

Zoology-B.Sc. Semester-1 Syllabus 2020-21

Paper	Unit	Syllabus	Faculty
101	1	<p>Mammalian Anatomy, Histology & Physiology of the Urinary System</p> <p>1. Two Kidneys, two ureters, one urinary bladder, and one urethra.</p> <p>2. Anatomy and Histology of the kidneys.</p> <ul style="list-style-type: none"> ➤ Overview of kidney functions ➤ External Anatomy of the Kidneys ➤ Internal Anatomy of the Kidneys. ➤ Blood and Nerve Supply of the Kidneys <p>3 The Nephron</p> <ul style="list-style-type: none"> ➤ Parts of a Nephron ➤ Histology of the Nephron and Collecting Duct <p>4 Renal Physiology</p> <ul style="list-style-type: none"> ➤ Glomerular Filtrations ➤ The Filtration Membrane ➤ Net Filtration Pressure ➤ Tubular Reabsorption ➤ Tubular Secretion ➤ Hormonal Regulation of Tubular Reabsorption and Tubular Secretion (Name of the Hormones and their function only) ➤ Counter Current Mechanism ➤ Micturition 	Dr. Dimple Damore
	2	<p>(A) Continuation of Excretory system (of Unit 1)</p> <p>1. Characteristics of Normal Urine</p> <p>2. Summary of Abnormal Constituents of Urine</p> <p>3. Clinical Connection: (Brief introduction)</p> <ul style="list-style-type: none"> ➤ Nephroptosis (Floating Kidney) ➤ Kidney Transplant ➤ Proteinuria ➤ Ketonurea ➤ Glucosuria Stone in Kidney ➤ Renal failure ➤ Cystoscopy ➤ Dialysis 	Prof. GautamPrajapati
		<p>(B) Non Chordate Animal Diversity :</p>	
		<p><i>Fasciola hepatica</i> (Liver fluke) -Type study</p> <ul style="list-style-type: none"> ➤ Systematic position ➤ Habits and habitat ➤ External features ➤ Body wall ➤ Digestive system ➤ Respiration ➤ Excretory system ➤ Nervous system ➤ Reproductive system 	

		<ul style="list-style-type: none"> ➤ Life cycle & Development ➤ Pathogenesis ➤ Parasitic Adaptations 	
	3	Genetics and Animal Biotechnology	Dr. KiranPrajapati
		<p>A. Genetics:</p> <ol style="list-style-type: none"> 1. Introduction to Gene 2. Introduction to Mendelian laws of Heredity. 3. Incomplete dominance (e.g. Mirabilis jalapa) 4. Co-dominance (e.g. Roan cattle) 5. Multiple alleles <p>e.g.</p> <ul style="list-style-type: none"> <input type="checkbox"/> ABO blood groups in human <input type="checkbox"/> Rh Factor Erythroblastosis foetalis <ol style="list-style-type: none"> 6. Polygenic inheritance (e.g. skin colour in humans) 7. Lethal genes (e.g. Yellow coat colour in mice, Thalesmia) 	
		<p>(B) Animal Biotechnology:</p> <ol style="list-style-type: none"> 1. Brief Introduction 2. Lab design and layout of small tissue culture laboratory 3. Some Lab facilities needed for setting up a tissue culture laboratory – <ul style="list-style-type: none"> ➤ Cultural vessels (Choice of culture vessels, Multiwell plates, Petri dishes, Culture flasks) ➤ Laboratory Equipments (Autoclave, CO₂ Incubator, Centrifuge, Laminar Airflow) 	
	4	<p>Economic Zoology</p> <ol style="list-style-type: none"> 1 Vermiculture and Vermicomposting Introduction, Definition, Scope and Importance of Vermitechnology, Suitable breeds, Construction of vermicompost pits (Outdoor & Indoor spaces), Properties and benefits of vermi-compost. 2 Dairy Farming - Introduction, Necessity & Scope of dairy Farming, Definition and importance of Domestication & Husbandry 3 Pearl Culture-Introduction, Formation & uses of Pearl, Pearl oyster farming (brief study) 	Prof. GautamPrajapati