Govt. College, Ropar

Department of Zoology

Class B.Sc. 3rd Sem. (Session 2018-19)

Paper-I :Chordates-I

Paper-II : Chordates-II & Evolution

Week	Lesson scheduled
1st	Chordates : General Characters and Echinoderm Theory of Origin Classification of following animals upto orders *Herdmania, Molgula, Pyrosoma, Dolilum, Salpa, Oikopleura* and *Amphioxus.*
2nd	Urochordata Type study-*Herdmania.*
3rd	Cephalochordata—Type study-*Amphioxus.*
4th	Cyclostomata : a) External Characters of *Petromyzon.* b) Affinities of Cyclostomata. Classification of following animals upto orders *Myxine, Petromyzon* and *Ammocoetus* Larva.
5th	Pisces : a) Type study : *Labeo.* b) Types of Scales, Migration and Parental Care in fishes.
6th	c) Classification of following animals upto orders Chondrichthyes : *Zygaena, Pristis, Narcine, Trygon, Rhinobatus* and *Chimaera.* Actinopterygii : *Polypterus, Acipenser, Lepidosteus, Muraena, Mystus, Catla, Hippocampus, Syngnathus, Exocoetus, Anabas, Diodon, Tetradon, Echeneis* and *Solea.* Dipnusti (Dipnoi) : *Protopterus* (lung-fish).
7th	Amphibia : a) Type study –Frog.
8th	Parental Care in amphibia. Classification of animals upto orders -*Uraeotyphlus, Necturus, Amphiuma, Amblystoma, Triton, Salamandra, Hyla, Rhacophorus.*
9th	• **MST**
10th	• **MST**
11th	Reptilia:Type study—*Uromastix.*,Poison apparatus in snakes.
12th	Classification of following animals upto orders *Chelone,Testudo, Hemidactylus,Calotes, Draco, Varanus, Phrynosoma, Chamaeleon, Typhlops, Python, Eryx, Bungarus, Naja, Hydrus, Viper, Crocodilus, Gavialis* and *Alligator.*
13th	Aves :Type study—Pigeon.Flight adaption in birds. Classification of following animals upto orders -*Ardea, Milvus, Pavo, Tyto, Alcedo, Eudynamis* and *Casuarius.*
14th	Mammals - Type study—Rat.Dentition in Mammals. Classification of following animals up to orders - *Ornithorhynchus, Echidna, Didelphys, Macropus, Loris, Macaca, Manis, Hystrix, Funambulus,Panthera, Canis, Herpestes, Capra, Pteropus.*
15th	Organic Evolution:Origin of life, Evidences of organic evolution. Theories of organic evolution.Biological species concept.Evolution of man.

Prof. Manjit Kaur Manchanda

Head of department

Dept of Zoology

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Class B.Sc. 4th Sem. (Session 2018-19)

PAPER-I : BIOCHEMISTRY **PAPER-II : ANIMAL PHYSIOLOGY**

Week	Lesson scheduled
1st	Biochemistry and its scope; Carbohydrates, Proteins and Lipids. Carbohydrate Metabolism : The Embden Meyerhof, Parnas Pathway (Glycolysis),
2nd	tricarboxylic acid cycle, the hexose monophosphate shunt, glycogenesis and glycogenolysis Nucleic Acids : their classification and functions.
3rd	Enzymes : Nature, their classification and coenzymes.
4th	Lipid Metabolism : β-oxidation of fatty acids, fate of glycerol and gluconeogenesis, interaction of carbohydrates and lipids, lipogenesis in tissues, ketosis.
5th	.Protein Metabolism : Metabolism of amino acids (Oxidative deamination, transamination and decarboxylation) hydrolysis of protein and ornithine cycle.
6th	Digestion : Digestion of dietary constituents, regulation of digestive processes and absorption, types of nutrition,feeding mechanism, extra and intra cellular digestion, enzymatic digestion and symbiotic digestion.
7th	Blood : Composition and functions of blood and lymph, molecular structure and function of haemoglobin, blood clotting, blood groups including Rh-factor, haemostasis and haemopoiesis.
8th	Heart : Origin and regulation of heart beat, cardiac cycle, electrocardiogram, cardiac output, blood flow and its regulation, blood pressure and micro-circulation.
9th	• **MST**
10th	• **MST**
11th	Respiration : Transport of O_2 and CO_2, Oxygen dissociation curve of haemoglobin, Bohr effect, chloride shift, Haldane effect and control of breathing.
12th	Excretion : Urine formation and osmoregulation.
13th	Muscles : Ultrastructure, chemical and physiological basis of skeletal muscle contraction.
14th	Neural Integration : Structure of Neuron, resting membrane potential, origin and propagation of impulse along the axon, synapse and myoneural junction.
15th	Endocrine : Structure and physiology of thyroid; Parathyroid, adrenal, hypothalamus, pituitary, pancreas and gonads.

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