**ZOOLOGY DEPARTMENT**

**Lesson Plan 2022-23 (Odd Semester)**

**Class: B.Sc First year (1st sem) Medical**

**Subject-Zoology**

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| **Week** | **Name of the Topic** |
| Aug:22 to 27 | General characters and classification up to order level, Biodiversity and economic importance of Phylum Protozoa |
| Aug:27 to Sept: 03 | Type study of Plasmodium  |
| Sept: 05 to10 | Parasitic protozoans: Life history, mode of infection and pathogenicity of Entamoeba. Life history, Mode of infection and pathogenicity of Trypanosoma, Leishmania and Giardia. |
| Sept:12 to17 | General characters and classification up to order level , Biodiversity and economic importance of Phylum Porifera |
| Sept:19 to24 | Type study - Sycon. |
| Sept:26 to Oct: 01 | Canal system in sponges, Spicules in sponges. **Revision and Test** |
| Oct: 03 to 08 | Ultrastructure of different cell organelles of animal cell. Plasma Membrane: Fluid mosaic model, various modes of transport across the membrane, mechanism of active and passive transport, endocytosis and exocytosis. |
| Oct: 10 to 15 | Endoplasmic reticulum (ER): types, role of ER in protein synthesis and transportation in animal cell. |
| Oct: 17 to 19 | Goigi complex: Structure, Associated enzymes and role of golgi-complex in animal cell |
| Oct: 20 to 26 | **Diwali Vacations** |
| Oct: 27 to Nov: 02 | General characters and classification up to order level. Biodiversity, economic importance. Type Study – Obelia |
| Nov:03 to Nov:05 | Corals and coral reefs. Polymorphism in Siphonophore, Cytoskeleton: Microtubules, microfilaments, centriole and basal body. Cilia and Flagella. Ultrastructure and functions of Nucleus. **Revision and Test** |
| Nov: 07 to 12 | Ribosomes: Types, biogenesis and role in protein synthesis. Lysosomes: Structure, enzyme and their role; polymorphism, Mitochondria. |
| Nov: 14 to 19 | Helminths parasites: Brief account of life history, mode of infection and pathogenesity of Schistosoma, Ancylostoma, Trichinella, Wuchereria and Oxyuris |
| Nov: 21 to 26 | Euchromatin and heterochromatin, lampbrush chromosomes and polytene chromosomes. |
| Nov: 28 to Dec:03 | Mitosis and Meiosis (Cell reproduction). Brief account of causes of Cancer.  |
| Dec:05 to 10 | An elementary idea of cellular basis of Immunity |
| Dec:12 to 17 | **Revision**  |

**ZOOLOGY DEPARTMENT**

**Lesson Plan (Odd Semester)**

**Class: B.Sc Second year (3rd Semester) Medical 2022-23**

**Subject-Zoology**

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| **Week** | **Name of the Topic** |
| Aug:16 to 20 | Chordates: Principles of classification; Origin and Evolutionary tree. Role of amnion in evolution; Salient features of chordates; Functional morphology of the types with examples emphasizing their biodiversity,  |
| Aug:22 to 27 | General characters and classification of phyla upto orders with examples emphasizing their biodiversity, economic importance and conservation measures where required. |
| Aug:27 to Sept: 03 |  Protochordates: Systematic position, distribution, ecology, morphology and affinities, economic importance and conservation measures where required. |
| Sept: 05 to10 | Urochoradata: Type study of Herdmania. |
| Sept:12 to17 | Cephalochordata: Type study of Amphioxus. |
| Sept:19 to24 |  Introduction, Classification, Structure, function and general properties of carbohydrates and lipids. |
| Sept:26 to Oct: 01 | Introduction, Classification, Structure, function and general properties of proteins; Nomenclature, Classification and mechanisms of enzyme action. |
| Oct: 03 to 08 | Transport through biomembranes (Active and Passive), buffers. **Revision and Test** |
| Oct: 10 to 15 | Type study of Petromyzon. |
| Oct: 17 to 19 | General characters and classification of phyla upto orders. |
| Oct: 20 to 26 | **Diwali Vacations** |
| Oct: 27 to 29 | General characters and classification of all phyla upto orders. |
| Oct: 31 to Nov:07 | Pisces: Types study of Labeo. |
| Nov: 08 to 12 | Nutrition: Nutritional components; Carbohydrates, fats, lipids, Vitamins and Minerals. Types of nutrition & feeding. **Revision and Test** |
| Nov: 14 to 19 | Muscles: Types of muscles, ultra-structure of skeletal muscle. |
| Nov: 21 to 26 | Bio-chemical and physical events during muscle contraction; single muscle twitch, tetanus, muscle fatigue muscle, tone, oxygen debt |
| Nov: 28 to Dec:03 | Muscle : Cori’s cycle, single unit smooth muscles, their physical and functional properties |
| Dec:05 to 10 | Bones: Structure and types, classification, bone growth and resorption, effect of ageing on skeletal system and bone disorder |
| Dec:12 to 17 | **Revision**  |

**ZOOLOGY DEPARTMENT**

**Lesson Plan (Odd Semester)**

 **Class: B.Sc Final year (5th Semester) Medical 2022-23**

**Subject-Zoology**

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| **Week** | **Name of the Topic** |
| Aug:16 to 20 | Basic concepts of ecology: Definition, significance. Concepts of habitat and ecological niche. |
| Aug:22 to 27 | Factors affecting environment: Abiotic factors (light-intensity, quality and duration) |
| Aug:27 to Sept: 03 | Origin of life. Concept and evidences of organic evolution. |
| Sept: 05 to10 | Theories of organic evolution. Concept of microevolution and concept of species |
| Sept:12 to17 | Temperature, humidity, topography; edaphic factors; biotic factors. **Revision and Test** |
| Sept:19 to24 | Ecosystem: Concept, components, properties and functions. |
| Sept:26 to Oct: 01 | Ecological energetic and energy flow-food chain, food web, trophic structure; ecological pyramids concept of productivity. |
| Oct: 03 to 08 | Concept of macro-and mega-evolution. Phylogeny of horse. |
| Oct: 10 to 15 | Biogeochemical cycles: Concept, reservoir pool, gaseous cycles and sedimentary cycles.  |
| Oct: 17 to 19 | Population: Growth and regulation. Evolution of man. |
| Oct: 20 to 26 | **Diwali Vacations** |
| Oct: 27 to 29 | Introduction to world fisheries: Production, utilization and demand. |
| Oct: 31 to Nov:07 | Fresh Water fishes of India: River system, Reservoir, pond, tank fisheries. |
| Nov: 08 to 12 | Captive and culture fisheries, cold water fisheries. **Revision and Test** |
| Nov: 14 to 19 | Fishing crafts and gears. Fin fish, Crustacean and Molluscs and their culture.  |
| Nov: 21 to 26 | Seed production and Nutrition. |
| Nov: 28 to Dec:03 | Culture technology: Biotechnology, gene manipulation and cryopreservation of gametes. |
| Dec:05 to 10 | Field Culture: Ponds-running water, recycled water, cage, culture; poly culture. |
| Dec:12 to 17 | **Revision**  |