PHYSIOLOGY (Topics = 12, Competencies = 136)							
	Topic 1: General Physiology	**Number of competencies: (7)**			**Number of competencies that require certification : (NIL)**		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY1.1	Describe the structure and functions of a cell, intercellular communication and their applications in Clinical care and research	K	KH	Y	LGT	Written/Viva voce	
PY1.2	Discuss the principles of homeostasis and feedback mechanism	K	KH	Y	LGT	Written/Viva voce	
PY1.3	Describe apoptosis (programmed cell death) , explain its mechanism of action and physiological significance.	K	KH	Y	LGT SGT	Written/Viva voce	
PY1.4	Describe and discuss various transport mechanisms across cell membranes	K	KH	Y	LGT Student Seminar	Written/Viva voce/Assignments	
PY1.5	Describe the fluid compartments of the body, its ionic composition & measurement methods	K	KH	Y	LGT	Written/Viva voce	
PY1.6	Describe the concept of pH & Buffer systems in the body	K	KH	Y	LGT SGT	Written/Viva voce	
PY1.7	Describe the molecular basis of resting membrane potential (RMP) and generation of action potential in a nerve fibre	K	KH	Y	LGT SGT/Tutorial	Written/Viva voce	
Topic 2: Haematology		**Number of competencies: (13)**			**Number of competencies that require certification : (01)**		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY2.1	Describe the composition and functions of blood and its components	K	KH	Y	LGT SGT	Written/Viva voce	
PY2.2	Discuss the origin, forms, variations and functions of plasma proteins and its clinical implications	K	KH	Y	LGT SGT	Written/Viva voce	
PY2.3	Describe the physiological structure, synthesis , functions and breakdown of Hemoglobin. Discuss its variants and clinical significance.	K	KH	Y	LGT SGT	Written/Viva voce	
PY2.4	Describe Erythropoiesis & discuss its regulation in physiological and pathological situations	K	KH	Y	LGT SGT	Written/Viva voce	
PY2.5	Describe anaemias, polycythemia & jaundice and discuss its physiological principles of management	K	KH	Y	LGT SGT, Student Seminar, ECE	Written/Viva voce	
PY2.6	Describe the formation of WBC (Leucopoiesis), structure and function of various WBC types and their regulatory mechanisms	K	KH	Y	LGT SGT	Written/Viva voce	
PY2.7	Discuss 'Immunity' in terms of its types, development , regulation and physiological significance	K	KH	Y	LGT SGT/Tutorials	Written/Viva voce	
PY2.8	Describe the formation of platelets (thrombopoiesis), structure, functions and variations.	K	KH	Y	LGT SGT	Written/Viva voce	

PY2.9	Describe hemostasis, coagulation pathways, mechanism of action of anticoagulants and briefly discuss pathophysiological aspects of bleeding & clotting disorders (e.g. hemophilia, purpura)	K	KH	Y	LGT SGT, ECE- Visit to blood bank Flipped Classroom	Written/Viva voce	
PY2.10	Discuss types of blood groups, clinical importance of blood grouping, blood banking and transfusion	K	KH	Y	LGT SGT,ECE- Visit to blood bank	Written/Viva voce	
PY2.11	Estimate Hb, RBC, TLC, DLC, Blood groups, BT/CT,RBC indices	S	SH	Y	DOAPs	Practical/OSPE/Viva voce	01 EACH
PY2.12	Describe the test to measure Erythrocyte Sedimentation Rate (ESR), Osmotic fragility, Hematocrit, and interpret its findings	K	KH	Y	Demonstration	ritten /Vivavoce/ OSPE (Question station)	
PY2.13	Describe steps for reticulocyte and platelet count	K	KH	Y	Demonstration	Written /Viva voce	
	Topic 3: Nerve and Muscle Physiology		Number of competencies: (12)		Number of competencies that require certification : (01)		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY3.1	Describe the structure and functions of a neuron and neuroglia; Discuss nerve growth factors	K	KH	Y	LGT	Written/Viva voce	
PY3.2	Describe the types, functions , properties of nerve fibers including strength duration curve, chronaxie and rheobase	K	KH	Y	LGT	Written/Viva voce	
PY3.3	Classify nerve injury and discuss the mechanism of degeneration and regeneration in peripheral nerves	K	KH	Y	LGT	Written/Viva voce	
PY3.4	Describe the microscopic structure of neuro-muscular junction (NMJ) and mechanism of neuromuscular transmission	K	KH	Y	LGT SGT	Written/Viva voce	
PY3.5	Discuss the applied aspects of neuromuscular junction : myasthenia gravis, Lambert Eaton syndrome and neuromuscular blocking agents.	K	KH	Y	LGT SGT, ECE (classroom / hospital setting)	Written/Viva voce	
PY3.6	Describe the different types of muscle fibres, their structure and physiological basis of action potential	K	KH	Y	LGT	Written/Viva voce	
PY3.7	Describe properties, action potential and molecular basis of muscle contraction in skeletal muscle	K	KH	Y	LGT SGT Flipped Classroom	Written/Viva voce	
PY3.8	Describe properties, action potential and molecular basis of muscle contraction in smooth muscle	K	KH	Y	LGT SGT	Written/Viva voce	
PY3.9	Describe the mode of muscle contraction (isometric and isotonic), energy source, muscle metabolism and gradation of muscular activity	K	KH	Y	LGT	Written/Viva voce	
PY3.10	Enumerate and briefly discuss myopathies	K	KH	Y	LGT SGT	Written/Viva voce	
PY3.11	Perform Ergography and calculate the work done by a skeletal muscle	S	SH	Y	DOAPs	Practical/OSPE/Viva voce	01 EACH
PY3.12	Observe with Computer assisted learning (i) Amphibian nerve -muscle experiments (ii) Amphibian cardiac experiments	S	SH	Y	DOAPs	Practical/OSPE/Viva voce	

	Topic 4: Gastro-intestinal Physiology	Number of competencies: (12)			Number of competencies that require certification : (01)		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY4.1	Describe the functional anatomy of digestive system	K	KH	Y	LGT SGT	Written/Viva voce	
PY4.2	Enumerate various Gastrointestinal hormones (GI) hormones, discuss their functions and regulation	K	KH	Y	LGT SGT	Written/Viva voce	
PY4.3	Describe the composition, mechanism of secretion, functions, and regulation of saliva	K	KH	Y	LGT SGT	Written/Viva voce	
PY4.4	Describe the composition, mechanism of secretion, functions, and regulation of gastric juice. Discuss various gastric function tests	K	KH	Y	LGT	Written/Viva voce	
PY4.5	Describe the composition, mechanism of secretion, functions, and regulation of pancreatic juice including various pancreatic exocrine function tests	K	KH	Y	LGT	Written/Viva voce	
PY4.6	Describe the composition, mechanism of secretion, functions, and regulation of intestinal juices	K	KH	Y	LGT	Written/Viva voce	
PY4.7	Describe the physiology of digestion and absorption of nutrients	K	KH	Y	LGT SGT	Written/Viva voce	
PY4.8	Describe GIT movements, its regulation and physiological significance including defecation reflex and the role of dietary fibres	K	KH	Y	LGT SGT Flipped Classroom	Written/Viva voce	
PY4.9	Describe the structure , functions and secretion of liver and gallbladder with elaboration of various liver function tests	K	KH	Y	LGT SGT	Written/Viva voce	
PY4.10	Describe the Gut-Brain Axis and its physiological significance	K	KH	Y	LGT SGT,	Written/Viva voce	
PY4.11	Discuss (in brief) the applied physiology of GIT viz. Peptic ulcer, gastroesophageal reflux disease, vomiting, diarrhoea, constipation, Adynamic ileus, Hirschsprung's disease	K	KH	Y	LGT SGT, ECE, SDL	Written/Viva voce	
PY4.12	Obtain relevant history and conduct correct General and Clinical examination of the abdomen in a normal volunteer or simulated environment	S,A,C	SH	Y	DOAP (Simulation or real life setting)	Skill assessment/ Viva voce/OSCE	1

Topic 5: Cardiovascular Physiology		Number of competencies: (16)			Number of competencies that require certification : (03)		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY5.1	Describe the functional anatomy of heart including chambers and coronary circulation	K	KH	Y	LGT	Written/Viva voce	
PY5.2	Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions	K	KH	Y	LGT SGT	Written/Viva voce	
PY5.3	Describe generation and conduction of cardiac impulse along with the conduction pathway (including pacemaker potential).	K	KH	Y	LGT SGT	Written/Viva voce	
PY5.4	Discuss the physiological events occurring during the cardiac cycle, concurrent pressure volume changes, generation of heart sounds and murmur	K	KH	Y	LGT SGT Flipped Classroom	Written/Viva voce	
PY5.5	Describe the physiology of electrocardiogram (E.C.G), the cardiac axis and its applications	K	KH	Y	LGT SGT, ECE	Written/Viva voce/OSCE (Question station)	
PY5.6	Discuss physiological variations in ECG waveforms, abnormal waveforms and intervals , arrhythmias, heart blocks and myocardial Infarction	K	KH	Y	LGT SGT/Student seminars/ECE	Written/Viva voce	
PY5.7	Discuss haemodynamics of circulatory system	K	KH	Y	LGT SGT/Tutorials	Written/Viva voce	
PY5.8	Describe and discuss local and systemic cardiovascular regulatory mechanisms	K	KH	Y	LGT SGT	Written/Viva voce	
PY5.9	Describe heart rate, factors affecting heart rate, and its regulation	K	KH	Y	LGT SGT	Written/Viva voce	
PY5.10	Describe cardiac output, factors affecting cardiac output and its regulation.	K	KH	Y	LGT SGT	Written/Viva voce	
PY5.11	Describe blood pressure, factors affecting blood pressure and its regulation	K	KH	Y	LGT SGT/Student seminars	Written/Viva voce	
PY5.12	Describe & discuss regional circulation including microcirculation, lymphatic circulation, cerebral, capillary, skin, foetal, pulmonary and splanchnic circulation	K	KH	Y	LGT SGT	Written/Viva voce	
PY5.13	Describe the patho-physiology of shock, syncope heart failure with physiological basis of its management	K	KH	Y	LGT SGT / Student seminars	Written/Viva voce	
PY5.14	Record blood pressure & pulse at rest and in different grades of exercise and postures in a volunteer or simulated environment	S	SH	Y	DOAP (Simulation or real life setting)	Practical/OSPE/ Viva voce	3
PY5.15	Record and interpret normal ECG in a volunteer or simulated environment	S	SH	Y	DOAP (Simulation or real life setting)	Practical/OSPE/ Viva voce	1
PY5.16	Obtain relevant history and conduct General and Clinical examination of the cardiovascular system in a normal volunteer or simulated environment	S,A,C	SH	Y	DOAP	Skill assessment/ Viva voce/OSCE	1
Topic 6: Respiratory Physiology		**Number of competencies: (13)**			**Number of competencies that require certification : (02)**		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY6.1	Describe the functional anatomy of respiratory tract and non-respiratory functions of lungs	K	KH	Y	LGT SGT	Written/Viva voce	
PY6.2	Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities (Static and Dynamic)	K	KH	Y	LGT SGT	Written/Viva voce	
PY6.3	Describe the alveolar surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of lungs	K	KH	Y	LGT SGT	Written/Viva voce	
PY6.4	Discuss the transport of respiratory gases viz Oxygen and Carbon dioxide across lungs and whole body	K	KH	Y	LGT	Written/Viva voce	
PY6.5	Describe the chemoreceptors (peripheral and central) and neural centres of respiration including chemical and neural regulation of respiration	K	KH	Y	LGT	Written/Viva voce	
PY6.6	Describe and discuss the pathophysiology of dyspnoea, hypoxia, cyanosis, asphyxia, drowning, periodic breathing and oxygen therapy	K	KH	Y	LGT SGT	Written/Viva voce	

PY6.7	Discuss various lung function tests and their clinical significance in obstructive and restrictive lung diseases	K	KH	Y	LGT SGT, Tutorials Flipped Classroom	Written/Viva voce	
PY6.8	Discuss the physiology of high altitude and acclimatization	K	KH	Y	LGT	Written/Viva voce	
PY6.9	Discuss the physiology of deep sea diving and decompression sickness	K	KH	Y	LGT	Written/Viva voce	
PY6.10	Perform Spirometry and interpret the findings (Digital / Manual)	S	P	Y	DOAPs	Skill assessment/ Viva voce/OSCE	1
PY6.11	Describe principles and methods of artificial respiration	S	SH	Y	DOAPs	Practical/OSPE/ Viva voce	
PY6.12	Obtain relevant history and conduct correct General and Clinical examination of the respiratory system in a normal volunteer or simulated environment	S,A,C	SH	Y	DOAPs	Practical/OSPE/ Viva voce	1
PY6.13	Demonstrate the correct technique to perform measurement of peak expiratory flow rate in a normal volunteer or simulated environment	S	SH	Y	DOAPs	Practical/OSPE/ Viva voce	

Topic 7: Renal Physiology		Number of competencies: (9)		Number of competencies that require certification : (NIL)			
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY7.1	Describe the functional anatomy of kidney and non-excretory functions of kidney	K	KH	Y	LGT SGT	Written/Viva voce	
PY7.2	Describe the structure and functions of juxta glomerular apparatus and role of renin-angiotensin system	K	KH	Y	LGT	Written/Viva voce	
PY7.3	Describe the mechanism of urine formation involving processes of filtration (Glomerular filtration), tubular reabsorption & secretion.	K	KH	Y	LGT SGT, Student Seminar	Written/Viva voce	
PY7.4	Describe the mechanism of urine concentration and dilution (Counter current Multiplier & Exchanger)	K	KH	Y	LGT SGT Flipped Classroom	Written/Viva voce	
PY7.5	Describe the renal regulation of fluid and electrolytes & acid-base balance	K	KH	Y	LGT SGT	Written/Viva voce	
PY7.6	Describe the innervations of urinary bladder, physiology of micturition and its abnormalities	K	KH	Y	LGT SGT	Written/Viva voce	
PY7.7	Describe cystometry and discuss the normal cystometrogram	K	KH	Y	LGT SGT	Written/Viva voce	
PY7.8	Discuss various Renal Function Tests with its physiological significance and clinical implication of Renal clearance	K	KH	Y	LGT SGT, ECE (classroom / hospital setting)	Written/Viva voce	
PY7.9	Discuss the role of artificial kidneys, dialysis and indications of renal transplant	K	KH	Y	LGT	Viva voce	
Topic 8: Endocrine Physiology		**Number of competencies: (7)**		**Number of competencies that require certification : (NIL)**			
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY8.1	Describe the functional anatomy of endocrine glands, mechanism of hormonal action (steroid and peptide) and hypothalamus pituitary axis {HPA}	K	KH	Y	LGT Flipped Classroom	Written/Viva voce	
PY8.2	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pituitary gland	K	KH	Y	LGT SGT	Written/Viva voce	
PY8.3	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of thyroid gland including thyroid function tests	K	KH	Y	LGT SGT, ECE	Written/Viva voce	
PY8.4	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of adrenal gland and its function tests	K	KH	Y	LGT SGT	Written/Viva voce	
PY8.5	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of parathyroid gland with emphasis of physiology of bone and calcium metabolism	K	KH	Y	LGT SGT/Tutorials	Written/Viva voce	
PY8.6	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pancreatic gland including pancreatic function tests	K	KH	Y	LGT SGT	Written/Viva voce	
PY8.7	Describe the physiology of Thymus & Pineal Gland	K	KH	Y	LGT	Written/Viva voce	

Topic 9: Reproductive Physiology		Number of competencies: (10)		Number of competencies that require certification : (NIL)			
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY9.1	Explain sex determination, sex differentiation and their abnormalities and discuss the effects of removal of gonads on physiological functions	K	KH	Y	LGT SGT	Written/Viva voce	
PY9.2	Describe and discuss puberty: onset, progression, stages; early and delayed puberty.	K	KH	Y	LGT SGT	Written/Viva voce	
PY9.3	Describe the functional anatomy of male reproductive system, functions of testis, spermatogenesis and discuss the functions and regulations of testosterone hormone	K	KH	Y	LGT SGT	OSPE/Viva voce	
PY9.4	Describe the functional anatomy of female reproductive system: functions of ovary and its hormones (estrogen and progesterone) ; hormonal regulation by hypothalamic pituitary gonadal (HPG axis)	K	KH	Y	LGT SGT , Student Seminar	Written/Viva voce	
PY9.5	Discuss the menstrual cycle, uterine and ovarian changes, hormonal regulation and its implications in reproductive physiology	K	KH	Y	LGT SGT, ECE	Written/Viva voce	
PY9.6	Enumerate male and female contraceptive methods, rationale of its prescription, side effects and its advantages & disadvantages	K	KH	Y	LGT SGT, ECE,SDL	Written/Viva voce	
PY9.7	Discuss the physiology of pregnancy, parturition & lactation.	K	KH	Y	LGT SGT, Flipped Classroom	Written/Viva voce	
PY9.8	Discuss the physiological basis of various pregnancy tests	K	KH	Y	LGT SGT	Written/Viva voce	
PY9.9	Discuss the hormonal changes and their effects during perimenopause and menopause	K	KH	Y	LGT SGT	Written/Viva voce	
PY9.10	Discuss the common causes of infertility in a couple and role of IVF in managing a case of infertility	K	KH	Y	LGT SGT, visit to IVF lab	Written/Viva voce	

Topic 10: Central Nervous System Physiology		Number of competencies: (20)			Number of competencies that require certification : (02)		
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY10.1	Describe and discuss the functional organization of central nervous system (brain and spinal cord)	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.2	Describe the functional anatomy of peripheral nervous system (including autonomic nervous system)	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.3	Classify the neurotransmitters and discuss the chemical transmission in the nervous system.	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.4	Discuss the classification, functions and properties of synapse	K	KH	Y	LGT SGT ,Student Seminar	Written/Viva voce	
PY10.5	Discuss the classification, functions and properties of reflex	K	KH	Y	LGT SGT, Student Seminar	Written/Viva voce	
PY10.6	Discuss the classification, functions and properties of receptors	K	KH	Y	LGT SGT , Student Seminar	Written/Viva voce	
PY10.7	Discuss somatic sensations, ascending tracts, (sensory tracts) and applied aspects of sensory system	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.8	Discuss Physiology of pain including pain pathways and its modulation with special emphasis on gate control theory of pain	K	KH	Y	LGT SGT, visit to pain clinic	Written/Viva voce	
PY10.9	Describe the course of descending tracts (pyramidal and extra pyramidal), its clinical implications including difference in Upper motor neuron (UMN)and lower motor neuron (LMN) lesions	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.10	Discuss types and clinical features of spinal cord lesions (complete, incomplete transection and hemisection - Brown Sequard syndrome)	K	KH	Y	LGT SGT, Tutorials, ECE	Written/Viva voce	
PY10.11	Describe functional anatomy of cerebellum, its connections, functions and clinical abnormalities .	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.12	Discuss functional anatomy of basal ganglia , its connections, functions and Clinical abnormalities .	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.13	Discuss the mechanism of maintenance of tone, posture and control of body movements	K	KH	Y	LGT SGT Flipped Classroom	Written/Viva voce	
PY10.14	Discuss functional anatomy of thalamus , its connections, functions and clinical abnormalities .	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.15	Discuss functional anatomy of hypothalamus and limbic system , its connections, functions and clinical abnormalities .	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.16	Discuss functional anatomy of cerebral cortex, its connections, functions and Clinical abnormalities	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.17	Discuss the structure and functions of reticular activating system, sleep physiology and EEG waveforms during sleep wake cycle	K	KH	Y	LGT SGT, visit to sleep lab	Written/Viva voce	
PY10.18	Discuss the physiological basis of memory, learning and speech and clinical alterations in speech	K	KH	Y	LGT SGT	Written/Viva voce	
PY10.19	Obtain relevant history and conduct correct General and Clinical examination of the nervous system: Higher functions, sensory system, motor system, reflexes in a normal volunteer or simulated environment	S	SH	Y	DOAPs	Skill assessment/ Viva voce/OSCE	4 (each)
PY10.20	Obtain relevant history and conduct correct General and Clinical examination of the cranial nerves in a normal volunteer or simulated environment	S	P	Y	DOAPs	OSCE/Viva voce	1 (each)

Topic 11: Special Senses		Number of competencies: (7)		Number of competencies that require certification : (NIL)			
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY11.1	Describe and discuss physiology of smell and its applied aspects	K	KH	Y	LGT SGT	Written/Viva voce	
PY11.2	Describe and discuss physiology of taste sensation and applied aspects	K	KH	Y	LGT SGT	Written/Viva voce	
PY11.3	Describe and discuss functional anatomy of ear and auditory pathways, vestibular apparatus and equilibrium	K	KH	Y	LGT SGT	Written/Viva voce	
PY11.4	Discuss physiology of hearing, pathophysiology of deafness and hearing tests	K	KH	Y	LGT SGT	Written/Viva voce	
PY11.5	Discuss functional anatomy of eye, visual pathway, light and pupillary reflex and clinical implication of lesions in visual pathway	K	KH	Y	LGT SGT	Written/Viva voce	
PY11.6	Discuss physiology of image formation, refractive errors and physiological principles of its management	K S	P	Y	LGT SGT ECE	Written/Viva voce	
PY11.7	Discuss physiology of vision including colour vision and colour blindness	K	KH	Y	LGT SGT Flipped Classroom	Written/Viva voce	
Topic 12: Integrated Physiology		**Number of competencies: (10)**		**Number of competencies that require certification : (NIL)**			
Number	**COMPETENCY -- The student should be able to:**	**Predominant Domain K/S/A/C**	**Level K/KH/ SH/P**	**Core (Y/N)**	**Suggested Teaching Learning method**	**Suggested Assessment method**	**Number required to certify P**
PY12.1	Describe physiological mechanism of temperature regulation	K	KH	Y	LGT SGT	Written/Viva voce	
PY12.2	Discuss adaptation to altered temperature (heat and cold) and mechanism of fever, cold injuries and heat stroke	K	KH	Y	LGT SGT	Written/Viva voce	
PY12.3	Discuss cardio-respiratory and metabolic adjustments during exercise (isometric and isotonic), effects of physical training under different environmental conditions (heat and cold)	K	KH	Y	LGT SGT	Written/Viva voce	
PY12.4	Discuss physiological consequences of sedentary lifestyle; metabolic and endocrinal consequences of obesity & metabolic syndrome.	K	KH	Y	LGT SGT	Written/Viva voce	
PY12.5	Describe physiology of Infancy, Interpret growth charts and anthropometric assessment of infants	K	KH	Y	LGT SGT, ECE	Written/Viva voce	
PY12.6	Describe and discuss physiology of aging, role of free radicals and antioxidants	K	KH	Y	LGT SGT	Written/Viva voce	
PY12.7	Discuss the concept, criteria for diagnosis of Brain death and its implications	K	KH	Y	Small group teaching	Practical/OSPE/ Viva voce	
PY12.8	Discuss the physiology of yoga and meditation	K	KH	Y	Small group teaching	Practical/OSPE/ Viva voce	
PY12.9	Obtain history and perform general examination in the volunteer / simulated environment	S	SH	Y	DOAPs	Skill assessment/ Viva voce/OSCE	
PY12.10	Demonstrate Basic Life Support in a simulated environment	S	SH	Y	DOAPs, Simulation lab (Simulation or real life setting)	Skill assessment/ Viva voce/OSCE	