Y. B.Sc. Zoology Semester V

Subject Name -: ZO-351 Pest Management

Teacher's Name- Prof. V. R. Baramate

Sr. No.	Month	Topic	No. of Periods
1.	August 2024	**Pest:** 1.1. Definition. 1.2. Types of pests. 1.3. Types of damages caused by the pest. **Pest management using Regulatory control** 2.1. Quarantine 2.2. Eradication 2.3. Control Districts 2.4. Crop free period **Pest management using Cultural control** 3.1 Sanitation. 3.2 Tillage. 3.3 Crop rotation. 3.4 Cropping systems.	10
2.	September 2024	**Pest management using Biological control** 4.1 Ecological considerations. 4.2 Biological control of insects. 4.3. Biological control of plant disease. 4.4. Biological control of weeds. **Biotechnology approaches in pest management:** 5.1. Introduction. 5.2. Recent advance in use of fungi and viruses. 5.3. Methodology in Biotechnology. 5.4. Somaclonal variability. 5.5. Concept of Genetic engineering and Transgenic plants. **Integrated pest management (IPM)** 6.1. Principles and its components.	10
3.	October 2024	6.2. Advantages and disadvantages. 6.3.Biological control - Predators, Parasitoids, Entomopathogens, Weed killers and their mass production **Insecticides** 7.1. Classification of insecticides based on mode of entry. 7.2. Action and chemical nature. 7.3. Insecticides formulations and their uses. 7.4. Safe handling of insecticides **Insecticide residue:** 8.1. Methods of residue detection – Organochlorine, Organophosphates, Synthetic Pyrithroides, Systemic. 8.2. Problems in fruits, vegetables, medicinal plants. 8.3. Maximum permissible residue limits (MRLs).	10
		Total	30

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T.Y. B.Sc. Zoology Semester V

Subject Name -: ZO-356 Parasitology

Teacher's Name- Prof. V. R. Baramate

Sr. No.	Month	Topic	No. of Periods
1.	August 2024	1. Introduction, Scope and Branches of Parasitology: 1.1. Definition: host, parasite, vector, commensalisms, mutualism and parasitism. 1.2. Branches of parasitology. 2. Types of Parasites and Hosts: 2.1 Ectoparasites. 2.2 Endoparasites and its subtypes. 2.3 Types of hosts - Intermediate, definitive, paratenic and reservoir. 3. Host - Parasite relationship: 3.1 Host specificity. 3.2 Types of host specificity: structural specificity, physiological specificity and ecological specificity. 3.3 Effects of parasite on host. 4. Study of Parasitic Protists: 4.1 Entamoeba histolytica - Morphology, Life Cycle,	10
2.	September 2024	4. Study of Parasitic Protists: 4.1 Entamoeba histolytica - Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. 4.2 Plasmodium vivax - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. 5. Study of Parasitic worms: 5.1 Ascaris lumbricoides - Study of Morphology, Life Cycle, and Prevalence. 5.2 Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.	10
3.	October 2024	5.3 Taenia solium (Tapeworm) - Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. 9 L 6. Study of Parasitic Arthropoda: Morphology, pathogenicity and control measures of – 6.1 Soft tick. 6.2 Head louse. 6.3 Rat flea. 6.4 Bed bug.	10
		Total	**30**

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T.Y. B.Sc. Zoology Semester III

Subject Name -: ZO 3511 - Poultry Management

Teacher's Name- Prof. V. R. Baramate

Sr. No.	Month	Topic	No. of Periods
1	August 2024	**1. Introduction to Poultry Farming:** 1.1 Definition of Poultry, Importance of Poultry Farming and Poultry Development in India. 1.2 Present and future prospects. **2 Breeding Management:** 2.1 Male and female reproductive system of chicken. 2.2 Breeds and strains of broilers and layers of chicken. 2.3 General aspects of breeding for better egg production and body weight gain. 2.4 Selection and culling. 2.5 Artificial insemination. **3 Housing Management:** 3.1 Establishment of poultry farm. 3.2 Housing and equipment. 3.3 Incubation and hatching of eggs	10
2	September 2024	. 3.4 Broiler and layer management. 3.5 Lighting schedule for poultry. 3.6 Transport strategy of Poultry birds. **4 Feeding Management:** 4.1 Digestive system and Digestion Mechanism of chicken. 4.2 Feed ingredients. 4.3 Feed processing. 4.4 Formulation of feed viz., Starter, Grower, Layer, Finisher and Breeder ration, Feed conversion ratio (FCR), Nutritional deficiency conditions. **5 Health Management:** 5.1 Vaccination schedule for poultry birds.	10
3	October 2024	5.2 Common poultry diseases, i. e. Ranikhet, Marek, Chicken pox, Gumboro, Infectious bronchitis and Chronic Respiratory Disease (CRD). 5.3 Control of internal and external parasites. **6 Poultry Products:** 6.1 Preservation and storage of eggs. 6.2 Grading of eggs and AGMARK standard of egg. 6.3 Egg powder. 6.4 Slaughtering and processing of chicken. 6.5 Poultry By Products – Feathers and Poultry Manure.	10
Total			**30**

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Adv. M. N. Deshmukh Arts, Science and Commerce College, Rajur

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T.Y. B.Sc. Zoology Semester VI

Subject Name -: ZO-364 Entomology

Teacher's Name- Prof. V. R. Baramate

Sr. No.	Month	Topic	No. of Periods
1	December 2024	**1. Fundamentals of Entomology:** 1.1 Definition and scope of Entomology. 1.2 General Classification of Insects. 1.3 General Characters of Insects. **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.	5
2	January 2025	2.4 Insect Abdomen, Genital and Pre – genital appendages of Grasshopper. **3. Insect Anatomy (Grasshopper):** 3.1 Digestive System. 3.2 Circulatory System. 3.3 Nervous System. 3.4 Respiratory System. 3.5 Reproductive System	8
3	February 2025	**4. Insect Ecology:** 4.1 Definition of Insect Ecology. 4.2 Abiotic Factors (Photoperiod, Temperature and Humidity) and Biotic Factors (Food, Foraging andNesting). 4.3 Mimicry in insects with suitable examples. **5. Insect Metamorphosis** 5.1 Definition 5.2 Types and examples of metamorphosis **6. Insects as social groups:** 6.1 Definition & significance of Eusociality, Intraspecific and Interspecific relationships among insects.	8
4	March 2025	6.2 Social organization in Wasps and Termites. **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.	9
		Total	30

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T.Y. B.Sc. Zoology Semester VI

Subject Name -: ZO-366 Evolutionary Biology

Teacher's Name- Prof. V. R. Baramate

Sr. No.	Month	Topic	No. of Periods
1	December 2024	**1. Introduction:** 1.1 Concept of Evolution. 1.2 Origin of life. 1.3 Origin of eukaryotic cell (Origin of mitochondria, plastids & symbionts). **2. Evidences of Evolution:** 2.1 Analogy and Homology. 2.2 Embryological Evidences of Evolution. 2.3 Evolutionary & Paleontological Evidences.	8
2	January2025	**3. Historical Review of Evolutionary Concept:** 3.1 Theories of Evolution. 3.2 Lamarckism. 3.3 Darwinism and Neo Darwinism. 3.4 Mutation Theory. 3.5 Modern Synthetic theory. **4. Sources of Variations:** 4.1 Variation and Mutations. **5. Isolation**	9
3	February 2025	**6. Speciation:** 6.1 Types of speciation (Allopatric & Sympatric). 6.2 Mechanism of speciation. 6.3 Patterns of speciation. 6.4 Factors influencing speciation. **7 Population Genetics:** 7.1 Hardy-Weinberg Law & Genetic Drift. 7.2 Types of Natural Selection.	8
4	March 2025	**8 Origin of Man:** 8.1 Evolution of Man (Evolution of anthropoids including man) - Kenyapithecus to *Homo sapiens*. **9 Zoogeographical Realms With reference to fauna:** **10 Extinctions:** 10.1 Extinction - An Overview.	8
		Total	33

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T.Y. B.Sc. Zoology Semester VI

Subject Name -: ZO-3610 Environment Impact Assessment

Teacher's Name- Prof. V. R. Baramate

Sr. No.	Month	Topic	No. of Periods
1	January 2025	**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.	5
2	February 2025	**6. EIA Process:** 6.1 Screening, Scoping and consideration of alternatives. 6.2 Baseline data collection, Impact analysis, Mitigation, Reporting, Public hearing. 6.3 Review of EIA. 6.4 Decision-making, monitoring clearance conditions.	3
3	March 2025	**7. Stakeholders in EIA process:** 7.1 Project proponent, Environmental consultant. 7.2 CPCB / MPCB. 7.3 Public, EIA agency (IAA).	5
		Total	13