

COURSE OUTLINE

T – Theory

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
I	4 (T)	Describe the physiology of cell, tissues, membranes and glands	General Physiology – Basic concepts <ul style="list-style-type: none"> • Cell physiology including transportation across cell membrane • Body fluid compartments, Distribution of total body fluid, intracellular and extracellular compartments, major electrolytes and maintenance of homeostasis • Cell cycle • Tissue – formation, repair • Membranes and glands – functions • Application and implication in nursing 	<ul style="list-style-type: none"> • Review – discussion • Lecture cum Discussion • Video demonstrations 	<ul style="list-style-type: none"> • Quiz • MCQ • Short answer
II	6 (T)	Describe the physiology and mechanism of respiration Identify the muscles of respiration and examine their contribution to the mechanism of breathing	Respiratory system <ul style="list-style-type: none"> • Functions of respiratory organs • Physiology of respiration • Pulmonary circulation – functional features • Pulmonary ventilation, exchange of gases • Carriage of oxygen and carbon-dioxide, Exchange of gases in tissue • Regulation of respiration • Hypoxia, cyanosis, dyspnea, periodic breathing • Respiratory changes during exercise • Application and implication in nursing 	<ul style="list-style-type: none"> • Lecture • Video slides 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ
III	8 (T)	Describe the functions of digestive system	Digestive system <ul style="list-style-type: none"> • Functions of the organs of digestive tract • Saliva – composition, regulation of secretion and functions of saliva • Composition and function of gastric juice, mechanism and regulation of gastric secretion • Composition of pancreatic juice, function, regulation of pancreatic secretion • Functions of liver, gall bladder and pancreas • Composition of bile and function • Secretion and function of small and large intestine • Movements of alimentary tract • Digestion in mouth, stomach, small intestine, large intestine, absorption of food • Application and implications in nursing 	<ul style="list-style-type: none"> • Lecture cum Discussion • Video slides 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ
IV	6 (T)	Explain the functions of the	Circulatory and Lymphatic system <ul style="list-style-type: none"> □ Functions of heart, conduction system, 	<ul style="list-style-type: none"> □ Lecture 	<ul style="list-style-type: none"> □ Short answer

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		heart, and physiology of circulation	<p>cardiac cycle, Stroke volume and cardiac output</p> <ul style="list-style-type: none"> • Blood pressure and Pulse • Circulation – principles, factors influencing blood pressure, pulse • Coronary circulation, Pulmonary and systemic circulation • Heart rate – regulation of heart rate • Normal value and variations • Cardiovascular homeostasis in exercise and posture • Application and implication in nursing 	<ul style="list-style-type: none"> • Discussion • Video/Slides 	<input type="checkbox"/> MCQ
V	5 (T)	Describe the composition and functions of blood	<p>Blood</p> <ul style="list-style-type: none"> • Blood – Functions, Physical characteristics • Formation of blood cells • Erythropoiesis – Functions of RBC, RBC life cycle • WBC – types, functions • Platelets – Function and production of platelets • Clotting mechanism of blood, clotting time, bleeding time, PTT • Hemostasis – role of vasoconstriction, platelet plug formation in hemostasis, coagulation factors, intrinsic and extrinsic pathways of coagulation • Blood groups and types • Functions of reticuloendothelial system, immunity • Application in nursing 	<ul style="list-style-type: none"> • Lecture • Discussion • Videos 	<ul style="list-style-type: none"> • Essay • Short answer • MCQ
VI	5 (T)	Identify the major endocrine glands and describe their functions	<p>The Endocrine system</p> <ul style="list-style-type: none"> • Functions and hormones of Pineal Gland, Pituitary gland, Thyroid, Parathyroid, Thymus, Pancreas and Adrenal glands. • Other hormones • Alterations in disease • Application and implication in nursing 	<ul style="list-style-type: none"> • Lecture • Explain using charts 	<ul style="list-style-type: none"> • Short answer • MCQ
VII	4 (T)	Describe the structure of various sensory organs	<p>The Sensory Organs</p> <ul style="list-style-type: none"> • Functions of skin • Vision, hearing, taste and smell • Errors of refraction, aging changes • Application and implications in nursing 	<ul style="list-style-type: none"> • Lecture • Video 	<ul style="list-style-type: none"> • Short answer • MCQ
VIII	6 (T)	Describe the functions of	<p>Musculoskeletal system</p>	<input type="checkbox"/> Lecture	<input type="checkbox"/> Structured essay

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		bones, joints, various types of muscles, its special properties and nerves supplying them	<ul style="list-style-type: none"> • Bones – Functions, movements of bones of axial and appendicular skeleton, Bone healing • Joints and joint movements • Alteration of joint disease • Properties and Functions of skeletal muscles – mechanism of muscle contraction • Structure and properties of cardiac muscles and smooth muscles • Application and implication in nursing 	<ul style="list-style-type: none"> • Discussion • Video presentation 	<ul style="list-style-type: none"> • Short answer • MCQ
IX	4 (T)	Describe the physiology of renal system	Renal system <ul style="list-style-type: none"> • Functions of kidney in maintaining homeostasis • GFR • Functions of ureters, bladder and urethra • Micturition • Regulation of renal function • Application and implication in nursing 	<ul style="list-style-type: none"> • Lecture • Charts and models 	<ul style="list-style-type: none"> • Short answer • MCQ
X	4 (T)	Describe the structure of reproductive system	The Reproductive system <ul style="list-style-type: none"> • Female reproductive system – Menstrual cycle, function and hormones of ovary, oogenesis, fertilization, implantation, Functions of breast • Male reproductive system – Spermatogenesis, hormones and its functions, semen • Application and implication in providing nursing care 	<ul style="list-style-type: none"> • Lecture • Explain using charts, models, specimens 	<ul style="list-style-type: none"> • Short answer • MCQ
XI	8 (T)	Describe the functions of brain, physiology of nerve stimulus, reflexes, cranial and spinal nerves	<ul style="list-style-type: none"> • Nervous system • Overview of nervous system • Review of types, structure and functions of neurons • Nerve impulse • Review functions of Brain-Medulla, Pons, Cerebrum, Cerebellum • Sensory and Motor Nervous system • Peripheral Nervous system • Autonomic Nervous system • Limbic system and higher mental Functions Hippocampus, Thalamus, Hypothalamus • Vestibular apparatus • Functions of cranial nerves • Autonomic functions • Physiology of Pain-somatic, visceral and referred 	<ul style="list-style-type: none"> • Lecture cum Discussion • Video slides 	<ul style="list-style-type: none"> • Brief structured essays • Short answer • MCQ • Critical reflection

Unit	Time (Hrs)	Learning Outcomes	Content	Teaching/ Learning Activities	Assessment Methods
			<ul style="list-style-type: none"> • Reflexes • CSF formation, composition, circulation of CSF, blood brain barrier and blood CSF barrier • Application and implication in nursing 		