

Zoology

BOARD OF INTERMEDIATE EDUCATION, A.P., HYDERABAD.

SYLLABUS IN ZOOLOGY FOR II YEAR
EFFECT FROM THE ACADEMIC YEAR 2008-2009

Sl. No.	Topic and Sub / Topics	Periods	Remarks
1	2	3	4
1.	UNIT – I *		
	PHYLUM – CHORDATA		
	1.1 Characteristics of Chordata	06	
	1.1.1 Ancestry of chordates,		
	1.1.2 outline classifications of chordata,		
	1.1.3 Theories of origin of chordata,		
	1.1.4 Sub-phylum urochordata,		
	1.1.5 Sub-phylum cephalo ^a chordate ^a ,		
	1.1.6 Sub-phylum vertebrata		
	1.2 Pisces	04	
	1.2.1 General Characters		
	1.2.2 Classifications		
	1.3 Amphibia	04	
	1.3.1 General Characters		
	1.3.2 Classifications		
	TOTAL	14	
2.	UNIT – II *		
	REPTILIA – AVES & MAMMALIA		
	2.1 Reptilia	07	
	2.1.1 General characters		
	2.1.2 Classification (Classification on page no.21 in existing zoology text book of II year should be in lucid way) Chelonia, Rhynchocephalia, Squamata and Crocodelia characters with typical examples		
	2.1.3 Identification of poisonous and non poisonous snakes, Poisonous apparatus, toxicity of snake venom and treatment of snake bite including first aid (page no.30 – requires detailed diagrams)		
	2.2 Aves:	04	
	Distinctive features, classification, difference between Ratitae and carinatae with typical examples		
	2.3 Mammalia:	03	
	Distinctive featuers of prototheria, Metatheria & Eutheria with examples		
	TOTAL	14	

3.	UNIT – III * RABBIT – FUNCTIONAL ANATOMY – I (DIGESTIVE SYSTEM, RESPIRATORY SYSTEM & CIRCULATORY SYSTEM) Classification and External characters of Rabbit		
	3.1 Digestive System:	10	
	3.1.1 Alimentary canal		
	3.1.2 Digestive glands		
	3.1.3 Nutrition & digestion		
	3.1.4 Process of digestion		
	3.1.5 Role of vitamins and minerals in nutrition		
	3.1.6 Nutrition of requirements in relation to balanced diet (as Sub Topic)		
	3.2 Respiratory System, Mechanism of breathing and Transportation of gases	04	
	3.3 Circulatory System, Structure of heart, Function of heart, Arterial system, Venous system, Blood clotting	06	
	TOTAL	20	
4.	UNIT – IV * RABBIT – FUNCTIONAL ANATOMY – II (MUSCULO SKELETAL SYSTEM, EXCRETORY SYSTEM, REPRODUCTIVE SYSTEM)		
	4.1 Musculo Skeletal System: Ultra structure of muscle fiber, sliding filament theory, Elementary idea of Axial Skeleton and appendicular skeleton of Rabbit Joints	08	
	4.2 Excretory System: Excretory Organs Formation of Urine Composition of Urine Micturition	03	
	4.3 Reproductive System: Male Reproductive System Female Reproductive System Copulation, fertilization and development	05	
	TOTAL	16	

5.	UNIT – V * RABBIT FUNCTIONAL ANATOMY – III (NERVOUS SYSTEM, ENDOCRINE GLANDS AND THEIR ROLE IN HUMAN BEINGS, IMMUNOLOGY)		
	5.1 Nervous System: Central, Peripheral and autonomous nervous systems	04	
	5.2 Propagation of nerve impulse	02	
	5.3 Endocrine system Endocrine glands	03	
	5.4 Role of hormones in human beings	03	
	5.5 Immunology : Types of Immunity Organs Immune system Cells of Immune system Soluble mediators of Immunity Antigens Mechanism of humoral and cell mediated Immunities Immunological disorders (AIDS, HEPATITIS)	06	
	TOTAL	20	
6.	UNIT – VI * GENETICS		
	6.1 Multiple alleles and Blood groups A B O Blood groups Rh antigens	03	
	6.2 Sex determination: Sex chromosomes Heterogametic sex determination Sex determination in prosophila Sex determination and sexual differentiation in human beings Haplodiploidy in honey bee Effects of environment on sex determination Hormonal control of sex determination	04	
	6.3 Sex linked inheritance: Sex linkage in drosophila Genes on the sex chrosomes Sex linked characters in human beings X linked characters Y linked characters X-Y linked characters Sex limited characters Sex influenced characters	04	
	6.4 Gene Expression and regulation: Genetic materials Functions of Genes Gene regulation in prokaryotes Gene express in Eukaryotes Concepts of Gene action (one gene one polypeptide concept only)	03	

	6.5	Basic concepts of animal breeding: System of breeding Heterosis Progeny test Cloning Transgenic animals	02	
	6.6	Genome and Human genome project, Gene mapping, DNA finger printing, An elementary idea of gene therapy	06	
	TOTAL		22	
7.	UNIT – VII *			
	ORGANIC EVOLUTION			
	7.1	Evolutionary concepts and origin of life: Experimental verification of chemical origin of life	02	
	7.2	Theories of Evolution Lamarkism or inheritance of acquired characters Darwinism or Natural selection Sexual selection, Artificial selection, Mutation theory of evolution, Synthetic theory of evolution or Neo- Darwinism, Speciation	08	
	KEY NOTE: 1		Diagrammatic representation of origin of life as given in De Roberts book with brief description	
	2		Synthetic theory of evolution as given in Stebbin.	
	TOTAL		10	
8.	UNIT – VIII *			
	APPLIED BIOLOGY			
	8.1	Aquaculture: List of animals of aquaculture importance (in a tabular form) Fisheries – fish culture and rearing methods	03	
	8.2	Poultry: Introduction of Poultry Poultry farming Poultry diseases	04	
	8.3	Biotechnology	06	
	8.3.1	Recombinant DNA technology,		
	8.3.2	Industrial use of micro organisms and DNA Technology		

8.3.3	Vaccines, Enzymes, hormones, Interferons, Monoclonal antibodies.		
8.4	Cell-cycle and its regulation, Cancer Biology, Stem Cells	03	
8.5	Bio medical Technology X – ray radiography Definitions of Magnetic Resonance Imaging (MIR) Electro Cardio graphy (ECG) Electro Encephalography (EEG) Transplantation ELISA (Enzyme linked immunosorbent assay)	04	
TOTAL		<u>20</u>	
GRAND TOTAL		<u>136</u>	
<p>1. G. Raghuramulu — G. Raghuramulu</p> <p>2. Ahmedullah Qureshi — Ahmedullah Qureshi</p> <p>3. R. C. Thimma Reddy — R. C. Thimma Reddy</p>			