

S.No	Topics	Intended learning outcomes (ILOS)	Teaching Strategy	Assessments (Formative and/or Summative)	Percentage
1	Cell and General Physiology	<ul style="list-style-type: none"> • Internal Environment • Structure & function of cell membrane • Cell & its functions • Control systems of body • Positive & negative feedback • Apoptosis 	Interactive Lectures (4 hrs) Practical (2 hrs)	Summative MCQ- 02 SEQ- 01	3%
2	Membrane Physiology, Nerve and muscle	<ul style="list-style-type: none"> • Cell membrane structure & function • Transport of substances through cell membrane • Resting Membrane potential • Action potential & its propagation • Physiological anatomy of skeletal muscle • Excitation & contraction of skeletal & smooth muscle 	Interactive Lectures (10 hrs)	Summative MCQ-05 SEQ- 01	10%
3.	Heart Physiology	<ul style="list-style-type: none"> • Physiology of cardiac muscle • Cardiac cycle • Regulation of heart pumping • Rhythmical excitation of heart • ECG • Cardiac arrhythmias 	Interactive Lectures (10 hrs) Practical (2 hrs)	MCQ-03 SEQ- 01 OSPE-01	10%

4.	Circulatory Physiology	<ul style="list-style-type: none"> • Basic Principles • Vascular distensibility • Arterial pressure pulsations • Veins & their functions • Function of lymphatic system • Short & long term regulation of arterial pressure • Cardiac output & venous return • CVS changes during exercise • Cardiac failure • Heart sounds • Circulatory shock & treatment 	Interactive Lectures (12 hrs) Practical (4 hrs)	MCQ-04 SEQ- 01 OSPE- 01	10%
5.	The Body Fluids and Kidneys	<ul style="list-style-type: none"> • Body fluid compartments • Nephron & types • Steps in urine formation • GFR & its determinants • Urine dilution & concentration • Transport Maximum • Micturition Reflex • Diabetes insipidus • Nephrotic syndrome • Renal Function tests 	Interactive Lecture (6 hrs)	MCQ- 03 SEQ- 01	3%
6.	Blood Cells, Immunity, and Blood Coagulation	<ul style="list-style-type: none"> • RBCs, anemia & polycythemia • WBCS • Monocyte Macrophage system • Inflammation 	Interactive Lectures (12 hr) Practical (6 hrs)	Summative MCQ-06 SEQ- 01 OSPE- 01	10%

		<ul style="list-style-type: none"> • Leukpenia, leukemia • Immunity & allergy • Blood types • Transfusion reactions • Hemostasis events • Mechanism of blood coagulation- Extrinsic & Intrinsic pathways • Enlist clotting factors • Hemophilia types • Blood coagulation test 			
7.	Respiratory Physiology	<ul style="list-style-type: none"> • Mechanics of pulmonary ventilation • Pulmonary volumes & capacities • Function of respiratory passageways • Pressures in lung • Pulmonary circulatory system • Ventilation – perfusion ratio • Diffusion of gases through respiratory membrane • Transport of oxygen & carbon dioxide in blood • Respiratory exchange ration • Respiratory center • Chemical control of respiration • Respiratory changes during exercise 	Interactive Lectures (6 hrs) Practical (2 hrs)	MCQ- 03 SEQ- 01 OSPE-01	6%

8.	Sensory Physiology	<ul style="list-style-type: none"> • Types of sensory receptors • Summation types • EPSP & IPSP • Convergence & divergence in neuronal circuits • Classification of somatic senses • Sensory pathways • Types of pain • Pain receptors • Pain pathways • Analgesia system • Referred pain, visceral pain • Thermal sensations • Headache & types 	Interactive Lectures (10 hrs) Practical (4 hrs)	MCQ- 02 SEQ- 01 OSPE- 01	10%
9.	Special Senses	<ul style="list-style-type: none"> • Intraocular fluid • Function of retina • Color vision • Visual pathway • Mechanism of accommodation of eye • Hearing mechanism • Auditory pathway • Maintenance of balance • Hearing tests • Deafness types • Taste receptors, mechanism & pathway • Olfaction mechanism & pathway 	Interactive Lectures (06 hr) Practical (6 hrs)	MCQ- 02 SEQ- 01 OSPE- 02	6%
10	Motor Physiology	<ul style="list-style-type: none"> • Function of muscle spindle & Golgi tendon • Flexor, withdrawal & crossed extensor 	Interactive Lectures (10 hrs) Practical (4hrs)	MCQ-02 SEQ- 01 OSPE- 01	10%

		<ul style="list-style-type: none"> reflex • Autonomic reflexes in spinal cord • Spinal Shock • Function of Corticospinal tract • Maintenance of equilibrium • Function of cerebellum • Function of basal ganglia • Parkinson's disease 			
11	Integrative Physiology	<ul style="list-style-type: none"> • Concept of Dominant Hemisphere • Association areas • Language centers & function, dylexia • Memory types, consolidation • Function of limbic system, hypothalamus & thalamus • Sleep definition & types • Brain waves types • Epilepsy & Alzheimer's disease • Difference between sympathetic & parasympathetic system • Alarm stress response • Composition & function of CSF 	Interactive Lectures (05 hrs)	MCQ- 02 SEQ- 01	5%
12	Gastrointestinal Physiology & Liver	<ul style="list-style-type: none"> • Physiological Anatomy • Enteric Nervous System • Electrical Activity of GIT smooth muscle 	Interactive Lecture (06 hrs)	MCQ- 03 SEQ- 01	5%

		<ul style="list-style-type: none"> • Movement of GIT • Saliva composition & Function • Functions of stomach • Gastric secretion • Function of various part of intestines • Defecation • Disorders of GIT 			
13	Temperature Regulation	<ul style="list-style-type: none"> • Heat loss & heat gain mechanism • Definition of normal body temperature • Mechanism of fever 	Interactive lecture (1 hr) Practical (2 hrs)	MCQ-01	1%
14	Endocrinology	<ul style="list-style-type: none"> • Classification of hormones • Pituitary hormones & their control by hypothalamus • Thyroid hormones • Insulin, Glucagon & Diabetes Mellitus • Parathyroid hormone, Calcitonin, Calcium & Phosphate metabolism, Vitamin D • Hormonal & metabolic factors for development of bone & teeth 	Interactive Lectures (10 hrs)	MCQ- 05 SEQ- 01	10%
15	Reproductive Physiology, Pregnancy, fetal & Neonatal Physiology	<ul style="list-style-type: none"> • Function of testosterone • Function of Gonadotropic hormones • Ovarian cycle • Hormonal factors in pregnancy • Changes in mother's body during pregnancy 	Interactive Lectures (5 hrs) Practical (1 hr)	MCQ- 02	1%

		<ul style="list-style-type: none">• Growth & functional development of fetus• Adjustments of fetus to extrauterine life			
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