

RISHI BANKIM CHANDRA COLLEGE FOR WOMEN

ঋষি বঙ্কিমচন্দ্র মহিলা কলেজ

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ACADEMIC CALENDER SUBJECT-PHYSIOLOGY GENERAL SESSION-2024-2025 F.M.-75						
SEMESTER	PAPERCODE	SYLLABUS MODULE/ UNIT	NO. OF HOURS	TEACHER	DISTRIBUTION	STUDENT'S SEMINAR/ EXHIBITION
I (NEP)	M1T	Anatomy of Heart. Electrical Activity of the heart: Electrocardiogram, Cardiac Arrhythmias, Hypertrophy and Cardiomyopathy. Cardiac Cycle, Heart sounds, Cardiac Output.	12	AB	August'24-September'24	
		Blood- formation, composition, circulation, and functions. Blood vessels: artery, vein, capillaries. Hemoglobin	10	SB	August'24-September'24	
		Anatomy of Respiratory tract and Lungs. Pulmonary Function: Mechanics of breathing, Gas Exchange in the lungs & tissues, Pulmonary Circulation, Other Functions of the Respiratory System	5	RM	August'24-September'24	
I (NEP)	M1T	Cardiovascular regulatory Mechanisms: Local, Hormonal, Neural. Arterial blood pressure, Korotkoff sounds. Coronary Circulation.	8	AB	October'24 - November'24	
		Hypercapnia (respiratory acidosis) and hypocapnia (respiratory	10	RM	October'24 - November'24	

		alkalosis). Neural & Chemical Regulation of Respiration. Forms of Hypoxia.				
I (NEP)	M1T	Blood disorders- anemia, thalassemia, leukemia, hemophilia. Blood groups (ABO & Rh systems), Blood transfusion, and Blood storage. Lymph - formation, composition, circulation, and functions Chronic obstructive pulmonary disease (COPD). Artificial Respiration.	10 5 1	SB RM RM, SB, AB	December'24 December'24 December'24	Student's Seminar
I (NEP)	M1P	Study and Identification of Stained Sections of Different Mammalian Tissues and Organs, Preparation of blood smear and identification of blood cells. Determination of blood groups	30	AB, RM	November'24- December'24	
I (NEP)	M1P	Sphygmomanometer measurement of arterial blood pressure at rest. Measurement of oxygen saturation by pulse oximeter before and after exercise. Measurement of peak expiratory flow rate. Demonstration: Differential count of WBC. Total count of RBC and WBC. Bleeding time and clotting time. Pneumographic recording of effects of talking, drinking, laughing, coughing, exercise, hyperventilation and breath holding. Study of Kymograph and its accessories. ECG. Cardiopulmonary Resuscitation (CPR). Practical Assessment	25 05 2	AB, RM SB AB, RM, S B	January'25- February'25 January'25- February'25 February'25	Celebration of Glaucoma Awareness Month' 2025

III (NEP)	M3T	<p>Nerve Physiology</p> <p>Introduction, Ionic basis of Excitation & Conduction, Properties of Mixed Nerves, Nerve Fiber Types, Synapses: Structure, Types, Properties, Mechanism of Synaptic Transmission through Electrical & Chemical Synapses, Neurotransmitters, Neuromodulators & Neurotrophins, Structure of Neuromuscular Junction, Mechanism of Transmission through Neuromuscular Junction.</p>	20	RM	August'24 - September'24	
III (NEP)	M3T	<p>Muscle Physiology</p> <p>Introduction, Structure & properties of Skeletal, Cardiac & Smooth Muscles, Mechanism of Skeletal, Cardiac & Smooth Muscle Contraction & Relaxation, Chemical Changes during Muscle Contraction, Isotonic & Isometric Muscle Contraction.</p>	20	AB	September'24- November'24	
III (NEP)	M3T	<p>Nervous system</p> <p>Brief Anatomy of Brain & Spinal Cord. Corticospinal tract. Structure & Functions of Central, Peripheral and Autonomic Nervous Systems. Structure of Reflex Arc. Brief Anatomy, Structure & Functions of Cerebral Cortex, Cerebellum, Thalamus, Hypothalamus, Basal Ganglia, Limbic System, Physiological Basis of Sleep, Insomnia. The Electroencephalogram. Special Senses- Vision, Audition, Olfaction & Taste</p>	20	SB	November'24 - January'25	
III (NEP)	M3P	<p>Nerve - Muscle Physiology & Nervous System</p> <p>Study & Identification of Stained Sections of Different Mammalian</p>	10	RM	November'24-	

		<p>Tissues and Organs: Skeletal Muscle, Cardiac Muscle, Smooth Muscle, Spinal Cord, Cerebral Cortex, Cerebellum, Skin, Tongue.</p> <p>Measurement of Grip Strength. Determination of Visual Acuity by Snellen's Chart. Determination of Colour blindness by Ishihara Chart. Reaction Time by Stick Drop Test. Short Term Memory Test (Shape, Picture, Word). Two Point Discrimination Test. Experiments on Superficial (Plantar) and Deep (Knee Jerk) Reflex.</p> <p>Practical Assessment</p>	50	AB, SB	January' 25 November'24- January' 25	
			2	RM, AB, SB	January' 25	
V(CBCS)	PHYHDSGDS T T	<p>PHYHDSGDS: Regular Exercise in health and Wellbeing</p> <p>PHYHDSGDS: Regular Exercise in Basic health and Wellbeing</p> <p>PHYHDSGDS: Regular Exercise in Energy metabolism</p> <p>Cardiorespiratory responses during different grades of exercise</p>	5	RM	August'24	
			5	RM	September'24	
			5	SB	September'24	
V(CBCS)	PHYGDSE02T	<p>Concept of EPOC, Aerobic Work Capacity, Physiological Fatigue and recovery</p> <p>Principles of Physical Training, Training to improve aerobic and anaerobic power, Effect of Overtraining and Detraining</p>	15	RM, AB	September'24	
			15	AB	September'24	
V(CBCS)	PHYGDSE02T	<p>Nutritional Supplements and Ergogenic Aids, Sports Injury and its Management, Basic idea of Sports rehabilitation and Sports Medicine</p> <p>Theory Assessment</p>	15	SB	September'24 - October'24	
			1	RM, SB, AB	November'24	
V(CBCS)	PHYGDSE02P	<p>Measurement of blood pressure before and after exercise.</p> <p>Recording of recovery Pulse Rate after Standard Exercise</p>	15	AB	November'24 - December'24	

V(CBCS)	PHYGDSE02P	Determination of VO ₂ max by queen college step test. Measurement of Body Fat Percentage	30	RM	November'24 - December'24	Science Exhibition
		Determination of Endurance Time by Handgrip Dynamometer	15	SB	November'24-December'24	
		Practical Assessment	2	RM, AB,SB	February'25	
I, III, V(CBCS)	M1T,M1P,M3T,M3P, PHYGDSE02T PHYGDSE02P	WBSU EXAM			January'25 - April'25	

II (NEP)	M2T	Carbohydrates, Proteins and lipids, DNAs and RNAs, Mechanism of enzyme action, Michaelis-Menten equation, Hyperbolic kinetics.	10	AB	May'25	
		Anatomy of Gastrointestinal tract. Digestion & absorption, Mechanism and Regulation of Gastric HCl secretion and Nutritional Physiology.	15	SB	May'25	
II (NEP)	M2T	Anatomy and function of Renal System. Micturition. Renal Circulation, Non-excretory function of kidney.	10	RM	May'25- June'25	
		Respiratory Adjustments in Health & Disease	5	AB	June'25	
		Gastrointestinal hormones, Exocrine Functions. Gastrointestinal Diseases.	5	SB	June'25	
II (NEP)	M2T	Chronic kidney disease. Other excretory organs: Skin, Liver, Large intestine, and Lungs. Micturition	10	RM	July'25	
		Enzyme Inhibition. Factors	5			
			1	AB	July'25	

		regulating enzyme activities. Isoenzymes, Allosteric enzymes, Ribozymes, Abzymes, Rate limiting enzymes Theory Assessment		SB	July'25	
II (NEP)	M2P	Qualitative tests for the identification of physiologically important substances Study and Identification of Stained Sections of Different Mammalian Tissues and Organs	15 10	RM AB	May'25- June'25 May'25- June'25	
II (NEP)	M2P	Quantitative estimation of amino nitrogen [Sorensen's formol titration method (percentage as well as total quantity)] Quantitative estimation of glucose and sucrose and lactose by Benedict's method.	10 5	AB RM	July'25 July'25	
II (NEP)	M2P	Demonstration: Identification of normal and abnormal constituents of urine. Urine albumin-creatinine ratio (ACR) Practical Assessment	15 5 2	SB SB RM, SB, AB	June'25- July-25 August'25	
IV(NEP)	M4T	Endocrinology & Reproduction Endocrine Functions of Pituitary, Thyroid & Pancreas Pituitary Gland- Histological Structure of Anterior & Posterior Pituitary. Functions of Growth Hormone, ACTH, TSH, Pituitary Gonadotropins, Prolactin, Posterior pituitary hormones (Oxytocin, Vasopressin), Pituitary hyper- and hypo-function. Thyroid Gland Histological structure of thyroid gland, Secretion of Thyroid Hormones, Transport of Thyroid	20	AB	March' 25-May '25	

		Hormones, Effects of Thyroid Hormones, Hyper- and hypo-function of thyroid gland. Calcitonin: Role on Calcium Metabolism. Endocrine Functions of the Pancreas- Histological structure of pancreas, Secretion of Insulin, Effects of Insulin, Insulin resistance, Glucagon, Hypoglycemia & Diabetes Mellitus.				
IV(NEP)	M4T	<p>Endocrine Functions of Adrenal, Parathyroid, Kidneys, Heart & Pineal</p> <p>Adrenal Gland- Histological Structure of Adrenal gland, Adrenal Medulla, Function of Medullary Hormones, Adrenal Cortex, Effects of Adrenal Androgens & Estrogens, Physiologic Effects of Glucocorticoids, Effects of Mineralocorticoids, Summary of the effects of Adrenocortical Hyper & Hypofunction.</p> <p>Parathyroid Glands- Parathormone functions: role on Calcium & Phosphate Metabolism.</p> <p>Endocrine Functions of the Kidneys, Heart, & Pineal Gland- The Renin-Angiotensin System, Erythropoietin, Atrial Natriuretic Peptide, Melatonin.</p>	20	SB	March' 25-April' 25	
IV(NEP)	M4T	<p>Reproduction The Male Reproductive System:</p> <p>Structure, Gametogenesis, Endocrine Function of the Testes, Control of Testicular Function, Abnormalities of Testicular Function The Female Reproductive System: The Menstrual Cycle, Ovarian Hormones, Control of Ovarian Function, Abnormalities of Ovarian Function. Mammary Gland- Structure, Development, Functions, and Mammography. Pregnancy: Physiological changes during pregnancy. Placenta: Structure & functions. Puberty, Precocious & Delayed Puberty, Menopause. Polycystic ovary</p>	20	RM	March' 25- May'25	

		syndrome (PCOS), In vitro fertilization (IVF), Intrauterine insemination (IUI).				
IV(NEP)	M4P	ENDOCRINOLOGY & REPRODUCTION Study and Identification of Stained Sections of Different Mammalian Tissues and Organs: Pituitary Gland, Pancreas, Adrenal gland, Thyroid gland, Kidney, Pineal Gland Testes, Ovary. Demonstration: Pregnancy test from human urine by kit method. Staining (H&E) of tissue slides.	60	AB, SB, RM	March' 25-June' 25	
VI	PHYGDSE03T	Nutritional classification, digestive absorption, metabolism of carbohydrates, proteins, lipids. Sound Pollution as a Community health issue. Principles of Human Nutrition-Relationship between Nutrition, Health & Disease. Recommended dietary Allowances, malnutrition & Chronic Energy, LBW, PEM, Xerophthalmia, IDD, Iron & Iodine deficiency, micronutrient disorders. Food Toxicity, Effect of Processing on Nutritive value of foods. Balanced Diet, Diet Survey Concept of ACU.	10	RM	March' 25-April' 25	
			10	AB	March' 25-April' 25	
			10	SB	March' 25-April' 25	
		Composition & Nutritional Value of Common Indian Foodstuff- Rice, wheat, pulses, egg, meat, fish, milk, Dietary Fibers, Calorie Requirement Principles of formulation of balanced diets for growing child, adult man & woman, pregnant and lactating woman	10	AB	April' 25-May' 25	
VI	PHYGDSE03T	Definition, Concept of Noise. Source of Extraordinary Sound. Effects of Sound Pollution on Human Health, Noise Index (Noise Standard).	10	RM	April'25 - May'25	
		Socioecology of nutrition. Habitual diets in India & their adequacy. Basic idea about community health and	10	AB	April'25 - May'25	

		public health issues. Diet Management of Obese, Diabetic, Hypertensive Person and Athlete. Basic Idea on PCM, Marasmus, Kwashiorkor and their prevention. Theory Assessment	1	RM, AB, SB	May'25	
VI	PHYGDSE03	Diet Survey Practical Assessment	60 2	SB, RM SB, RM	March'25 - May'25 July'25	
II, IV, VI (CBCS)	M2T M2P M4T M4P PHYGDSE03T PHYGDSE03P	WBSU EXAM			July'25- September'25	