Department	Name of the Faculty Qualification IMR Number	Current Designation & Date of Promotion	Nature of employment Regular/ permanent or contract / outsourced	Details of Service in the Last 5 years					Numbers of lectures taken /year. Topics covered
				2017	2018	2019	2020	2021	
Physiology Department	Dr. Baban Devidasrao Adgaonkar MBBS, MD IMR No. 40387	Professor	Regular	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	50
	Dr. Sachin Devidasrao Somwanshi MBBS, MD IMR No. 2000/08/2948	Professor	Regular	--	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	12
	Dr. Ajay Madhavrao Gavkare MBBS, MD IMR No. 2004/01/0094	Professor 01.03.2020	Regular	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	Prof. MIMSR M.C. LATUR	15
	Dr. Pramod Pandurang Mulay MBBS, MD IMR No. 2001/07/2583	Asso. Professor	Regular	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	11
	Dr. Bhagwat Narayan Shelke MBBS, MD IMR No. 2007/04/0631	Asso. Professor 01.09.2018	Regular	Asst. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	Asso. Prof. MIMSR M.C. LATUR	12
	Dr. Supriya Ajit Holkunde MBBS, MD IMR No. 2008/08/3075	Asso. Professor	Regular	Asst. Prof. SKNMCGH, PUNE	Asst. Prof. SKNMCGH , PUNE	Asso. Prof. SKNMCG H, PUNE	Asso. Prof. SKNMCG H, PUNE	Asso. Prof. MIMSR M.C. LATUR	--
	Dr. Snehalata Balasaheb Mali MBBS, MD IMR No. 2009/06/2562	Asst. Professor	Regular	Asst. Prof. VDGMC, LATUR	Asst. Prof. SRTRGMC, AMBAJOG AI	Asst. Prof. SRTRGM C, AMBAJO GAI	Asst. Prof. SRTRGM C, AMBAJO GAI	Asst. Prof. MIMSR M.C. LATUR	12
	Dr. Rohan Chandrakant Sawrikar MBBS IMR No. 2019/04/3456	Tutor	Regular	--	--	--	--	Tutor MIMSR M.C. LATUR	--

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Sr. No	Name of the faculty Qualification IMR Number	Number of lectures taken/year. Topics covered	Topics covered	
1	Dr. B.D. Adgaonkar 40387	CNS-50	CNS: 1.Organization of nervous system 2.Functions and properties of synapse 3.Functions and properties of synapse 4.Functions and properties of reflex 5.Functions and properties of reflex 6.Functions and properties of receptors 7.Functions and properties of receptors 8.Somatic sensations & sensory tracts 9.sensory tracts 10.sensory tracts 11.sensory tracts 12.sensory tracts 13.sensory tracts 14.Motor tracts 15.Motor tracts 16.Motor tracts 17.Motor tracts 18.mechanism of maintenance of tone, control of body movements 19.mechanism of maintenance of tone, control of body movements 20.mechanism of maintenance of tone, control of body movements 21.posture and equilibrium 22.posture and equilibrium 23.posture and equilibrium 24.vestibular Apparatus	25.Structure and functions of reticular activating system 26.Structure and functions of reticular activating system 27.Autonomic nervous system (ANS) 28.Spinal cord, its functions 29.Spinal cord lesion & sensory disturbances 30.Functions of cerebral cortex 31.Functions of cerebral cortex 32.Functions of basal ganglia 33.Functions of basal ganglia 34.Functions of thalamus 35.Functions of thalamus 36.Functions of hypothalamus 37.Functions of hypothalamus 38.Cerebellum and limbic system and their Abnormalities 39.Cerebellum and limbic system and thei Abnormalities 40.Cerebellum and limbic system and their Abnormalities 41.Behavioural and EEG characteristics during sleep and mechanism responsible for its production 42.Behavioural and EEG characteristics during sleep and mechanism responsible for its production 43.Physiological basis of memory, learning and speech 44.Physiological basis of memory 45.Physiological basis of learning and speech 46.Physiological basis of learning and speech 47.Chemical transmission in the nervous system 48.Chemical transmission in the nervous system. 49.Normal EEG forms 50.Normal EEG form
2	Dr. S.D. Somwanshi 2000082948	CVS-12 Nerve Muscle -13	**CARDIOVASCULAR SYSTEM:** 1. Functional anatomy of heart including chambers sounds; and Pacemaker tissue and conducing system. **2.** Properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions **3.** Events occurring during the cardiac cycle **4.** Generation, conduction of cardiac impulse **5.** Physiology of electrocardiogram (E.C.G.), its applications and the cardiac axis **6.** Abnormal ECG, arrhythmias, heart block and	**NERVE MUSCLE PHYSIOLOGY** **1.** Structure and functions of a neuron and neuroglia; Nerve Growth Factor & other growth factors/cytokines **2.** Types, functions & properties of nerve fibers **3.** Degeneration and regeneration in Peripheral nerves **4.** Structure neuro-muscular junction and transmission of impulses **5.** Action of neuro-muscular blocking agents **6.** Pathophysiology of Myasthenia gravis **7.** Types of muscle fibres and their structure **8.** Action potential and its properties in different muscle

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			myocardial infarction. **7.** Haemodynamics of circulatory system **8.** Local and systemic cardiovascular regulatory mechanisms **9.** Factors affecting heart rate, regulation of cardiac output & blood pressure **10.**Regional circulation including microcirculation, lymphatic, coronary, cerebral, capillary, Skin, foetal, pulmonary and splanchnic circulation **11.** Patho-physiology of shock, syncope and heart failure **12.** Patho-physiology of shock, syncope and heart failure	types (skeletal & smooth) **9.** Molecular basis of muscle contraction in skeletal and in smooth muscles **10.** Mode of muscle contraction (isometric and isotonic) **11.** Energy source and muscle metabolism **12.** Gradation of muscular activity **13.** Muscular dystrophy: myopathies
3	Dr. A.M. Gavkare 2004010094	Gen.Phy – 15 Integrated phy -14	GENERAL PHYSIOLOGY: **1.**Structure and Functions of a Mammalian Cell **2.**Principles of Homeostasis 3.Principles of Homeostasis 4.Intercellular communication 5.Apoptosis – Programmed cell death 6.Transport mechanisms across cell membranes 7.Transport mechanisms across cell membranes 8.Fluid compartment of the body, its ionic composition & measurements 9.Fluid compartment of the body, its ionic composition & measurements 10.Concept of pH & Buffer systems in the body Concept of pH & Buffer systems in the body 11.Molecular basis of resting membrane potential and action potential in excitable tissue 12.Molecular basis of resting membrane potential and action potential in excitable tissue 13.Methods used to demonstrate the functions of the cells and its products, its communication and their applications in Clinical care and research. 14.Methods used to demonstrate the functions of the cells and its products, its communication and their applications in Clinical care and research.	INTEGRATED PHYSIOLOGY: **1.** Mechanism of temperature regulation **2.** Adaptation to altered temperature (heat and cold) **3.** Mechanism of fever, cold injuries and heat stroke **4.** Cardio-respiratory and metabolic adjustment during exercise; physical training effects **5.** Cardio-respiratory and metabolic adjustment during exercise; physical training effects **6.** Physiological consequences of sedentary lifestyle **7.** Physiology of Infancy **8.** Physiology of aging; free radicals and antioxidants **9.** Cardio-respiratory changes in exercise (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold) **10.** Cardio-respiratory changes in exercise (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold) **11.** Interpretation of growth charts **12.** Interpretation of anthropometric assessment of infants **13.** Concept, criteria for diagnosis of Brain death and its implications **14.** Physiological effects of meditation
4	Dr. P. P. Mulay 2001072583	RS -11 Endo – 12 Repro - 12	RESPIRATORY SYSTEM: 11 **1.** Functional anatomy of respiratory tract **2.** Mechanics of normal respiration, pressure changes during ventilation	**10.** Metabolic and endocrine consequences of obesity & metabolic syndrome, Stress response. Psychiatry component pertaining to metabolic syndrome **11.**Mechanism of action of steroid, protein and amine

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			3. lung volume and capacities 4. alveolar surface tension, compliance **4.** airway resistance, ventilation, V/P ratio, diffusion capacity of lungs **5.**Transport of respiratory gases: Oxygen and Carbon dioxide 6. Regulation of respiration -- Neural & chemical **7.** Transport of respiratory gases: Oxygen and Carbon dioxide Regulation of respiration -- Neural & chemical **8.** Physiology of high altitude deep sea diving **9.** Principles of artificial respiration oxygen therapy, acclimatization and decompression sickness **10.** Pathophysiology of dyspnea, hypoxia, cyanosis asphyxia; drowning, periodic breathing **11.** Lung function tests & their clinical significance **ENDOCRINE SYSTEM: 12** **1.** Physiology of bone and calcium metabolism **2.** Physiology of bone and calcium metabolism **3.** Synthesis, secretion, transport, physiological actions, regulation and effects of altered (hypo and hyper) secretion of pituitary gland **4.** Synthesis, secretion, transport, physiological actions, regulation and effects of altered (hypo and hyper) secretion of thyroid gland **5.** Synthesis, secretion, transport, physiological actions, regulation and effects of altered (hypo and hyper) secretion of parathyroid gland **6.** Synthesis, secretion, transport, physiological actions, regulation and effects of altered (hypo and hyper) secretion of Adrenal gland **7.** Synthesis, secretion, transport, physiological actions, regulation and effects of altered (hypo and hyper) secretion ofpancreas and hypothalamus **8.** Physiology of Thymus & Pineal Gland **9.** Function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	hormones **12.** Mechanism of action of steroid, protein and amine hormones **REPRODUCTIVE SYSTEM: 12** **1.** Sex determination; sex differentiation and their abnormalities and outline psychiatry and practical implementation of sex determination **2.** Puberty: onset, progression, states; early and delayed puberty and outline adolescent clinical and psychological Association **3.** Puberty: onset, progression, states; early and delayed puberty and outline adolescent clinical and psychological association **4.** Male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness **5.** Male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness **6.** Female reproductive system: (a) functions of ovary and its control; (b) menstrual cycle – hormonal, uterine and ovarian changes **7.** Female reproductive system: (a) functions of ovary and its control; (b) menstrual cycle – hormonal, uterine and ovarian changes **8.**Physiological effects of sex hormones **9.** Contraceptive methods for male and female. Discuss their advantages & disadvantages **10.**Effects of removal of gonads on physiological functions **11.** Physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with It **12.** Physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with It

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5	Dr. B.N. Shelke 2007040631	Hemat – 12 Sp. Senses - 10	**HEMATOLOGY:** **1.** Composition & functions of blood components **2.** Original, forms, variations and functions of plasma proteins **3.** Synthesis and functions of Hemoglobin & explain its breakdown. Describe variants of hemoglobin **4.** RBC formation (erythropoiesis & its regulation) and its functions **5.** Types of anaemias & Jaundice **6.** WBC formation (granulopoiesis) & its regulation **7.** Formation of platelets, functions & variations **8.** Physiological basis of hemostasis and anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura) **9.** Physiological basis of hemostasis and anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura) **10.**Different blood groups and clinical importance of blood grouping, blood banking and transfusion **11.**Types of immunity , development of immunity and its regulation	**12.** Types of immunity , development of immunity and its regulation **SPECIAL SENSES:** 1. Perception of smell and taste sensation **2.** Patho-physiology of altered smell and taste sensation **3.** Functional anatomy of ear and auditory pathways & physiology of hearing **4.** Functional anatomy of ear and auditory pathways & physiology of hearing **5.** Patho physiology of deafness. Hearing tests **6.** Functional anatomy of eye, physiology of image formation **7.** physiology of vision including colour vision, refractive errors, colour blindness **8.** physiology of pupil and light reflex **9.** Physiological basis of lesion in visual pathway **10.**Auditory & visual evoke potentials
6	Dr. S. A. Holkunde 2008083075	------		
7	Dr. S. B. Mali 2009062562	Renal system -12 GI system - 10	**RENAL PHYSIOLOGY: 12** **1.** Structure and function of kidney **2.** Structure and functions of juxta glomerular apparatus and role of renin-angiotensin system **3.** Mechanism of urine formation and processes involved **4.** Mechanism of urine formation and processes involved **5.** Mechanism of urine formation and processes involved **6.** Significance & implication of Renal clearance **7.** Renal regulation of fluid and electrolytes & acid-base balance **8.** Renal regulation of fluid and electrolytes & acid-base balance **9.** Innervations of urinary bladder, physiology of micturition and its abnormalities	**GASTROINTESTINAL SYSTEM: 10** 1. Structure and functions of digestive system 2.Composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal, juices and bile secretion 3. GIT movements, regulation and functions ,defecation reflex. Role of dietary fibre. **4.** Physiology of digestion and absorption of nutrients **5.** Source of GIT hormones, their regulation and functions **6.** Gut-Brain Axis **7.** Structure and functions of liver and gall bladder **8.** Structure and functions of liver and gall bladder **9.** Gastric function tests, pancreatic exocrine function test & liver function tests **10.** Physiology aspects of; peptic ulcer, gastro-oesophageal reflux disease, vomiting, diarrhea , constipation, Adynamic ileus, Hirschsprung's disease

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			10. Artificial kidney, dialysis and renal transplantation **11.** Renal Function Tests **12.** Cystometry and discuss the normal cystometrogram	
8	Dr. R. C. Sawrikar 2019043456	-------		

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