

Subject Code: 1NR1010101	Subject Title: ANATOMY AND PHYSIOLOGY
Pre-requisite	-----NA-----

Course Description

The course is designed to enable students to acquire knowledge of the normal structure of various human body systems and understand the alterations in anatomical structures in disease and practice of nursing.

Teaching Scheme (Total Hours)				Evaluation Scheme (Marks)				
Lecture	Tutorial	Practical	Total Hours	Theory		Practical		Total
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
120	-	-	120	75	25	-	-	100

Course Content:

Unit	Time (Hrs)	Learning Objectives	Content	Teaching Learning Activities	Assessment methods
I	5	Describe the anatomical terms, organization of human body and structure of cell, tissues, membranes and glands	Introduction to Anatomical terms organization of the human body - Human Cell structure - Tissues – Definition, Types, characteristics, classification, location, functions and formation - Membranes and glands – classification and structure Alterations in disease Applications and implications in nursing	- Lecture discussion - Explain using charts, microscopic slides, Skeleton & torso - Demonstrate cells, types of tissues membranes and glands - Record book	- Short answer questions - Objective type
II	6	Describe the structure & functions of bones and joints	The Skeleton System - Bones – types, structure, Axial & Appendicular Skeleton, - Bone formation and growth - Description of bones - Joints – classification and structure Alterations in disease Applications and implications in nursing	- Lecture discussion - Explain using charts, skeleton, loose bones, and joints - Record book	- Short answer questions - Objective type
III	7	Describe the structure and function of muscles	Te Muscular System - Types and structure of muscles - Muscle groups Alterations in disease Applications and implications in	- Lecture discussion - Explain using charts, models and films - Demonstrate	- Short answer questions - Objective type

			nursing	muscular movements • Record book	
IV	6	Describe the structure & functions of nervous system	The Nervous System • Structure of neurological & neurons • Somatic Nervous system ○ Structure of brain, spinal chord, cranial nerves, spinal nerves, peripheral nerves • Autonomic Nervous System – sympathetic, parasympathetic ○ Structure, location Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using models, charts, slides, specimens • Record book	• Short answer questions • Objective type
V	6	Explain the structure & functions of sensory organs	The Sensory Organs • Structure of skin, eye, ear, nose, tongue, (Auditory and olfactory apparatus) Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using models, charts, slides, specimens • Record book	• Short answer questions • Objective type
VI	7	Describe the structure & functions of circulatory and lymphatic system.	Circulatory and lymphatic system • The Circulatory system ○ Blood – Microscopic structure ○ Structure of Heart ○ Structure of blood vessels – Arterial & Venous System, ○ Circulation: systemic, pulmonary, coronary • Lymphatic system ○ Lymphatic vessels and lymph ○ Lymphatic tissues - Thymus gland - Lymph nodes - Spleen - Lymphatic nodules Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using models, charts, slides, specimens • Record book	• Short answer questions • Objective type
VII	5	Describe the structure & functions of respiratory system	The Respiratory System • Structure of the organs of respiration • Muscles of respiration: Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using models, toroso, slides, chart, slides specimens • Record book	• Short answer questions • Objective type

VIII	6	Describe the structure & functions of	The Digestive System • Structure of Alimentary tract and accessory organs of digestion - Alterations in disease - Applications and implications in nursing	• Lecture discussion • Explain using models, toroso, slides, chart, slides specimens • Record book	• Short answer questions • Objective type
IX	4	Describe the structure & functions of excretory system	The Excretory System (Urinary) • Structure of organs of urinary • System: Kidney, ureters, urinary bladder, urethra, structure of skin - Alterations in disease - Applications and implications in nursing	• Lecture discussion • Explain using models, toroso, slides, chart, slides specimens • Record book	• Short answer questions • Objective type
X	4	Describe the structure & functions of endocrine system	The Endocrine System • Structure of Pituitary, Pancreas, thyroid, parathyroid, thymus and adrenal glands - Alterations in disease - Applications and implications in nursing	• Lecture discussion • Explain using models, toroso, slides, chart, slides specimens • Record book	• Short answer questions • Objective type
XI	4	Describe the structure & function of reproductive system	The Reproductive system including breast • Structure of female reproductive organs • Structure of male reproductive organs. • Structure of breast - Alterations in disease - Applications and implications in nursing	• Lecture discussion • Explain using models, toroso, slides, chart, slides specimens • Record book	• Short answer questions • Objective type

PHYSIOLOGY

Course Description: The course is designed to assist the students to acquire knowledge of the normal physiology of various human body systems and understand the alterations in physiology in diseases and practice of nursing.

Course Content:

Unit	Time (Hrs)	Learning Objectives	Content	Teaching Learning Activities	Assessment methods
I	4	Describe the physiology of cell, tissues, membranes and glands	Cell Physiology • Tissue – formation, repair • Membranes & glands-functions Alterations in disease Applications and implications in nursing	• Lecture discussion	• Short answer questions • Objective type
II	4	Describe the bone formation and growth and movements of skeleton system	Skeletal System • Bone formation & growth • Bone – Functions and movements of bones of axial and appendicular, skeleton, bone healing • Joints and joint movement Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using models, charts, and films • Demonstration of joint movements	• Short answer questions • Objective type
III	4	Describe the muscle movements and tone and demonstrate muscle contraction and tone.	Muscular System • Muscle movements, Muscle tone, Physiology of muscle contraction, levels and maintenance of posture Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using models, charts, slides, specimen and films Demonstration of muscles movements, tone and contraction.	• Short answer questions • Objective type
IV	7	Describe the physiology of nerve stimulus, reflexes, brain, cranial and spinal nerves. Demonstrate reflex action and stimulus	Nervous System • Functions of Neurologia & neurons • Stimulus & nerve – impulse-definitions and mechanism. • Functions of brain, spinal cord, cranial and spinal nerves • Cerebrospinal fluid-Composition, circulation and function • Reflex arc, Reflex action and reflexes • Autonomic functions- 1. Pain: somatic, visceral, and referred 2. Autonomic learning and biofeedback Alterations in disease	• Lecture discussion • Explain using models, charts, films • Demonstration nerve stimulus, reflex action, reflexes	• Short answer questions • Objective type

			Applications and implications in nursing		
V	8	Describe the physiology of blood and functions of Heart	Circulatory System • Blood formation, composition, blood groups, blood coagulation • Hemoglobin: Structure, Synthesis and breakdown, Variation of molecules, estimation • Functions of Heart, Conduction, Cardiac cycle, circulation-Principles, Control, factors influencing BP and Pulse Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using charts, films • Demonstration Blood cell count, coagulation, grouping, Hemoglobin estimation, Hear conduction system • Measurement of pulse, BP	• Short answer questions • Objective type
VI	6	Describe physiology and mechanisms of respiration Demonstrates spirometry	The Respiratory System • Functions of respiratory organs • Physiology of respiration • Pulmonary ventilation, Volume • Mechanics of respiration • Gaseous exchange in lungs • Carriage of oxygen & carbon – dioxide • Exchange of gases in tissues • Regulation of respiration Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using charts, films • Demonstration of spirometry	• Short answer questions • Objective type
VII	6	Describes the physiology of digestive system Demonstrates BMR	The Digestive System • Functions of organs of digestive tract. Movements of alimentary tract, Digestion in mouth, stomach, small intestines, Large intestines, Absorption of food. Functions of liver, gall bladder and pancreas • Metabolism of carbohydrates, protein and fat	• Lecture discussion • Explain using charts, films	• Short answer questions • Objective type
VIII	5	Describe the physiology of excretory system	The Excretory System • Functions of kidney, ureters, urinary bladder & urethra • Composition of urine • Mechanism of urine formation • Functions of skin • Regulation of body temperature • Fluid and electrolyte balance Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using charts, films	• Short answer questions • Objective type

IX	4	Describe the physiology of sensory organs	The Sensory Organs • Functions of skin, eye, ear, nose, tongue Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using charts, films	• Short answer questions • Objective type
X	5	Describe the physiology of endocrine glands	The Endocrine System • Functions of Pituitary, pineal body, thymus, Thyroid, parathyroid, pancreas, Suprarenal, Placenta and ovaries & Testes Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using charts, films • Demonstration of BMR	• Short answer questions • Objective type
XI	5	Describe the physiology of male and female reproductive system	The Reproductive System • Reproduction of cells – DNA, Mitosis, Meiosis, spermatogenesis, oogenesis. • Functions of female reproductive organs; Functions of breast, Female sexual cycle. • Introduction to embryology. • Functions of male reproductive organ, Male fertility system, Alterations in disease Applications and implications in nursing	• Lecture discussion • Explain using charts, films, models, specimens	• Short answer questions • Objective type
XII	2	Describe the physiology of Lymphatic and Immunological System	Lymphatic and Immunological System • Circulation of lymph • Immunity • Formation of T-cells and B cells • Types of Immune response • Antigens • Cytokines • Antibodies	• Lecture discussion • Explain using charts, films	• Short answer questions • Objective type