**Lesson Plan for the Session 2022-23**

**(Odd Semester)**

**Subject: - Zoology Name of Assistant Professor: Dr. Bindu Rani**

Class & Section: - B.Sc. II (Semester III)

**Paper-I:- Life and Diversity of Chordates –I**

**SEPTEMBER**

* Chordates: Origin and Evolutionary tree.
* General characters and classification
* Systematic position, distribution, ecology, morphology and affinities of Urochordata
* *Herdmania* - Type study

**OCTOBER**

* Systematic position, distribution, ecology, morphology and affinities of Cephalochordata
* Systematic position, distribution, ecology, morphology and affinities of Cephalochordata
* *Amphioxus* – Type study

**NOVEMBER**

* Systematic position, distribution, ecology, morphology and affinities of Cyclostomes
* Cyclostomes- Type study of *Petromyzon.*
* Pisces: Systematic position, distribution and ecological significance

**DECEMBER**

* Scales & Fins, Parental care in fishes, fish migration
* Types study of *Labeo*

**Lesson Plan for the Session 2022-23**

**(Odd Semester)**

**Subject: - Zoology Name of Assistant Professor: Dr. Bindu Rani**

Class & Section: - B.Sc. I (Semester-I)

**Paper-I:- Life and Diversity of Nonchordates (Protozoa to Porifera and Cell Biology –I)**

**Paper-II:- Life and Diversity of Nonchordates (Coelenterata to Helminths and Cell Biology –II)**

**SEPTEMBER:**

* General Characters of Kingdom Animalia
* Differences between prokaryota and eukaryote
* Differences between non-chordata and chordate
* Phylum Protozoa:
* General characters and classification up to order level
* Biodiversity and economic importance
* Type study of Plasmodium
* Life history, mode of infection and pathogenicity of Entamoeba,
* Life history, mode of infection and pathogenicity of Trypanosoma,
* Life history, mode of infection and pathogenicity of Leishmania and
* Life history, mode of infection and pathogenicity of Giardia.
* Phylum- Porifera:
* General characters and classification up to order level

**OCTOBER:**

* Biodiversity and economic importance
* Type study – Sycon
* Canal system in sponges
* Spicules in sponges
* Phylum- Coelentrata :
* General characters and classification up to order level
* Biodiversity, economic importance
* Type Study - Obelia
* Corals and coral reefs
* Polymorphism in Siphonophores
* Cell Biology :
* 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 excytosis.

* Endoplasmic reticulum (ER) : types, role of ER in protein synthesis and transportation in

animal cell.

**NOVEMBER:**

* Phylum – Helminths :
* General characters and classification up to order level
* Biodiversity, economic importance
* Type study – Fasciola hepatica;
* Helminths parasites : Brief account of life history, mode of infection and pathogenesity

of Schistosoma, Ancylostoma, Trichinella, Wuchereria and Oxyuris.

* Golgi complex: Structure, Associated enzymes and role of golgi-complex in animal cell.
* Ribosomes: Types, biogenesis and role in protein synthesis.
* Lysosomes: Structure, enzyme and their role; polymorphism
* Mitochondria: Mitochondrial DNA; as semiautonomous body, biogenesis, mitochondrial

enzymes (only names), role of mitochondria.

* Cytoskeleton: Microtubules, microfilaments, centriole and basal body.
* Cilia and Flagella

**DECEMBER:**

* Ultrastructure and functions of Nucleus: Nuclear membrane, nuclear lamina, nucleolus, fine
* Structure of chromosomes, nucleosome concept and role of histones, euchromatin and
* Heterochromatin, lampbrush chromosomes and polytene chromosomes.
* Brief account of causes of cancer.
* An elementary idea of cellular basis of Immunity.
* Mitosis and Meiosis (Cell reproduction)