

ANNUAL ACADEMIC PLAN 2022-23

Zoology	II YEAR	
Month & No. of working days/No. of periods	Topics to be covered Test/Exams/Assignments/EAMCET Classes to be conducted	Periods allotted for each topic
June 14	Syllabus Dictation & Q.P model Explanation	01
	Unit I : Human Anatomy and Physiology-I	
	Unit I A: Digestion and Aabsorption	
	1.11. Digestive system- Alimentary canal and digestive glands;	04
	1.12. Role of digestive enzymes;	03
	1.13. Physiology of Digestion Peristalsis, absorption and assimilation of proteins, carbohydrates and fats, egestion and gastrointestinal hormones.	03
1.14. Calorific value of proteins, carbohydrates and fats (for box item- not to be evaluated);	01	
1.15. Nutritional disorders: Protein Energy alnutrition (PEM), indigestion, constipation, vomiting, jaundice, diarrhea, Kwashiorkor.	02	
July 24	<u>IB. Breathing and Exchange of gases</u>	
	1.16. Respiratory organs in animals	01
	1.17. Human Respiratory System	02
	1.18. Mechanism of breathing and its regulation in humans, Respiratory volumes and capacities, Exchange of gases, transport of gases and regulation of respiratory movements.	01
	1.2.8. Disorders of the Respiratory system.	01
	UNIT II A	
	BODY FLUIDS AND CIRCULATION	
	2.1 Lymphatic System	01
	2.2 Clotting of blood	01
	2.3 Circulating pathways- Human cardio-vascular system	02
2.4 Cardiac cycle, cardiac output, double circulation; regulation of cardiac activity	02	
2.5 Blood vessels, disorders of circulatory system: Hypertension, coronary artery disease(CAD), angina pectoris, heart failure	02	
EAMCET/NEET	01	

	<p>IIB. Excretory products and their Elimination: Modes of excretion- Ammonotelism, Ureotelism, Uricotelism, Excretory organs</p> <p>2.6 Human excretory system-structure of kidney and nephron;</p> <p>2.7 Urine formation, osmoregulation, Regulation of kidney function-Renin- Angiotensin-Aldosterone system, Atrial Natriuretic Factor, ADH and diabetes insipidus</p> <p>2.8 Role of other organs in excretion</p> <p>2.9 Disorders: Uraemia, renal failure, renal calculi, nephritis, Glomerulonephritis, dialysis using artificial kidney</p> <p style="text-align: center;">EAMCET/NEET</p> <p>Practical : Specimen Study</p>	<p>01</p> <p>02</p> <p>02</p> <p>01</p> <p>01</p> <p>01</p> <p>02</p>
August 22	<p style="text-align: center;">UNIT – III: HUMAN ANATOMY AND PHYSIOLOGY-III</p> <p>IIIA. Musculo- Skeletal system:</p> <p>3.1 Skeletal muscle- ultra structure, Contractile proteins & muscle contraction, Muscle Fatigue, Cori cycle, types of Muscle Fibers</p> <p>3.2 Skeletal system and its functions</p> <p>3.3 Joints, Structure of synovial joints(to be dealt with relevance to practical syllabus)</p> <p>3.4 Disorders of the muscular and skeletal system: myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout, regormortis</p> <p>IIIB. Neural control and Co-ordination:</p> <p>3.5 Human Neural System- Central nervous system, Peripheral nervous system, somatic nervous system and autonomic neural system</p> <p>3.6 Generation and conduction of nerve impulse</p> <p>3.7 Reflex action and Reflex Arc.</p> <p>3.8 Sensory reception and processing; Sense organs- elementary structure and functioning of eye and ear</p> <p style="text-align: center;">Unit Test – I EAMCET/NEET</p> <p>Practical's : Specimens, types of Joints/ Slides</p>	<p>02</p> <p>02</p> <p>02</p> <p>02</p> <p>04</p> <p>02</p> <p>01</p> <p>02</p> <p>01</p> <p>02</p> <p>01</p> <p>02</p> <p>02</p>
	<p>3.8 Disorders of Human Neural system- Alzheimer's disease (AD), Meningitis, Parkinson's Diseases, Stroke or Cerebro- Vascular Accident (CVA)</p> <p style="text-align: center;">UNIT – IV: HUMAN ANATOMY AND PHYSIOLOGY-IV</p> <p>IVA. Endocrine system and Chemical co-ordination:</p> <p>4.1 Endocrine glands and hormones: Human endocrine system- Hypothalamus, pituitary,</p>	<p>04</p> <p>05</p>

	<p>Pineal, Thyroid, Parathyroid, Thymus, Adrenal, Pancreas, Gonads, Hormones of Kidney, Heart and gastrointestinal hormones</p> <p>4.2 Mechanism of hormone action(Elementary idea only); Role of hormones as messengers and regulators</p> <p>4.3. Human hormonal disorders due to Hypo and hyper secretions: Dwarfism, acromegaly, Gigantism, cretinism, goiter, exophthalmic goiter, tetany, diabetes Addison's disease, Cushing's syndrome. (Diseases & disorders to be dealt in brief)</p> <p style="text-align: center;">UNIT TEST II EAMCET/NEET</p> <p>PRACTICALS – SPECIMENS</p>	<p>02</p> <p>09</p> <p>01 02 02</p>
October 19	<p style="text-align: center;">1st TERM HOLIDAYS 02.10.2022 TO 09.10.2022</p> <p>IVB. Immune System:</p> <p>4.4 Basic concepts of immunology- cells of the immune system, organs of immune system</p> <p>4.5 Types of Immunity- Innate Immunity, Acquired Immunity, Active and Passive Immunity, Humoral immunity, Cell mediated immunity</p> <p>4.6 Vaccination or Immunization</p> <p>4.7 Immunological Disorders- HIV and AIDS, Hypersensitivity disorders, Auto immune disorders, Graft Rejections</p> <p style="text-align: center;">UNIT – V HUMAN REPRODUCTION</p> <p>VA. Human Reproduction System:</p> <p>5.1 Male Reproductive system</p> <p>5.2 Female Reproductive System</p> <p>5.3 Gametogenesis- Spermatogenesis & Oogenesis</p> <p>5.4 Menstrual Cycle</p> <p>5.5 Fertilization, Embryo development up to blastocyst formation, Implantation</p> <p>5.6 Gastrulation</p> <p>5.7 Organogenesis</p> <p>5.8 Placenta Formation</p> <p>5.9 Parturition</p> <p>5.10 Lactation(elementary idea)</p> <p>VB. Reproductive health:</p> <p>5.12 Need for reproductive health and prevention of sexually transmitted diseases(STD)</p> <p>Birth control- Need and methods , contraception and medical termination of pregnancy(MTP)</p>	<p>01</p> <p>02</p> <p>01</p> <p>01 02 02 02 02 02 02</p> <p>02</p> <p>02</p>

	<p>Amniocentesis: infertility and Assisted Reproductive Technologies (ART)- IVF-ET, ZIFT, GIFT (elementary idea for general awareness)</p> <p>EAMCET/NEET</p> <p>Unit Test – III</p> <p>Practical : Display the Charts</p>	<p>02</p> <p>01</p> <p>02</p>
November 24	<p>UNIT – VI: GENETICS</p> <p>6.1. Heredity and variation: Mendel’s laws of inheritance with reference to Drosophila (<i>Drosophila melanogaster</i> Grey, Black body color; Long Vestigial Wings) 02</p> <p>6.2. Pleiotropy Co-dominance(Blood groups as example) 01</p> <p>6.3. Multiple alleles: Inheritance of blood groups and Rh-factor Elementary idea of Polygenic inheritance; Skin colour in humans(refer Sinnott, Dunn and Dobzhansky) 02</p> <p>6.4. Polygenic 01</p> <p>6.5. Inheritance Sex determination- in humans, birds, Fumea moth , genic balance theory of sex detremination in rosohilamelanogaster and honey bees. 03</p> <p>6.6. Sex linked inheritance – Sex linkage in Drosophila, Sex linked inheritance -in Human beings – Haemophilia, color blindness mendelian disorders in humans-Thalassemia, Haemophilia, Sickle celled anaemia, cystiefibrosis PKU, Alkaptonuria. 04</p> <p>6.7. Genetic disorders – Down’s sysdrome, Turner’s syndrome and Klinefelter syndrome 03</p> <p>6.8. Human Genome Project 02</p> <p>6.9. DNA Finger Printing 02</p> <p>EAMCET/NEET</p> <p>Practical’s : Bio- Chemistry</p> <p>Physiological Experiments 02</p> <p>HALF-YEARLY EXAMINATIONS:</p> <p>21.11.2022 TO 26.11.2022</p>	<p>02</p> <p>01</p> <p>02</p> <p>01</p> <p>03</p> <p>04</p> <p>03</p> <p>02</p> <p>02</p> <p>02</p> <p>02</p> <p>02</p>
December 23	<p>UNIT VII:</p> <p>ORGANIC EVOLUTION</p> <p>7.1 Origin of life 02</p> <p>7.2 Biological evolution 02</p> <p>7.3 Evidences for biological evolution (palaeontological, comparative anatomical, embryological and molecular evidences) 03</p> <p>7.4 Theories of evolution: Lamarckism(in brief), Darwin’s Theory of Evolution- Natural Selection 04</p>	<p>02</p> <p>02</p> <p>03</p> <p>04</p>

	with example (Kettlewell's experiments on Bistonbitularia), Mutation Theory of Hugo De Vries	
	7.5 Modern Synthetic theory of Evolution-	02
	7.6 Mechanism of evolution Hardy- Weinberg law; Types of Natural Selection; Gene flow and genetic drift; Variations (mutations and genetic recombination). Adaptive radiation-viz., Darwin's finches and adaptive radiation in marsupials; Speciation-Allopatric, sympatric; Reproductive isolation.	05
	7.7 A brief account of evolution	02
	7.8 Origin and evolution of man	
	UNIT TEST-IV EAMCET/NEET	01
	Practical: Biochemistry/ Physiology Experiments	02
January 23	UNIT- VIII: APPLIED BIOLOGY	
	8.1 Animal husbandry, Dairy management	03
	8.2 Poultry management	02
	8.3 Bee-Keeping	03
	8.4 Fishery Management	02
	Biomedical Applications	02
	Vaccines	01
	Molecular Diagnosis	01
	8.8 Gene Therapy	01
	8.9 Transgenic Animals	01
	8.10 Cancer Biology	02
	8.11 Stem cells	02
	8.12 Biomedical Technology	03
SANKRANTHI HOLIDAYS FROM 13-01-2023 TO 15-01-2023		
PRE-FINAL EXAMINATIONS – I FROM 06-02-2023 to 13-02-2023		
February 22	Revision Pre-Final-II Commencement of Practical Examinations IPE 2023 20.02.2023 TO 06.03.2023	22
PRE-FINAL EXAMINATIONS – II FROM 3rd Week of February		
March 23	Theory Examinations IPE 2023 15.03.2022 TO 04.04.2023 Last working Day 31-03-2023	23
	Total	194 Periods

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