

**DEPT. OF ZOOLOGY**  
**Teaching Plan**  
**Academic Year 2015- 16**

**Class: B.Sc.**  
**Subject: Zoology**

**Semester: I**  
**Paper No: I**  
**(PROTOZOA TO ANNELIDA)**  
**Test:**

**Periods per weeks: Theory .**  
**Weeks (Total) : 15**

WEEKS	Topics to covered
1.	Introduction to animal kingdom
2.	Definition of Zoology
3.	Outline classification
4.	Protozoa, Parazoa, Metazoa and Major Phyla
5.	Protozoa : - General characters ,  <i>Plasmodium vivax</i> : - Structure of sporozoite, Life cycle; pathogenecity, Control, Prevention and Treatment of Malaria
6.	<i>Entamoeba histolytica</i> : Structure, Life cycle and Control.  <i>Euglena</i> : Morphology and Reproduction., <i>Paramecium</i> : Morphology and Reproduction
7.	Porifera : - General characters  Sycon (Scypha): - Morphology, Different types of cells in syconcanal system in Porifera.
8.	Coelenterata: - General characters  Obelia: - Morphology of Obelia colony, Development of Hydra, Polymorphism in coelenterates
9.	Helminth : - General characters
10.	<i>Fasciola hepatica</i> : - Structure, Life cycle, Pathogenecity & Control Measures
11.	<i>Taenia solium</i> : - Structure of scolex, Mature and gravid proglottids, Life cycle, pathogenecity, and control measures
12.	<i>Ascaris lumbricoides</i> : - Structure of male & female,
13.	<i>Ascaris lumbricoides</i> : - Life cycle, Pathogenecity & control measures.
14.	Annelida: - General characters  Leech: - Morphology, Digestive.
15.	Leech : Excretory & Reproductive systems.

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**Teaching Plan**  
**Academic Year 2015- 16**

**Class: B.Sc : F.Y**  
**Subject: Zoology**

**Semester: I**  
**Paper No: II Cell BIOL**

**Periods per weeks: Theory .**  
**Weeks (Total) : 15**

**Test:**

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<b>WEEKS</b>	<b>Topics to covered</b>
1.	1. Structure of prokaryotic cell. 2. Structure of eukaryotic cell.
2.	Cell Cycle: G1 ,S & G2 Phase ,Mitotic phase
3.	Mitosis and Meiosis cell division
4.	Study of various cell organell Introduction of cell organell
5.	Structure and function of Endoplasmic reticulum . Structure and function of Nucleus .
6.	Golgi bodies , structure and function .
7.	Mitochondria - Structure,function and biogenesis
8.	Structure of DNA
9.	Type of RNA
10.	Lysosome –Structure ,Polymorphism and functions .
11.	Ribosomes –Structure and Function .
12.	Cytology of Cancer and type of cancer
13.	<b>Methods in cell Biology</b> 1.Light Microscope and its importance .
14.	<b>Phase contrast microscope and its importance</b> <b>Electron microscope and its importance .</b>
15.	Micro technique ( Microtomy ) Fixation and Staining

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**Teaching Plan**  
**Academic Year 2015- 16**

**Class: B.Sc.**  
**Subject: Zoology**

**Semester: I**  
**Paper No: III +IV**

**Periods per weeks: Practical . 01**  
**Weeks (Total) : 15 Batch 1 & 2**

**Test:**

WEEKS	Topics to covered
1.	Study of slides from Ciliates, Opalinates, and Flagellates 1.Paramecium 2.Balantidium 3.Opalina 4 .Trypanosoma 5. Entamoeba
2.	Study of museum specimen and slides from Porifera to Coelenterata. 1.Sycon 2. Euplecttella 3.Euspongia 4.Obelia 5.Physalia 6.Medrepo.
3.	Study of museum specimen and slides from Helminths to Annelida. 1.Taenia solium 2. Liver fluke 3.Ascaris 4.Neris 5.Aphrodite 6.Earthworm
4.	<b>Dissection :</b> Leech Dig .System ,Excretory system (Demonstration)
5.	<b>Dissection :</b> Leech –Rep. System ,Demonstration & Performing.
6.	<b>Dissection of Earthworm :</b> Nervous system & Rep. System ( Demonstration )
7.	<b>Dissection of Earthworm :</b> Performance
8.	<b>Mounting of :</b> 1. Sponge –Spicules , Gemmule & Obelia colony .
9.	<b>Mounting of Earthworm :</b> Nerve ring <b>Mounting of Neris :</b> Para Podium
10.	Study of cell organelles by using Chasis / Slide / Micrographs
11.	Study of Mitosis –Squash preparation of onion root tip .
12.	Poltene Chromosome in Chironomous larva .
13.	<b>Micro technique :</b> Fixation ,dehydration & block preparation .
14.	<b>Micro technique :</b> Fixation ,dehydration & block preparation .
15.	<b>Microscope study :</b> 1.Simple & Compound & Phase control .

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**Teaching Plan**  
**Academic Year 2015- 16**

**Class: B.Sc.**  
**Subject: Zoology**

**Semester: II**  
**Paper No:V**  
( ARTHROPODA TO ECHINODERMATA AND PROTOCHORDATA)

**Periods per weeks: Theory .**  
**Weeks (Total) : 15**

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<b>WEEKS</b>	<b>Topics to covered</b>
1.	Arthropoda: - General characters
2.	Prawn: - Structure, Digestive, Nervous, & Reproductive systems.
3.	Cockroach: External Characters, Digestive, Respiratory and Reproductive systems.
4.	Mollusca: - General characters
5.	Pila: - External Characters, Respiratory, Circulatory, Nervous and Reproductive systems
6.	Echinodermata : - General characters
7.	Asterias (Sea Star): - Morphology of oral & aboral view, Water vascular system, Reproductive system including development.
8.	General characters and Classification of Protochordata
9.	Amphioxus: - External features, Digestive, Circulatory, Reproductive systems including development.
10.	Amphioxus: - Digestive system
11.	Amphioxus: - Circulatory system
12.	Amphioxus: - Reproductive systems including development.
13.	Hemichordata: - General characters and affinities
14.	Herdmania: - General characters and
15.	Herdmania: - Morphology

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**Academic Year 2015- 16**

**Class: B.Sc.**  
**Subject: Zoology**  
**Periods per weeks: Theory 03**  
**Weeks (Total) : 15**

**Semester: II**  
**Paper No: VI ( Genetics II)**  
**Test:**

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<b>WEEKS</b>	<b>Topics to covered</b>
1.	Elements of heredity & variation: Mendel's laws of heredity
2.	Gene interaction-Definition- modifications in Mendelian phenotypic ratio
3.	Epitasis Supplementary gene Complementary gene
4.	Multiple Alleles Coat Colour in rabbit.
5.	ABO Blood group in man, Rh factor
6.	Cytoplasmic inheritance. Definition of maternal effect
7.	Coiling shell in snail ( <i>Limnea peregra</i> ) Male sterility.
8.	CO <sub>2</sub> sensitivity in <i>Drosophila</i> . Kappa particles in <i>Paramecia</i>
9.	Sex Determination Chromosome theory
10.	Genic balance theory of sex determination, X/A ratio in <i>Drosophila</i>
11.	Triploid intersexes and Gynandromorphs in <i>Drosophila</i>
12.	Mutation Brief introduction Gene mutation: - Definition and classification
13.	Chromosomal aberration (structural)
14.	Chromosomal aberration (numerical)
15.	Mutation continued: Spontaneous & induced mutation

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**Teaching Plan**  
**Academic Year 2015- 16**

**Class: B.Sc.**  
**Subject: Zoology**

**Semester: II**  
**Paper No: VII+VIII**  
**( Arthropoda to Echinodermata )**  
**Test:**

**Periods per weeks: Practical .**  
**Weeks (Total) : 15**

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<b>WEEKS</b>	<b>Topics to covered</b>
<b>1.</b>	Study of Museum Specimen Lepas ,Sacculin, Limulus ,Peripatus etc .
<b>2.</b>	Dragonfly, Chiton , Sepia , Octopus , Antedon ,Asterias , Holothuria , Protochordatas
<b>3.</b>	Demostration and dissection of Prawn for nervous system .
<b>4.</b>	Dissection of Digestion ,nervous system Cockroach .
<b>5.</b>	Dissection of Digestion Pila – Nervous
<b>6.</b>	Asterias – Water vascular
<b>7.</b>	Mounting of Mouth part
<b>8.</b>	Mounting of salivary glands ,
<b>9.</b>	Culture of Drosophila
<b>10.</b>	Study of Common Mutant of Drosophila
<b>11.</b>	Determination of blood gr A,B,AB and ‘O’ Rh factor
<b>12.</b>	Minor problems –( Monohybrid ratio )
<b>13.</b>	Minor problems Human blood group and interpretation
<b>14.</b>	Major problem –Dihybrid ratio and interaction of gene .
<b>15.</b>	Study of chromosome aberration

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