K.T. S. P. Mandal's
Hutatma Rajguru Mahavidyalaya, Rajgurunagar.
Department of Zoology
Teaching Plan
A.Y.-2022-2023 (Semester V)

T.Y.B. Sc.

Course Title:- Histology **Course Code: ZO – 352**

Month	Topics	Teacher
Sept	**1. Introduction:** Definition and Scope of Histology. **Definitions and Review of Types of Tissues:** 2.1 Epithelial tissue. 2.2 Connective tissue. 2.3 Nervous tissue. 2.4 Muscular tissue.	**SSN**
Sept & Oct	**3.Histological study of following mammalian organs:** 3.1 Skin (V. S.). 3.2 Tooth (V. S.). 3.3 Tongue (C. S.) with reference to mucosa papillae and taste buds **4.Histological study of Alimentary canal and Liver:** 4.1 Oesophagus (T. S.).4.2 Stomach (T. S.). 4.3 Duodenum (T. S.). 4.4 Rectum (T. S.). 4.5 Liver (C. S.).	**SSN**
Oct	**5.Histological study of Respiratory organs:** 5.1 Trachea (T. S.). 5.2 Lung (C. S.).	**SSN**
Oct	**6. Histological study of Excretory organs:** 6.1 Kidney (L. S.). 6.2 Juxta glomerular complex.	**SSN**
Nov	**7.Histological study of Reproductive organs:** 7.1 Testis (T. S.) with reference to Seminiferous Tubules and Cells of Leydig. 7.2 Ovary (C. S.).	**SSN**
Nov	**8. Histology of Endocrine glands:** 9. 8.1 Pituitary gland. 8.2 Thyroid gland. 8.3Adrenal gland. 8.4 Pancreas (C. S.) including both exocrine and endocrine components.	**SSN**

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HUTATMA RAJGURU MAHAVIDYALAYA RAJGURU NAGAR

T. Y.B. Sc.

Course Title: Aquarium management **Course Code: ZO – 3510**

Month	Topic	Teacher
Sept	**1.Introduction to Aquarium Fish Keeping:** 1.1 The potential scope of Aquarium Fish Industry as a Cottage Industry. 1.2 Exotic and Endemic species of Aquarium Fishes. 1.3 Nutritional value of fish	**SSN**
Sept	**2.Introduction to Aquarium Fish Keeping:** 1.1 The potential scope of Aquarium Fish Industry as a Cottage Industry. 1.2 Exotic and Endemic species of Aquarium Fishes. 1.3 Nutritional value of fish	**SSN**
Sept & Oct	**3.Food and feeding of Aquarium Fishes:** 3.1 Use of live fish feed organisms. 3.2 Preparation and composition of formulated fish feeds. 3.3 Overview on types of fish food.	**SSN**
Oct	**4.Fish Transportation:** 4.1 Live fish transport: a) Fish handling. b) Fish packing. c) Fish forwarding techniques. 4.2 Causes of mortality in transport.	**SSN**
Oct & Nov	**5.Maintenance of Aquarium:** 5.1 General Aquarium Maintenance - budget for setting up an Aquarium. 5.2 Fish Farm as a Cottage Industry, Rules & regulations of fish rearing. 5.3 Common diseases of Aquarium fish.	**SSN**
Nov	**6.Physico-chemical parameters of water for fish culture:** 6.1 Acidity, Alkalinity, Calcium, Nitrate, Ammonia, Total hardness 7.**Fish preservation:** 7.1 Fish preservation and processing.	**SSN**
Nov	**8.Fish breeding:** 8.1 Types of fish breeding - a) Natural fish breeding. b) Induced fish breeding	**SSN**

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Department of Zoology
Teaching Plan
A.Y.-2022-2023 (Semester VI)

T.Y. B. Sc.
Course Title: Animal Physiology
Course Code: ZO-362

Month	Title	Teacher Name
Feb	**1.Nutrition and digestion:** 1.1 Nutritional requirement & balanced diet. 1.2 Digestion and absorption of carbohydrates, proteins and lipids. 1.3 Vitamins - outline of fat soluble and water-soluble vitamins; Sources, deficiency and diseases.	**SSN**
March	**2. Respiration:**2.1 Mechanism of respiration: Regulation of ventilation in lungs, exchange of gases at respiratory surface. 2.2 Respiratory pigments in animals: Haemoglobin, Hemocyanin, Hemerythrin, Chlorocruorin. 2.3 Transport of gases : O2 and CO2 transport. **3.Circulation:** 3.1 Blood: Definition and its constituents, functions of blood. 3.2 Heart: Structure of human heart, Pace maker, Cardiac Cycle. 3.3 Origin and conduction of heart beat.	**SSN**
April	**4. Excretion**: 4.1 Structure of Uriniferous tubule. 4.2 Mechanism of urine formation. 4.3 Normal and abnormal constituents of urine, Elementary idea of dialysis.	**SSN**
April	**5. Muscles:** 5.1 Structure of smooth, skeletal and cardiac muscles. 5.2 Mechanism of muscle contraction by Sliding filament theory.	**SSN**
May	**6.Reproduction and Endocrine Glands:** 6.1 Physiology of male reproduction, hormonal control of spermatogenesis. 6.2 Physiology of female reproduction, hormonal control of menstrual cycle. Structure and functions of pituitary, thyroid, parathyroid, pancreas & adrenal glands.	**SSN**

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HUTATMA RAJGURU MAHAVIDYALAYA RAJGURU NAGAR

T. Y. B. Sc
Course Title: Evolutionary Biology
Course Code: ZO 366

Month	Title	Teacher Name
Feb & March	**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.	**SSN**
March	**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.	**SSN**
April	**5. Isolation**	**SSN**
April	**6.Speciation:** 6.1 Types of speciation (Allopatric & Sympatric). 6.2 Mechanism of speciation.6.3 Patterns of speciation. 6.4 Factors influencing speciation.	**SSN**
April	**7.Population Genetics:** 7.1 Hardy-Weinberg Law & Genetic Drift. 7.2 Types of Natural Selection.	**SSN**
May	**8.Origin of Man:** 8.1 Evolution of Man (Evolution of anthropoids including man) - Kenyapithecus to Homo sapiens**.**	**SSN**
May	**9.Zoogeographical Realms With reference to fauna:**	**SSN**
May	**10. Extinctions:** Extinction - An Overview**.**	**SSN**

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