

Govt. College, Ropar

Department of Zoology

Class B.Sc. 3rd Sem. (Session 2019-20)

Paper-I : Chordates-I


Paper-II : Chordates-II & Evolution

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


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Class B.Sc. 4th Sem. (Session 2019-20)

PAPER-I : BIOCHEMISTRY

PAPER-II : ANIMAL PHYSIOLOGY

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


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