

**Department of Zoology**  
**Teaching Plan**  
**Academic Year 2015- 16**

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

**Semester: III**  
**Paper No: IX**  
**(Vertebrate Zoology)**  
**Test:**

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

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<b>WEEKS</b>	<b>Topics to covered</b>
1.	Introduction to Chordates, Agnatha: - Out line classification and general characters of cyclostomata.
2.	Out line classification of Pisces, General characters of Pisces, Scoliodon External characters ,Digestive system
3.	Scoliodon: - External characters Digestive system, Respiratory system, Blood Vascular System and Nervous System.
4.	Amphibia: - Out line classification and general characters. Development of frog: - Fertilization Cleavage Blastula Gastulation and formation of germinal layers.
5.	Neotony Parental care in amphibia.
6.	Reptilia: - Out line classification and general characters. Calotes:-External features,
7.	Calotes: Respiratory system and Blood vascular system. Poisonous and non- poisonous snakes.
8.	Aves: - Out line classification and general characters. <i>Columba livia</i> : - External features, Respiratory system
9.	Embryology of chick.-Cleavage Blastula Gastulation and formation of germinal layers and extra embryonic membranes.
10.	-Flight adaptation in birds. -Migration in Birds.
11.	Mammalia: - Out line classification and general characters.
12.	<i>Ratus ratus</i> : - External features, Blood Vascular System, Urino-genital System
13.	Adaptive radiation in mammals; Placentation in Mammals
14.	Placentation in Mammals (Tutorial)
15.	Revision and test

**Teacher's Signature**

**H.O.D. Signature**

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

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

**Semester: III**  
**Paper No: X**  
**(Genetics II)**  
**Test:**

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

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<b>WEEKS</b>	<b>Topics to covered</b>
<b>1.</b>	Genes and its expression :- Definition, concept and function of gene.
<b>2.</b>	Transcription of gene: - Initiation, elongation and termination. Genetic code:- Concept of codon, properties of genetic code Translation of gene: - Initiation, elongation and termination.
<b>3.</b>	Revision of Chapter no. 1 Introduction -Population Genetics :-
<b>4.</b>	Gene Pool., Gene Frequency. Herdy-weinberg's Law. Application of Herdy-weinberg's Law.
<b>5.</b>	Human Genetics: -Human chromosomes. Sex linked inheritance- X and Y Linked.
<b>6.</b>	Dizygotic and monozygotic twins. Inborn errors in metabolism: - PKU, Albinism
<b>7.</b>	Genetic disorders: Down's syndrome, Turners' syndrome Klinefelter's syndrome
<b>8.</b>	Use of human genetics in medical science: - Disease diagnosis Gene therapy and DNA finger printing.
<b>9.</b>	. Microbial Genetics: - Transformation.
<b>10.</b>	Conjugation and Transduction.
<b>11.</b>	Genetic Engineering: - Introduction, Definition, Concept and significance.
<b>12.</b>	Restriction enzymes: - Concept and types. Cloning vectors: - Plasmid
<b>13.</b>	Cloning vectors: - cosmid, phase Construction of r-DNA.
<b>14.</b>	Application of r-DNA technology.
<b>15.</b>	Revision, test

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

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

**Semester: III**  
**Paper No: XI**  
**(Vertebrate Zoology)**

**Practical per weeks: 01**

**Weeks (Total): 15**

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<b>WEEKS</b>	<b>Topics to covered</b>
<b>16.</b>	Museum study of vertebrates. (Identification, classification, sketches, General characters and biological importance Introduction and super class Pisces
<b>17.</b>	Museum study Class: Amphibia
<b>18.</b>	Museum study: Class: Reptelia
<b>19.</b>	Museum study Class: Aves
<b>20.</b>	Museum study Class: Mammalia
<b>21.</b>	Dissection of Scoliodon : Afferent and efferent, Labeled diagram
<b>22.</b>	Cranial Nerves of Scoliodon (Labeled diagram)
<b>23.</b>	Scoliodon: Brain (Labeled diagram)
<b>24.</b>	Dissection of Rat - Arterial system(Labeled diagram)
<b>25.</b>	Dissection of Rat Venous System, (Labeled diagram)
<b>26.</b>	Dissection of Rat Urinogenital system, (Labeled diagram)
<b>27.</b>	Brain of Rat (Labeled diagram)
<b>28.</b>	Mounting of Placoid, Cycloid and Ctenoid scales of fish
<b>29.</b>	Study of Embryological development of chick according to hours of incubation
<b>30.</b>	Revision

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

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

**Semester: III**  
**Paper No: XII**  
**(Genetics II)**

**Practical per weeks: 01.**

**Weeks (Total): 15**

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<b>WEEKS</b>	<b>Topics to covered</b>
<b>16.</b>	Preparation of paper model of DNA and study of DNA structure (Demo)
<b>17.</b>	Preparation of paper model of DNA and study of DNA structure by students
<b>18.</b>	Study of protein synthesis with the help of charts/models.
<b>19.</b>	Estimation of DNA from animal tissue with the help of Diphenyl amine method Prep of chemicals
<b>20.</b>	Result and discussion
<b>21.</b>	Study of preparation of Normal Karyotype of human.
<b>22.</b>	Karyotypic study of Down's syndrome, Turner's syndrome,
<b>23.</b>	Karyotypic study of Klinefelter's syndrome
<b>24.</b>	Detection of Barr body from epithelial cell.
<b>25.</b>	Problems on sex linked inheritance
<b>26.</b>	Problems on sex linked inheritance
<b>27.</b>	Problems based on Hardy – Weinberg's law
<b>28.</b>	Problems based on Hardy – Weinberg's law
<b>29.</b>	Study of gene frequency and mutants of man Attached and free ear lobe. Colour of eye. Rolling of tongue. Blood group frequency
<b>30.</b>	Revision

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

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

**Semester: IV**  
**Paper No: XV**  
**( Animal physiology )**  
**Test:**

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

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<b>WEEKS</b>	<b>Topics to covered</b>
<b>1.</b>	To Study the digestive enzymes from Cockroach
<b>2.</b>	Result and Discussion
<b>3.</b>	Total count of RBC from given blood sample .
<b>4.</b>	Total count TLC of WBC given Blood sample
<b>5.</b>	Total count DLC of WBC given Blood sample
<b>6.</b>	Hb % given Blood sample
<b>7.</b>	Effect of isotonic solution on blood cell ( RBC's )
<b>8.</b>	Effect of hypotonic and hypertonic solution on RBC
<b>9.</b>	Detection of Nitrogenous waste product ( Animal Excreta )
<b>10.</b>	Nitrogenous waste product on fish tank .
<b>11.</b>	Estimation of O <sub>2</sub> consumed by Fish
<b>12.</b>	Estimation of O <sub>2</sub> - Result and Discussion
<b>13.</b>	Typographic reading of skeletal muscle properties Toad
<b>14.</b>	Histological study 1. T.S of Kidney 2. T.S of Testis
<b>15.</b>	Histological study 1. T.S of Ovaries 2. T.S of Pancreas 3. Intestine

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

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

**Semester: IV**  
**Paper No: XVI**  
**( Biochemical + Endo )**

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

**Tutorial:**

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<b>WEEKS</b>	<b>Topics to covered</b>
<b>1.</b>	Preparation of solution of given percentage
<b>2.</b>	Preparation of solution of given normality & molarity
<b>3.</b>	Study of analytical instrument principle and application
<b>4.</b>	PH meter, Calorimeter, centrifuge and electrophoresis
<b>5.</b>	Factor affecting enzymes activity temperature
<b>6.</b>	Enzymes activity- Effect of PH
<b>7.</b>	Detection of amino acid by paper chromatography
<b>8.</b>	Qualitative test- Carbohydrates
<b>9.</b>	Qualitative test – proteins
<b>10.</b>	Qualitative test – lipids/ fats
<b>11.</b>	Estimation of proteins- Lawrys method
<b>12.</b>	Study of permanent histological slides
<b>13.</b>	T.S. of Pitutary glands and Thyroids glands
<b>14.</b>	T.S. Adrenal glands and T.S. of Islets of langreness
<b>15.</b>	T.S. of Testis and ovaries

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