

STUDY GUIDE

2ND YEAR MBBS



**The Nishtar Medical University,
Multan
2025**

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2nd PROFESSIONAL EXAMINATION MODULAR INTEGRATED

CURRICULUM STUDY GUIDE-2025

NISHTAR MEDICAL UNIVERSITY MULTAN

TOOLS OF ASSESSMENT

- MCQ
- SEQ
- OSPE
- VIVA

TOTAL MARKS

- 900

Islamiat/Pak Studies: 100 marks

Criteria for Assessment:

- Total marks for 2st Prof. Exam will be 1000
- Internal assessment will be 20%
- 5% for each block (15%)
- 5% for attendance (>80%)

TABLE OF SPECIFICATION 2025

2nd Year MBBS

TABLE - I

Total Marks	900	Theory	Viva
Paper-I (Block-IV)	300	150	150
Paper-II (Block-V)	300	150	150
Paper-III (Block-VI)	300	150	150

TABLE – II

Component	Marks	Total
Theory	135	150
Internal Assessment	15	
OSPE	54	150
Viva	60	
Practical	21	
Internal Assessment	15	

TABLE – III

	Anatomy	Biochemistry	Physiology	Pharmacology	Community	Pathology	Behavioral Sciences	PERL	Research	Total
PAPER-I (BLOCK-IV)	NEUROSCIENCE									
MCQ (1 Marks each)	18	16	26	05	07	05	07	03	03	90
SEQ (5 Marks each)	02	03	04	-	-	-	-	-	-	45
OSPE (3 Marks each)	05	07	06	-	-	-	-	-	-	54
VIVA	20	20	20	-	-	-	-	-	-	60
Practical	4	7	10	-	-	-	-	-	-	21
Subject vise marks	67	79	94	05	07	05	07	03	03	270
PAPER-II (BLOCK-V)	HEAD AND NECK, SPECIAL SENSES, ENDOCRINOLOGY									
MCQ (1 Mark each)	25	25	10	05	07	05	07	03	03	90
SEQ (5 Marks each)	04	03	02	-	-	-	-	-	-	45
OSPE (3Marks each)	07	06	05	-	-	-	-	-	-	54
VIVA	20	20	20	-	-	-	-	-	-	60
Practical	10	4	7	-	-	-	-	-	-	21
Subject vise marks	96	82	62	05	07	05	07	03	03	270
PAPER-III (BLOCK-VI)	GIT & GENITOURINARY									
MCQ (1 Marks each)	17	19	24	05	07	05	07	03	03	90
SEQ (5 Marks each)	03	03	03	-	-	-	-	-	-	45
OSPE (3 Marks each)	06	05	07	-	-	-	-	-	-	54
VIVA	20	20	20	-	-	-	-	-	-	60
Practical	7	10	4	-	-	-	-	-	-	21
Subject vise marks	77	79	84	05	07	05	07	03	03	270

TABLE – IV

	PAPER-I (Block-I)	PAPER-II (Block-V)	PAPER-III (Block-VI)	Total
Anatomy	67	77	96	240
Biochemistry	79	79	82	240
Physiology	94	62	84	240
Pathology	05	05	05	15
Pharmacology	05	05	05	15
Community Medicine	07	07	07	21
Research	03	03	03	09
Behavioral Sciences	07	07	07	21
PERL	03	03	03	09
Internal Assessment	30	30	30	90
Total				900

ACADEMIC OUTLINE FOR INTEGRATED MODULAR CURRICULUM FOR

2nd YEAR MBBS 2025

SR.NO	MODULE	WEEKS	STARTING DATE	ENDING DATE	EXAM DATE		
					MCQ'S	SAQ	OSPE/ VIVA
1.	Neurosciences 1 Module	5	25-02-25	27-03-25	50*1	10*5	-----
MODULE EXAM					11-04-25		
2.	Neurosciences 2 Module	4	10-04-25	09-05-25	50*1	10*5	
MODULE EXAM					10-05-25		
BLOCK –IV							26-05-25 till 31-05-25
3.	Special senses Module	4	08-07-25	08-08-25	50*1	10*5	-----
MODULE EXAM					09-08-25		
4.	Endocrinology Module	5	11-08-25	10-09-25	50*1	10*5	-----
MODULE EXAM					11-09-25		
BLOCK –V							15-09-25 till 20-09-25
5.	Genitourinary Module	6	22-09-25	07-11-25	50*1	10*5	-----
MODULE EXAM					08-11-25		
6.	GIT Module	4	10-11-25	10-12-25	50*1	10*5	
MODULE EXAM					15-12-25		
BLOCK –VI							15-12-25 till 23-12-25

TIME TABLE FOR 2ND YEAR MBBS FOR THE SESSION 2025

Days	08:00 – 09:00	09:00 – 10:00	10:00- 11:00	11:00- 12:00	12:00 – 01:00	01:00- 02:00
Monday	HISTO PRACTICAL BATCH C BIOCHEM PRACTICAL BATCH A PHYSIO PRACTICAL BATCH B		Lecture Physiology	Lecture Anatomy	Anatomy Skill Lab.	
Tuesday	HISTO PRACTICAL BATCH A BIOCHEM PRACTICAL BATCH B PHYSIO PRACTICAL BATCH C		Lecture Physiology	Lecture Biochemistry	Anatomy Skill Lab.	
Wednesday	HISTO PRACTICAL BATCH B BIOCHEM PRACTICAL BATCH C PHYSIO PRACTICAL BATCH A		Lecture Physiology	Lecture Biochemistry	Anatomy Skill Lab.	
Thursday	Lecture Anatomy	Community medicine / Research	Lecture Physiology	Lecture Biochemistry	Anatomy Skill Lab.	
Friday	Lecture Anatomy	BS / PEL	Lecture Biochemistry	SDL Biochemistry	-----	
Saturday	SDL Physiology (Pak Studies Block-VI at 09:00 A.M.)		Lecture Pharmacology	Lecture Pathology	Anatomy Skill Lab.	Clerkship Program

MINOR BLUE PRINT OF THEORY 2025

2nd Year MBBS

NEURO SCIENCES (PAPER-I)

Module Inter disciplinary study courses	Competencies	Cognitive level Lower level (knowledge, recall, identification & comprehension) Higher level (application, analysis, evaluation)				Tools of Assessment	
		Basic knowledge		Applied knowledge		MCQs	SEQs
		MCQs	SEQs	MCQs	SEQs		
General Anatomy	Nervous system	01	-	-	-	18	2
Embryology	Development of H&N Development of Special Senses Development of endocrine	01	0.5	01	-		
Histology	Special senses Endocrine Oral Cavity, Salivary Glands	01	-	-	-		
Gross Anatomy	Neuroanatomy	08	01	06	0.5		
Biochemistry	Protein metabolism	04	0.5	03	0.5	16	03
	Nucleotide metabolism	01	0.5	02	0.5		
	Carbohydrate metabolism	04	0.5	02	0.5		
Physiology	Sensory system	07	01	03	0.5	26	04
	Autonomic nervous system	02	0.5	01	-		
	Motor system	07	01	03	0.5		
	Higher mental functions	02	0.5	01	-		
Pathology	Cellular response to injury and trauma, CNS mal formation and CVA	03	-	02	-	05	-
Community Medicine	Poliomyelitis	04	-	03	-	07	-
Pharmacology	Introduction to autonomic and central nervous system pharmacology	03	-	02	-	05	-
PERL	Professionalism and Ethics	01	-	02	-	03	-
Research	Synopsis	01	-	02	-	03	-
Behavioral Sciences	Breaking bad news, Handling difficult patients	04	-	03	-	07	-

MINOR BLUE PRINT OF THEORY 2025
HEAD & NECK, SPECIAL SENSES (PAPER-II)

Module Inter disciplinary study courses	Competencies	Cognitive level Lower level (knowledge, recall, identification & comprehension) Higher level (application, analysis, evaluation)				Tools of Assessment	
		Basic knowledge		Applied knowledge		MCQs	SEQs
		MCQs	SEQs	MCQs	SEQs		
General Anatomy		-	-	-	-	25	4
Embryology	Development of H&N Development of endocrine	03	0.5	02	0.5		
Histology	Special senses Endocrine	02	-	-	-		
Gross Anatomy	Head & Neck	10	2	08	01		
Biochemistry	Lipid metabolism	07	01	05	0.5	25	03
	Endocrinology	07	01	06	0.5		
Physiology	Special senses	03	0.5	02	0.5	10	02
	Endocrinology General, Pituitary, Thyroid, Parathyroid, adrenal and pancreatic hormones	03	0.5	02	0.5		
Pathology	Genetic and metabolic diseases of CNS	03	-	02	-	05	-
Community Medicine	Blindness, hearing and deafness, noise pollution, diabetes mellitus and its complications	04	-	03	-	07	-
Pharmacology	Drugs acting on eyes, pain and analgesics	01	-	01	-	05	-
	Antithyroid drugs	01	-	-	-		
	Antidiabetic drugs (insulin)	01	-	01	-		
PERL	Professionalism and Ethics	01	-	02	-	03	-
Research	Material and methodology	01	-	02	-	03	-
Behavioral Sciences	Crisis interventions,	04	-	03	-	07	-

MINOR BLUE PRINT OF THEORY 2025
GENITOURINARY,GIT (PAPER-III)

Module Inter disciplinary study courses	Competencies	Cognitive level Lower level (knowledge, recall, identification & comprehension) Higher level (application, analysis, evaluation)				Tools of Assessment	
		Basic knowledge		Applied knowledge		MCQs	SEQs
		MCQs	SEQs	MCQs	SEQs		
General Anatomy		-	-	-	-	17	3
Embryology	Development of GIT Development of male and female reproductive system	03	0.5	01	-		
Histology	GIT, male and female reproductive system	03	0.5	-	-		
Gross Anatomy	Abdomen, Pelvis and perineum	06	01	04	01		
Biochemistry	Genetics	06	01	04	0.5	19	03
	Acid base balance	02	-	02	0.5		
	GIT	03	0.5	02	0.5		
Physiology	GIT & Hepatobiliary physiology	05	0.5	02	0.5	24	03
	Renal physiology, acid base balance,	09	0.5	03	0.5		
	Male and Female Reproduction Physiology	04	0.5	01	0.5		
Pathology	GERD, H-pylori, pyelonephritis, Acute tubular necrosis	03	-	02	-	05	-
Community Medicine	GERD, signs & symptoms and prevention, STDs	04	-	03	-	07	-
Pharmacology	Drugs affecting acid peptic disease	01	-	01	-	05	-
	Diuretics	01	-	02	-		
PERL	Leadership	01	-	02	-	03	-
Research	Discussion	01	-	02	-	03	-
Behavioral Sciences	Disaster management, conflict resolution	04	-	03	-	07	-

NEURO SCIENCES MODULE 1 CONTENTS (5 weeks) 2025

Module	General Anatomy	Embryology	Histology	Gross Anatomy
Neuro Sciences 1 Anatomy	General anatomy of nervous system	Development of CNS	Histology of CNS	Skull, meninges, Spinal cord, ascending and descending tracts, brainstem, cranial nerves intracranial course, cerebellum
Neuro Sciences 1 Biochemistry	Metabolism of Proteins and Amino Acids a) An overview of protein turnover in human body; nitrogen balance. b) Inter-organ amino acid exchange in normal post-absorptive state. c) Degradation of amino acids; removal of nitrogen from amino acids by transamination and deamination. d) Metabolism of ammonia, urea cycle. d) An overview of amphibolic intermediates formed from the carbon skeleton of amino acids. e) Concept of glucogenic and ketogenic amino acids; an outline of the metabolism of individual amino acids like glycine, cysteine, arginine, proline, phenylalanine, tyrosine, histidine, tryptophan, methionine amino acids; causes and salient features of important metabolic defects in amino acid metabolism like phenylketonuria, maple syrup urine disease (MSUD), histidinemia, alkaptonuria, cystathioninuria, homocystinuria, hyperprolinemia, cystinuria, cystinosis, tyrosinemias, and albinism. f) Metabolism of epinephrine and norepinephrine, creatine, creatinine, histamine, gamma-aminobutyrate, serotonin, melatonin, and melanin Metabolism of Nucleotides a) De novo Synthesis of purines and pyrimidines; the salvage pathways of nucleotide synthesis; degradation of purine and pyrimidine nucleotides. b) Disorders associated with purine nucleotide metabolism like adenosine deaminase deficiency, purine nucleoside phosphorylase deficiency, and hyperuricemia (Gout, Lesch-nyhan syndrome). c) Natural and synthetic derivatives of purines and pyrimidines and their role in health and disease.			
Neuro Sciences 1 Physiology	• Organization Of The Nervous System • Basic Functions Of Synapse And Neurotransmitters • Sensory Receptors • General Organization Of Somatic Sensations(Tactile And Position Senses) • Pain, Headache And Thermal Sensation • Autonomic Nervous System And Adrenal Medulla, • Cerebral Blood Flow, CSF And Brain Metabolism.			

Neuro Sciences 1 Pathology	Cellular response to injury and trauma • Pathogenesis of cerebral hypoxia and edema • Types of hematomas extradural, • Subdural • Subarachnoid CNS malformations and developmental diseases • Pathogenesis of neural tube defects • Meningocele, meningoencephalocele • Hydrocephalus Cerebrovascular diseases of CNS • What is CVA? It's type and pathophysiology • Transient Ischemic Attack
Neuro Sciences 1 Community Medicine	Poliomyelitis • Signs and symptoms • Types, management, vaccine, prevention
Neuro Sciences 1 Pharmacology	Introduction to autonomic nervous system pharmacology • Name the major types and subtypes of Autonomic receptors and the tissue in which they are found • Describe the organ system effects of stimulation of the Parasympathetic and sympathetic Nervous system
Behavioral Sciences	<u>Breaking bad news:</u> - Steps of breaking bad news - Major challenges in breaking bad news <u>Handling Difficult Patients</u> - Understanding difficult patients behavior - Management Steps for handling difficult patients
Research	<u>Synopsis</u> • Title • Introduction • Objective and key words • Material and Methodology • References
PEL	<u>Professionalism:</u> - Application of professionalism in healthcare <u>Ethics:</u> - Common ethical dilemmas in health care settings

NEURO SCIENCES MODULE II CONTENTS (4 weeks) 2025

Module	General Anatomy	Embryology	Histology	Gross Anatomy
Neuro Sciences 2 Anatomy		Development of CNS	Histology of CNS	Cerebrum, diencephalon, basal nuclei, limbic system, CSF and ventricles, blood supply of brain, autonomic nervous system
Neuro Sciences 2 Biochemistry	Metabolism of Carbohydrates: a) Glycolysis b) Tricarboxylic acid (TCA) cycle c) Gluconeogenesis d) Glycogen metabolism (glycogenesis, glycogenolysis & glycogen storage diseases) e) The hexose monophosphate pathway and other pathways of hexose metabolism f) Metabolism of fructose: Metabolic fate of fructose in human body, sorbitol metabolism along with effect of hyperglycemia on sorbitol metabolism, essential fructosuria and hereditary fructose intolerance. g) Metabolism of galactose: Metabolic fate of galactose in body and synthesis of lactose; and disorders of galactose metabolism (galactokinase deficiency and classic galactosemia). h) Reactions of uronic acid pathway along with its biologic importance. i) Metabolism of ethanol			
Neuro Sciences 2 Physiology	• Spinal Cord Motor Functions • Spinal Cord Reflexes • Cortical And Brain Stem Control Of Motor Functions • Cerebellum And Basal Ganglia • Cerebral Cortex • Intellectual Functions Of The Brain, Learning And Memory • The Limbic System And Hypothalamus, • States Of Brain Activity(Sleep, EEG And Epilepsy)			
Neuro Sciences 2 Pathology	Infections of CNS • Pathophysiology of meningitis, its types. • Encephalitis • Pathophysiology of Gullian Barrie Syndrome			
Neuro Sciences 2 Community Medicine	Poliomyelitis • Signs and symptoms • Types, management, vaccine, prevention			
Neuro Sciences 2 Pharmacology	Introduction to Central nervous system pharmacology • Identify the major excitatory and inhibitory CNS neurotransmitters in the CNS • Identify the sites of drug action at synapses			
Behavioral Sciences	<u>Breaking bad news:</u> a. Steps of breaking bad news b. Major challenges in breaking bad news <u>Handling Difficult Patients</u> a. Understanding difficult patients behavior Management Steps for handling difficult patients			
Research	<u>Synopsis</u> • Title • Introduction • Objective and key words • Material and Methodology • References			
PEL	<u>Professionalism:</u> a. Application of professionalism in healthcare <u>Ethics:</u> a. Common ethical dilemmas in health care settings			

SPECIAL SENSES MODULE CONTENT (4 weeks) 2025

Module	General Anatomy	Embryology	Histology	Gross Anatomy
Special senses Anatomy		Development of eye, ear, nose, tongue	Histology of eye, ear, nose and tongue	Scalp, face, eye, ear, nose, tongue, temporal, infratemporal, pterygopalatine fossa, temporomandibular joint, oral cavity, parotid, submandibular and sublingual glands
Special senses Biochemistry	Metabolism of lipids a) de novo synthesis of fatty acids b) Synthesis and storage of triacylglycerols in body. c) Oxidation of fatty acids d) Synthesis and utilization of ketone bodies and Ketoacidosis and regulation of ketogenesis. e) Synthesis of eicosanoids, their regulation and functions along with their biomedical importance. f) Metabolism of phospholipids and sphingolipids g) Cholesterol metabolism: Reactions and regulation of cholesterol biosynthesis, and fate and functions of cholesterol in body. h) Biosynthesis and fate of bile acids and their significance in health and disease. i) Plasma lipoproteins. j) Biochemical defects leading to fatty liver Integration and Regulation of Metabolic Pathways a) Fed-fast cycle and starvation. b) Basic concepts of intermediary metabolism, introduction of anabolic and catabolic pathways. c) An overview of regulation and integration of various metabolic pathways (role of liver, heart, brain, skeletal muscle and adipose tissue).			
Special senses Physiology	• Optics Of Vision • Receptor And Neural Function Of Retina • Central Neurophysiology Of Vision • The Sense Of Hearing and equilibrium • The Chemical Senses			
Special senses Pathology	Genetic and metabolic diseases of CNS ▶ Phenylketonuria, ▶ Maple syrup disease			
Special senses Community Medicine	Blindness, Hearing and Deafness, Noise Pollution			
Special senses Pharmacology	Drugs acting on eye • List one anti-muscarinic agent promoted for each mydriasis& cycloplegia • List & describe several drugs useful in glaucoma Drugs affecting pain / NSAIDS analgesics Describe the effects of NSAIDS on Prostaglandin synthesis for relive of pain			
Behavioral Sciences	<u>Crisis interventions:</u> a. Definition and types of crisis b. Robert's seven stage model of crisis intervention c. Communication strategies in crisis intervention d. Psychological first aid			
Research	<u>Material and Methodology</u> • Study Design • Sampling type • Sample size calculation by Manual and via WHO & Epi info calculator • Inclusion and exclusion criteria • Study Duration			
PEL	<u>Professionalism:</u> PMDC guideline on professionalism and ethics <u>Ethics:</u> Pillars of medical ethics			

ENDOCRINOLOGY MODULE CONTENT (05 Weeks) 2025

Module	General Anatomy	Embryology	Histology	Gross Anatomy
Endocrinology Anatomy		Development of head and neck Development of endocrine pituitary, thyroid, parathyroid, adrenal, pancreas and pineal glands	Histology of endocrine tissue - pituitary, thyroid, parathyroid, adrenal, pancreas and pineal glands. Histological features of oral cavity, salivary glands	General topography of neck, cervical fascia, triangles of neck, tissue spaces, nerve plexuses, muscles of neck, thyroid, parathyroid glands, pituitary gland, pineal gland, adrenal gland, pancreas, cervical vertebrae, joints of neck, hard palate, soft palate, pharynx, larynx. Vessels and lymphatics of neck.
Endocrinology Biochemistry	Biochemistry of Endocrine System a) An overview of endocrine system: Introduction, classification and mechanism of action of hormones b) Pituitary and hypothalamic hormones: Synthesis, mechanism of action and related disorder c) Thyroid Hormones: Synthesis, mechanism of action and related disorder d) Calcium Regulating Hormones (Parathyroid hormones): Synthesis, mechanism of action and related disorder i) Adrenal Cortical and Medullary Hormones ii) Male and Female Gonadal Hormones iii) Hormones of Pancreas a) Regulation of blood glucose level b) Hypoglycemia and hyperglycemia c) Diabetes mellitus Metabolism of Xenobiotics a) Definition and classes of important xenobiotics of medical relevance b) Phase II metabolism of xenobiotics c) Responses to xenobiotics including pharmacologic, toxic, immunologic and carcinogenic effects			
Endocrinology Physiology	General Principles And Second Messengers Pituitary Hormones And Their Control By Hypothalamus Thyroid Metabolic Hormone Parathyroid, Calcitonin Calcium, Phosphate And Vitamin D Metabolism Adrenocortical Hormones Insulin, Glucagon And Diabetes Mellitus			

	Endocrinology Pathology	Thyroid Gland • Pathophysiology • Hypo & Hyperthyroidism
	Endocrinology Community Medicine	• Diabetes Mellitus • Types, Complications, Prevention
	Endocrinology Pharmacology	Introduction to Anti-thyroid drugs • Sketch the biochemical pathway for thyroid hormone synthesis & release & indicate the sites of action of anti-thyroid drugs • List the principal drugs for the treatment of hyperthyroidism Anti-diabetic Drugs Describe the effects of insulin on hepatocytes muscle & adipose tissue
	Behavioral Sciences	<u>Crisis interventions:</u> a. Definition and types of crisis b. Robert's seven stage model of crisis intervention c. Communication strategies in crisis intervention d. Psychological first aid
	Research	<u>Material and Methodology</u> • Study Design • Sampling type • Sample size calculation by Manual and via WHO & Epi info calculator • Inclusion and exclusion criteria • Study Duration
	PEL	<u>Professionalism:</u> a. PMDC guideline on professionalism and ethics <u>Ethics:</u> Pillars of medical ethics

GENITOURINARY MODULE CONTENT (6 weeks) 2025

Module	General Anatomy	Embryology	Histology	Gross Anatomy
Genitourinary Anatomy		Development of urinary system, male and female reproductive system	Histology of urinary system Histology of male and female reproductive system	General topography of abdomen and quadrants, anterior and posterior abdominal walls, rectus sheath, inguinal canal and contents, testes and ducts, peritoneum, layout of abdominal organs, blood supply of abdominal organs, gross anatomy of urinary system and pelvic organs, lumbar and sacral vertebrae, bony pelvis, joints, pelvic muscles, pelvic viscera, perineum, pelvic and perineal vessels and nerves.
Genitourinary Biochemistry	Biochemical Genetics a) Organization of DNA: chromosomes, Karyotyping. b) Replication of DNA c) Transcription (DNA-dependent RNA synthesis) d) Translation (protein synthesis) f) Regulation of gene expression in prokaryotes and eukaryotes g) Molecular biology techniques: Basic information and biomedical importance of molecular biology techniques; DNA extraction; recombinant DNA technology; DNA cloning; polymerase chain reaction (PCR); hybridization; blotting techniques. h) Oncogenes and their role in carcinogenesis i) Important tumor markers and their clinical significance			
Genitourinary Physiology	• Regulation Of Body Fluids Compartments • Urine Formation By The Kidneys • Glomerular Filtration • Renal Blood Flow And Their Control • Renal Tubular Reabsorption And Secretion • Urine Concentration And Dilution • Regulation Of Extracellular Osmolarity And Sodium Concentration • Renal Regulation Of Potassium, Calcium And Magnesium • Acid Base Regulation • Diuretics And Kidney Diseases. • Reproductive And Hormonal Functions Of The Male • Female Physiology Before Pregnancy And Female Hormones, • Pregnancy And Lactation. • Fetal and neonatal physiology			
Genitourinary Pathology	Pyelonephritis • Pathophysiology of acute pyelonephritis and • Acute tubular necrosis			
Genitourinary Community Medicine	• Sexually transmitted diseases Classification, pathogens and diseases, syndromic management of Urethral discharging in males, vaginal discharge, lower abdominal pain in female, genital ulcers, scrotal swelling and inguinal bobo			
Genitourinary Pharmacology	Diuretic drugs List five major types of diuretics & relate them to their sites of action			
Behavioral Sciences	<u>Disaster management</u> - Definition and significance of disasters in our life - Principals of disaster management <u>Conflict resolution:</u> - Common reasons of conflict in healthcare settings - Method of conflict resolution			
Research	<u>Discussion</u> Definition and How to write			
PEL	<u>Leadership:</u> - Introduction and concept of leadership in healthcare settings - Attributes of effective leaders - Leadership styles in healthcare - Medical leadership competency framework			

GASTRO INTESTINAL & NUTRITION MODULE CONTENT (4 weeks) 2025

Module	General Anatomy	Embryology	Histology	Gross Anatomy
GIT Anatomy		Development of GIT,	Histology of gastrointestinal tract	Abdominal quadrants, peritoneum, stomach, small intestine, large intestine, liver, gall bladder, hepatobiliary tree.
GIT Biochemistry	Biochemistry of Digestive Tract a) Introduction, chemical composition, and secretion and regulation of various digestive juices of GIT b) Hydrolysis (digestion) and absorption of carbohydrates, lipids, proteins, and nucleic acids in gastrointestinal tract c) Disease states associated with GIT d) Site of synthesis and major actions of gastrointestinal hormones Water & electrolyte balance; acid-base regulation a) Biochemical mechanisms to regulate water and electrolyte balance in body: Fluid compartments of the body; gain and loss of body water; regulation of body water balance, effect of pure water deprivation, water excess or water intoxication; and electrolytes of body fluids (sodium, potassium, magnesium and chloride). b) Body buffer systems, role of lung and kidney in maintenance of acid-base balance. c) Acid-base disturbance in the body like respiratory and metabolic acidosis (lactic acidosis and ketoacidosis); respiratory and metabolic alkalosis; concept of anion gap, base excess and base deficit. d) Clinical interpretation of laboratory report of arterial blood gases.			
GIT Physiology	• General Principles Of GI Functions • Propulsion And Mixing Of Food In The Alimentary Tract • Secretory Functions Of Alimentary Tract • Digestion And Absorption In The GIT • Liver And Biliary System • Physiology Of GIT Disorders			
GIT Pathology	GERD (Gastroesophageal reflux disease) ► Definition, ► Etiology, ► pathogenesis, ► morphology, ► Clinical features, ► Complications (Barrett esophagus) H Pylori associated Chronic Gastritis ► Epidemiology, ► Pathogenesis, ► Morphology, ► Clinical features			
GIT Community Medicine	• Intestinal worms, types, signs and symptoms, prevention and management • Signs and symptoms, prevention, management, investigation of Typhoid, Cholera, Diarrhea, Dysentery, viral hepatitis, hook-worm infestation, food poisoning, Amoebiasis, Ascariasis and dracunculiasis			
GIT Pharmacology	Drugs affecting acid peptic disease Identify five different groups of drugs in peptic ulcer disease			
Behavioral Sciences	<u>Disaster management</u> a. Definition and significance of disasters in our life b. Principals of disaster management <u>Conflict resolution:</u> a. Common reasons of conflict in healthcare settings b. Method of conflict resolution			
Research	<u>Discussion</u> Definition and How to write			
PEL	<u>Leadership:</u> a. Introduction and concept of leadership in healthcare settings b. Attributes of effective leaders c. Leadership styles in healthcare d. Medical leadership competency framework			

TOS (Modular Curriculum) Anatomy – 2nd Year MBBS, 2025

Paper 1															
Content	MCQs (1X18)		SEQs (5X2)		OSPE			Viva Voce				IA			
					NOS (3X5)	OS	Theory (2 Marks Each)				Practical				
	IE		EE				IE	EE							
	BA	AA	BA	AA					BA	AAA	BA	AA			BA
Neurosciences 1	6	3	0.5	0.5	3	-	-	1	1	1	1	2			2
Neurosciences 2	6	3	0.5	0.5	2	-	-	2	1	2	1				
Stem Total	12	6	5	5	15	-	-	6	4	6	4				
Grand Total	18		10		15			20				PV = 10 PP = 7	Internal Exams (6X3 =18) Attendance (6) Research/Pres (6) Split Equally For Theory & Practical		
	63														
Paper 2															
Content	MCQs (1X24)		SEQs (5X4)		OSPE			Viva Voce							
					NOS (7X3)	OS	Theory (2 Marks Each)								
	IE		EE												
	BA	AA	BA	AA			BA	AA	BA	AA					
Special senses	8	7	1	1	4	-	-	1	2	1	2				
Endocrinology	5	5	1	1	3	-	-	1	1	1	1				
Stem Total	13	12	10	10	21	-	-	4	6	4	6				
Grand Total	25		20		21			20							
	86														
Paper 3															
Content	MCQs (1X17)		SEQs (5X3)		OSPE			Viva Voce							
					NOS (3X6)	OS	Theory (2 Marks Each)								
	IE		EE												
	BA	AA	BA	AA			BA	AA	BA	AA					
Gastrointestinal System and nutrition	5	5	1	0.5	3			1	1	1	1				
Genitourinary system	4	3	1	0.5	3			1	2	1	2				
Stem Total	9	8	10	5	18			4	6	4	6				
Grand Total	17		15		18			20							
	70														
Subject Total	219										21	30			
	270														

*MCQS = Multiple Choice Questions, SEQs = Short Essay Questions, BA = Basic Anatomy, AA = Applied Anatomy, NOS = Non Observed Station, OS = Observed Station, IE = Internal Examiner, EE = External Examiner, PP/W = Practical Procedure/Writing, PC = Practical Copy, IA = Internal Assessment

COMPETENCIES OF ANATOMY 2025

Papers	Module	Competencies	Relevance
I-Block I-Paper	Neuroscience I	<u>GENERAL ANATOMY</u> 1. Nervous system	Essential
		<u>EMBRYOLOGY</u> 1. Development of spinal cord, brainstem and cerebellum	Essential
		<u>HISTOLOGY</u> 1. Histology of spinal cord, cerebrum & cerebellum	
		<u>GROSS ANATOMY</u> Skull, meninges and dural venous sinuses, Spinal cord, ascending and descending tracts, brainstem, cranial nerves intracranial course, cerebellum	
	Anatomy Neuroscience	<u>GENERAL ANATOMY</u> 1. Nervous system	Essential
		<u>HISTOLOGY</u> 1. Histology of spinal cord, cerebrum , cerebellum	Essential
		<u>EMBRYOLOGY</u> Development of cerebrum, diencephalon, autonomic nervous system <u>GROSS ANATOMY</u> 1. Cerebrum, diencephalon, basal nuclei, limbic system, CSF and ventricles, blood supply of brain, autonomic nervous system	Essential

II Block II Paper	Anatomy Special senses	<u>GENERAL ANATOMY</u>	Essential
		<u>HISTOLOGY</u> Histology of eye, ear, nose, tongue	
		<u>EMBRYOLOGY</u> 1. Development of eye, ear, nose and tongue	Essential
		<u>GROSS ANATOMY</u> 1. Scalp, face, eye, ear, nose, tongue, temporal, infratemporal, pterygopalatine fossa, temporomandibular joint, oral cavity, parotid, submandibular and sublingual glands	
	Endocrinology	<u>GENERAL ANATOMY</u>	
		<u>EMBRYOLOGY:</u> 1. Development of head and neck , development of endocrine glands	Essential
		<u>HISTOLOGY</u> 1. Histology of endocrine glands, pituitary, thyroid, parathyroid, adrenal, pancreas and pineal glands 2. Histological features of oral cavity, salivary glands	Essential
		<u>GROSS ANATOMY</u> General topography of neck, cervical fascia, triangles of neck, tissue spaces, nerve plexuses, muscles of neck, thyroid, parathyroid glands, pituitary gland, pineal gland, adrenal gland, pancreas, cervical vertebrae, joints of neck, hard palate, soft palate, pharynx, larynx. Vessels and lymphatics of neck.	Essential

III Block Paper	Genitourinary	<u>GENERAL ANATOMY</u>	Essential
		<u>EMBRYOLOGY</u> Development of urinary system, male and female reproductive system	
		<u>HISTOLOGY</u> Histology of urinary system Histology of male and female reproductive system	
		<u>GROSS ANATOMY</u> General topography of abdomen and quadrants, anterior and posterior abdominal walls, rectus sheath, inguinal canal and contents, testes and ducts, peritoneum, layout of abdominal organs, blood supply of abdominal organs, gross anatomy of urinary system and pelvic organs, lumbar and sacral vertebrae, bony pelvis, joints, pelvic muscles, pelvic viscera, perineum, pelvic and perineal vessels and nerves.	
	Gastroin	<u>GENERAL ANATOMY</u>	Essential
		<u>EMBRYOLOGY</u> Development of GIT	
		<u>HISTOLOGY</u> Histology of gastrointestinal tract	
		<u>GROSS ANATOMY</u> Abdominal quadrants, peritoneum, stomach, small intestine, large intestine, liver, gall bladder, hepatobiliary tree.	

INDIVIDUAL TABLE OF SPECIFICATION FOR BIOCHEMISTRY 2ND YEAR MBBS 2025

Paper 1 (Neuro sciences)													I.A.		
Content	MCQs (1x16)		SEQs (5x3)		OSPE			Viva Voce						Practical Performance	
					NOS (1x3)	OS (4x 6)	(20)								
	Int 10		Ext 10				Int	Ext							
	Bas	App	Bas	App			Bas	App	Bas	App	Bas	App			
Protein metabolism	04	03	0.5	0.5	02	01	01	-	-	-	-	3.5	3.5		
Nucleotide metabolism	01	02	0.5	0.5	-	01	-	-	-	-	-				
Carbohydrate metabolism	04	02	0.5	0.5	01	0	01	-	-	-	-				
Stem Total	10	06	1.5	1.5	03	02	02	-	-	-	-	3.5	3.5		
Split Total	16		03 x 5 = 15		07 x 3 = 21			20				07			
Sub Total	31				48								10		
Grand Total	79													10	
Paper 2 (Head & neck, special senses)													I.A.		
Content	MCQs (1x25)		SEQs (3x5)		OSPE			Viva Voce						Practical Copy	
					NOS (1x3)	OS (3x 6)	(20)								
	Int 10		Ext 10				Int	Ext							
	Bas	App	Bas	App			Bas	App	Bas	App	Bas	App			
Lipid metabolism	07	05	01	0.5	01	01	01	-	-	-	-	02	02		
Endocrinology	07	06	01	0.5	01	01	01	-	-	-	-				
Stem Total	14	11	02	01	02	02	02	-	-	-	-	04			
Split Total	25		03 x 5 = 15		06 * 3 = 18			20				04			
Sub Total	40												10		
Grand Total	82													10	
Paper 3 (Genitourinary, GIT)													I.A.		
Content	MCQs (1x19)		SEQs (5x3)		OSPE			Viva Voce						Practical Viva	
					NOS (2x3)	OS (3x 6)	(20)								
	Int 10		Ext 10				Int	Ext							
	Bas	App	Bas	App			Bas	App	Bas	App	Bas	App			
Genetics	06	04	01	0.5	01	01	01	-	-	-	-	05	05		
Acid base balance	02	02	-	0.5	-	-	-	-	-	-	-				
GIT	03	02	0.5	0.5	-	1	01	-	-	-	-				
Stem Total	11	08	1.5	1.5	01	02	02	-	-	-	-	05			
Split Total	19		03 x 5 = 15		05 * 3 = 15			20				10			
Sub Total	34				45								10		
Grand Total	79													10	

Paper	Marks
Paper-I	79
Paper-II	82
Paper-III	79
Total Marks	240
Internal Assessment (I.A)	30
Grand Total	270

COMPETENCIES OF BIOCHEMISTRY 2025

Papers	Module	Competencies	Relevance
Paper-I Block-IV	Neuro Sciences I	Metabolism of Proteins and Amino Acids a) An overview of protein turnover in human body; nitrogen balance. b) Inter-organ amino acid exchange in normal post-absorptive state. c) Degradation of amino acids; removal of nitrogen from amino acids by transamination and deamination. d) Metabolism of ammonia, urea cycle. e) An overview of amphibolic intermediates formed from the carbon skeleton of amino acids. f) Concept of glucogenic and ketogenic amino acids; an outline of the metabolism of individual amino acids like glycine, cysteine, arginine, proline, phenylalanine, tyrosine, histidine, tryptophan, methionine amino acids; causes and salient features of important metabolic defects in amino acid metabolism like phenylketonuria, maple syrup urine disease (MSUD), histidinemia, alkaptonuria, cystathioninuria, homocystinuria, hyperprolinemia, cystinuria, cystinosis, tyrosinemias, and albinism.	Essential
		Metabolism of Nucleotides a) De novo Synthesis of purines and pyrimidines; the salvage pathways of nucleotide synthesis; degradation of purine and pyrimidine nucleotides. b) Disorders associated with purine nucleotide metabolism like adenosine deaminase deficiency, purine nucleoside phosphorylase deficiency, and hyperuricemia (Gout, Lesch-nyhan syndrome).	
		a) Metabolism of epinephrine and norepinephrine, creatine, creatinine, histamine, gamma-aminobutyrate, serotonin, melatonin, and melanin b) Natural and synthetic derivatives of purines and pyrimidines and their role in health and disease.	Important
	Neuro S	Metabolism of Carbohydrates: a) Glycolysis b) Tricarboxylic acid (TCA) cycle c) Gluconeogenesis d) Glycogen metabolism (glycogenesis, glycogenolysis & GSD) e) The hexose monophosphate pathway and other pathways of hexose metabolism f) Metabolism of fructose: Metabolic fate of fructose in human body, sorbitol metabolism along with effect of hyperglycemia on sorbitol metabolism, essential fructosuria and hereditary fructose intolerance. g) Metabolism of galactose: Metabolic fate of galactose in body and synthesis of lactose; and disorders of galactose metabolism (galactokinase deficiency and classic galactosemia).	Essential
		a) Reactions of uronic acid pathway along with its biologic importance. b) Metabolism of ethanol	Important

V II Block Paper	Special senses	Metabolism of lipids a) de novo synthesis of fatty acids b) Synthesis and storage of triacylglycerols in body. c) Oxidation of fatty acids d) Synthesis and utilization of ketone bodies and Ketoacidosis and regulation of ketogenesis. e) Synthesis of eicosanoids, their regulation and functions along with their biomedical importance. f) Metabolism of phospholipids and sphingolipids g) Cholesterol metabolism: Reactions and regulation of cholesterol biosynthesis, and fate and functions of cholesterol in body. h) Biosynthesis and fate of bile acids and their significance in health and disease. i) Plasma lipoproteins. j) Biochemical defects leading to fatty liver	Essential
		Integration and Regulation of Metabolic Pathways a) Fed-fast cycle and starvation. b) Basic concepts of intermediary metabolism, introduction of anabolic and catabolic pathways. c) An overview of regulation and integration of various metabolic pathways (role of liver, heart, brain, skeletal muscle and adipose tissue).	Important
	Endocrinology	Biochemistry of Endocrine System a) An overview of endocrine system: Introduction, classification and mechanism of action of hormones b) Pituitary and hypothalamic hormones: Synthesis, mechanism of action and related disorder c) Thyroid Hormones: Synthesis, mechanism of action and related disorder d) Calcium Regulating Hormones (Parathyroid hormones): Synthesis, mechanism of action and related disorder i) Adrenal Cortical Hormones ii) Adrenal Medullary Hormones iii) Male and Female Gonadal Hormones iv) Hormones of Pancreas a) Regulation of blood glucose level b) Hypoglycemia and hyperglycemia c) Diabetes mellitus	Essential
		Metabolism of Xenobiotics a) Definition and classes of important xenobiotics of medical relevance b) Phase II metabolism of xenobiotics c) Responses to xenobiotics including pharmacologic, toxic, immunologic and carcinogenic effects	Important

VI III Block Paper	Genitourin	Biochemical Genetics a) Organization of DNA: chromosomes, Karyotyping. b) Replication of DNA c) Transcription (DNA-dependent RNA synthesis) d) Translation (protein synthesis) f) Regulation of gene expression in prokaryotes and eukaryotes	Essential
		a) Molecular biology techniques: Basic information and biomedical importance of molecular biology techniques; DNA extraction; recombinant DNA technology; DNA cloning; polymerase chain reaction (PCR); hybridization; blotting techniques. b) Oncogenes and their role in carcinogenesis c) Important tumor markers and their clinical significance	Important
	Gastrointestinal	Biochemistry of Digestive Tract a) Introduction, chemical composition, and secretion and regulation of various digestive juices of GIT b) Hydrolysis (digestion) and absorption of carbohydrates, lipids, proteins, and nucleic acids in gastrointestinal tract and associated diseases c) Site of synthesis and major actions of gastrointestinal hormones Water & electrolyte balance; acid-base regulation a) Biochemical mechanisms to regulate water and electrolyte balance in body: Fluid compartments of the body; gain and loss of body water; regulation of body water balance, effect of pure water deprivation, water excess or water intoxication; and electrolytes of body fluids (sodium, potassium, magnesium and chloride). b) Body buffer systems, role of lung and kidney in maintenance of acid-base balance. c) Acid-base disturbance in the body like respiratory and metabolic acidosis (lactic acidosis and ketoacidosis); respiratory and metabolic alkalosis; concept of anion gap, base excess and base deficit.	Essential
		1. Clinical interpretation of laboratory report of arterial blood gases. 2. Disease states associated with GIT	Important

Modular Practical Contents of Biochemistry 2025

2nd Year MBBS

Papers	Module	Competencies	Relevance
IV Block I- Paper	N	1. Centrifugation 2. Spectrophotometer 3. Estimation of total plasma protein 4. Estimation of urea 5. Estimation of creatine 6. Estimation of albumin 7. Estimation of blood glucose by enzymatic 8. Estimation of urinary glucose by benedict Q.	Essential
V Block II- Paper	Endocrin Special	1. Estimation of serum cholesterol 2. Estimation of serum TAG 3. Estimation of HDL 4. Estimation of creatinine phosphokinase 5. Estimation of serum LDH 6. Collection of blood and storage of sample lab. analysis 7. OGTT 8. Chromatography 9. Electrophoresis	Essential
VI Block III- Paper	& G Genit	1. Estimation of serum AST 2. Estimation of serum ALP 3. Pipetting and micro pipetting 4. pH meter 5. PCR 6. DNA sequencing 7. ELISA 8. Flame photometry	Essential

TOS (Modular Curriculum) Physiology – 2nd Year MBBS, 2025

Nishtar Medical University, Multan

Paper 1

Content	MCQs (1X26)		SEQs (5X4)		OSPE			OS (3X2)	Viva Voce				IA		
					NOS (3X4)	Theory (2 Marks Each)	Practical								
									IE		EE				
	BP	AP	BP	AP			BP		AP	BP	AP	BP	AP	IE	EE
Neurosciences 1	9	4	1.5	0.5	1	1	1	1	1	1	1	Viva = 10	Internal Exams (6X3 =18) Attendance (6) Research/Pres (6) Split Equally For Theory & Practical		
Neurosciences 2	9	4	1.5	0.5	1	1	1	2	1	2	1				
Stem Total	18	08	15	5	6	6	6	6	4	6	4				
Total	26		20		18			20				PP/W = 7			
	84														
Grand Total	94														
Paper 2															
Content	MCQs (1X10)		SEQs (5X2)		OSPE			OS (2X3)	Viva Voce					PP/W = 4	
					NOS (3X3)	Theory (2 Marks Each)	Practical								
									IE		EE				
	BP	AP	BP	AP			BP		AP	BP	AP				BP
Special senses	3	2	0.5	0.5	1	1	1	1	1	1	1				
Endocrinology	3	2	0.5	0.5	-	1	1	2	1	2	1				
Stem Total	6	4	5	5	3	6	6	6	4	6	4				
Total	10		10		15			20							
	55														
Grand Total	62														
Paper 3															
Content	MCQs (1X24)		SEQs (3X5)		OSPE			OS (2X3)	Viva Voce						
					NOS (5X3)	Theory (2 Marks Each)	Practical								
									IE		EE				
	BP	AP	BP	AP			BP		AP	BP	AP				
GIT Physiology	5	2	0.5	0.5	1	1	1	1	1	1	1				
Genitourinary Physiology	13	4	1	1	1	2	1	2	1	2	1				
Stem Total	18	6	7.5	7.5	6	9	6	6	4	6	4				
Total	24		15		21			20							
	80														
Grand Total	84														
Subject Total	219											21	30		
	270														

*MCQS = Multiple Choice Questions, SEQs = Short Essay Questions, BP = Basic Physiology, AP = Applied Physiology, NOS = Non Observed Station, OS = Observed Station, IE = Internal Examiner, EE = External Examiner, PP/W = Practical Procedure/Writing, PC = Practical Copy, IA = Internal Assessment

PHYSIOLOGY DEPARTMENT, NISHTAR MEDICAL UNIVERSITY, MULTAN
Content (Modular Curriculum – Theory) Physiology For
2nd Year MBBS, 2025 Nishtar Medical University, Multan 2025

PAPER 1-NEUROSCIENCES 1&2

Sr.#	Curricular Topics	Competencies	Relevance
1	Sensory Physiology	Embryological Organization Of CNS	Essential
		Anatomical Organization Of CNS	
		Physiological Organization Of CNS	
		Receptor Physiology	
		Neurotransmitter Physiology	
		Synaptic Physiology	
		Nerve Potential	
		Conduction Physiology	
		Classification Of Receptors	
		Classification Of Nerve Fibers	
		Origin Of A Sensory Tract	
		Dorsal Column-Medial Laminiscus System	
		Anterolateral System-Overview	
		Paleospinothalamic Tract	
		Neospinothalamic Tract	
		Trigeminothalamic Tract	
		Spinal Cord Lesions Associated With Dorsal Column System	
		Spinal Cord Lesions Associated With Anterolateral System And Trigeminothalamic Tract	
		Natural Analgesic System	
		Types Of Pain	
		Tactile inhibition of pain	Important
		Phantom limb syndrome, thalamic pain, neuralgia	
		Chordotomy/electrical inhibition of pain	
2	General Organization of the A.N.S.	Sympathetic System	Essential
		Neurological Organization	
		Receptor/neurotransmitter physiology and function	Important
		Pharmacology & Clinical Scenarios Of Sympathetic Nervous System	
		Para-Sympathetic System	Essential
		Neurological Organization	
		Receptor/neurotransmitter physiology and function	Important
		Pharmacology & Clinical Scenarios Of Para-Sympathetic Nervous System	
	CSF & Brain Metabolism		Important

Sr.#	Curricular Topics	Competencies	Relevance
3	Motor Physiology	Basic Organization Of Spinal Cord	Essential
		Basic Organization Of Brainstem	
		Basic Organization Of Cerebral Cortex	
		Basic Organization Of Muscle Spindle – α γ Coactivation	
		Corticospinal Tract	
		Abnormalities Of Corticospinal Tract/Upper-Lower motor neuron lesions	Important
		Rubrospinal Tract	Essential
		Abnormalities Of Rubrospinal Tract/rigidities	Important
		Vestibular potential & Vestibulospinal Tract	Essential
		Abnormalities Of Vestibulospinal Tract	Important
		Gravitational/Antigravitational Tracts	Essential
		Abnormalities Of Gravitational/Antigravitational Tracts	Important
		Cerebellum ad its connections	Essential
		Abnormalities Of Cerebellum	Important
		Cerebellar Signs	
		Spinocerebellar Tract	Essential
		Abnormalities Of Spinocerebellar Tract	Important
		Brown Sequard Syndrome	Essential
		Medullary Lesions	Supplementary
		Pontine Lesions	
		Midbrain Lesions	
		Thalamus & its Connections	Essential
		Thalamic Lesions	Important
		Hypothalamus and its connections	Essential
		Hypothalamic/Limbic Abnormalities	Important
		Direct and indirect loops of basal ganglia	Essential
		Abnormalities associated with loops of basal ganglia	Important
4	Integrative Physiology	Sleep	Essential
		Physiology of sleep and sleep centers and epilepsy	
		Sleep waves and EEG	Supplementary
		Speech	Essential
		Speech physiology and speech centers	
		Aphasia and its identification	Supplementary
		Memory	Essential
		Papez circuit and long term potentiation in memory circuits	
		Amnesia and its implications	Supplementary

PHYSIOLOGY DEPARTMENT, NISHTAR MEDICAL UNIVERSITY, MULTAN

**Content (Modular Curriculum – Theory) Physiology For
2nd Year MBBS, 2025 Nishtar Medical University, Multan 2025**

PAPER 2-SPECIAL SENSES AND ENDOCRINOLOGY

Sr. #	Curricular Topics	Competencies	Relevance
1	Visual Physiology	Principles of optics	Essential
		Errors of refraction and their correction	
		Visual acuity/depth of visual perception	
		Physiological functions of aqueous humour circulation, drainage - Glaucoma	
		Structure of retina, Photochemistry of vision, Rhodopsin – retinal visual cycle and visual potential	
		On center off surround/off center on surround vision	
		Automatic regulation of retinal sensitivity – light and dark adaptation	
		Color vision	
		Visual pathways/central neurophysiology of vision	
		Neural pathways for control of eye movement	
		Different Optic movements and their physiology/fixation-defixation	Important
		Autonomic control of accommodation and light reflex	
		Movement of head and neck towards source of sound	
		Medial longitudinal fasciculus syndrome	Supplementary
		Horner's syndrome	
2	Audition/ Balance Gustation/ Olfaction	Squint	Essential
		Audition	
		Structural physiology of different parts of the ear	
		Endocochlear Potential & Auditory Pathway	Important
		Disorders of audition	
		Audiometry and interpretation of tuning fork tests	Supplementary
		Equilibrium	Essential
		Vestibular apparatus and its role in equilibrium	Essential
		Gustation	
		Taste buds and gustatory potential	Important
		Gustatory pathway	
		Ageusia	Supplementary
		Limbic abnormalities and gustatory hallucinations	
		Olfaction	Essential
		Olfactory Potential	
		Olfactory Pathway	Important
		Anosmia	
		Limbic abnormalities and disturbance of olfaction	Supplementary

Sr. #	Curricular Topics	Competencies	Relevance
3	General Endocrinology & Pituitary Physiology	Introduction to basics of endocrinology	Essential
		Classification of hormones as per their chemical composition	
		Transport and clearance of hormones via plasma	
		Mechanism of actions of hormones – 2 nd messenger physiology	
		Physiology of Hypothalamic hormones	
		Physiology Anterior pituitary hormones	
		Growth hormone – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects on human metabolism and systemic physiology	Important
		Metabolic and systemic disorders of growth hormone	
		Identification of primary, secondary and tertiary causes of growth hormone abnormalities via biochemical/pathological laboratory testing	Supplementary
		Anti-Diuretic hormone – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects on human metabolism and systemic physiology	Essential
		Oxytocin – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	
4	Thyroid and Parathyroid Physiology	Metabolic and systemic disorders of ADH & Oxytocin	Important
		Identification of primary, secondary and tertiary causes of ADH & Oxytocin abnormalities via biochemical/pathological laboratory testing	Supplementary
		Thyroid Hormone – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects on human metabolism and systemic physiology	Essential
		Metabolic, immunologic and systemic disorders of thyroid hormone	Important
		Identification of primary, secondary and tertiary causes of thyroid hormone abnormalities via biochemical/pathological laboratory testing	Supplementary
		Parathyroid hormone – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	Essential
		Metabolic and systemic disorders of parathyroid hormone	Important
		Identification of primary, secondary and tertiary causes of parathyroid hormone abnormalities via biochemical/pathological laboratory testing	Supplementary

Sr. #	Curricular Topics	Competencies	Relevance
5	Vit.D/Calcitonin Physiology	Vit.D/Calcitonin – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	Essential
		Metabolic and systemic disorders of Vit.D/Calcitonin	Important
		Identification of primary, secondary and tertiary causes of Vit.D/Calcitonin abnormalities via biochemical/pathological laboratory testing	Supplementary
6	Pancreatic Endophysiology	Insulin – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	Essential
		Metabolic and systemic disorders of insulin	Important
		Identification of primary, secondary and tertiary causes of insulin abnormalities (diabetes, insulinoma) via biochemical/pathological laboratory testing	Supplementary
7	Adrenal Endophysiology	Aldosterone/cortisol/adrenal androgen – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	Essential
		Metabolic and systemic disorders of Aldosterone/cortisol/adrenal androgen – virilizing/non-virilizing disorders, cushing, conn's syndrome, addison's disease	Important
		Identification of primary, secondary and tertiary causes of Aldosterone/cortisol/adrenal androgen imbalance via biochemical/pathological laboratory testing	Supplementary

PHYSIOLOGY DEPARTMENT, NISHTAR MEDICAL UNIVERSITY, MULTAN

**Content (Modular Curriculum – Theory) Physiology For
2nd Year MBBS, 2025 Nishtar Medical University, Multan 2025**

PAPER 3- GENITOURINARY & GIT

Sr. #	Curricular Topics	Competencies	Relevance
1	Renal Physiology	Body compartments and fluid distribution	Essential
		Determination of the causes and treatment of body fluid loss	
		Tissue and lymph fluid - edema and causes	
		Physiological organization of nephron	
		GFR – maintenance and regulation and estimation	
		Renal blood flow and its regulation	
		Transports across PCT, loop of Henle and DCT	
		Tubular maximum and countercurrent multiplier	
		Chloride, Sodium, Potassium and urea reabsorption and regulation	
		Hormonal functions of kidney and diuretics – ADH, aldosterone, Vit D, erythropoietin, parathyroid hormone	
		Role of kidney in regulation of blood pressure – diuretics, types, mechanism of action and function	
		Mechanism of dilute and concentrated urine formation	
		Micturition reflex – abnormalities of bladder	
		Nephrotic.nephritic syndrome and minimal change disease	Important
		Acute/chronic renal failure – investigation and management	Supplementary
2	Acid base physiology	Renal osteodystrophy, CKD and anemia	
		Dialysis and renal transplant	
		Introduction to acid base regulation	Essential
		Body Buffer Systems	
		Respiratory regulation of acid base balance	
		Renal control of acid base balance	
		Quantifying renal acid base excretion – treatable acid	Important
		Metabolic/respiratory acidosis/alkalosis – identification of the case	

Sr. #	Curricular Topics	Competencies	Relevance
3	Reproductive Physiology	Male Reproduction	Essential
		Spermatogenesis	
		Testosterone – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	
		Metabolic and systemic disorders of testosterone	
		Identification of primary, secondary and tertiary causes of testosterone abnormalities via biochemical/pathological laboratory testing	
		Mechanism of erection and ejaculation	Important
		Physiological and psychological changes during male puberty – precocious puberty	
		Infertility and erectile dysfunction, male hypersexuality and karagner syndrome	Supplementary
		Female Reproduction	Essential
		Oogenesis	
		Estrogen/Progesterone – production, secretion, mechanism of action, cellular signaling, associated hormonal systems and effects of human metabolism and systemic physiology	
		Metabolic and systemic disorders of Estrogen/Progesterone	
		Identification of primary, secondary and tertiary causes of Estrogen/Progesterone abnormalities via biochemical/pathological laboratory testing	
		Ovarian and endometrial cycles	
		Physiological changes during female puberty and menopause	
		Pregnancy and its physiological changes	
		Functions of placenta	
		Parturition and lactation – physiology and disorders	
		Infertility and contraception and other clinical aspects, sleep and dietary dysregulations and infertility	Important
		Artificial fertilization, polycystic ovarian syndrome Fetal and neonatal physiology	Supplementary

Sr. #	Curricular Topics	Competencies	Relevance
4	Gastro Intestinal Physiology	Physiological organization of GIT	Essential
		GIT Hormones - secretion, regulation of secretion physiological effects	
		GIT hormones - disorders of secretion/function	
		Organization of enteric nervous system and its association with autonomic nervous system	
		Pacemaker potential of GIT	
		GIT motility – peristalsis, mass movements migratory motor complex	
		Saliva – Secretion, regulation of secretion and physiological functions	
		HCL - Secretion, regulation of secretion and physiological functions	
		Bile - Secretion, regulation of secretion and physiological functions	
		Pancreatic juice - Secretion, regulation of secretion and physiological functions	
		GIT Reflexes – swallowing, defecation, autonomic	
		Gastritis - pathophysiology and management	Important
		Acid Peptic Disease – pathophysiology and management	
		Cholecystitis/Cholelithiasis - pathophysiology and management	
		Pancreatitis - pathophysiology and management	
5	Hepatobiliary Physiology	Barrett's esophagus, achalasia, Hirschsprung disease, malabsorption syndromes - sprues	Supplementary
		Metabolic Functions OF Liver	
		Bilirubin and iron metabolism	Essential
		Jaundice – Types, development, identification, laboratory investigations and management	Important

PHYSIOLOGY DEPARTMENT, NISHTAR MEDICAL UNIVERSITY, MULTAN
ANNUAL PRACTICALS FOR 2ND YEAR MBBS 2025

	Module	Practical	Relevance
Block-IV	Neurosciences-I (Examination of sensory system)	Tactile Sensibility	Essential
		Pain & Temperature	Essential
		Position & Vibration Sense	Essential
		Stereognosis & two point discrimination Tactile localization	Essential
	Neurosciences-II (Examination of Motor system)	Bulk or Nutrition of the Muscles, involuntary movements and Tone and strength of Muscles	Essential
		Superficial Reflexes	Essential
		Deep Reflexes	
		Cerebellar Function Tests	Essential
Block-V	Special senses (Examination of Cranial Nerves)	Examination Cranial Nerve I (olfactory)	Essential
		Visual acuity & Color vision	Essential
		Light and accommodation reflex, Examination Cranial Nerve III, IV & VI	Essential
		Perimetry	Essential
		Ophthalmoscopy	Essential
	Endocrinology	Hearing test (Cranial Nerve VIII)	Essential
		Examination Cranial Nerve V & VII	Essential
		Examination Cranial Nerve IX, X, XI & XII	Essential
		Growth hormone, Thyroid hormones and parathyroid hormones report interpretation	Essential
		Adrenocortical hormones and pancreatic hormones report interpretation	Essential
Block-VI	GIT	Examination of taste sensation	Essential
		Blood glucose report interpretation	Essential
		Liver function test report interpretation	Essential
		Revision	Essential
	Genitourinary	Pregnancy Test	Essential
		Complete Urine Examination	Essential
		Renal function test report interpretation	Important
		Interpretation of arterial blood gases	Important

COMPETENCIES OF PATHOLOGY 2025

Neurosciences I

CELLULAR RESPONSE TO INJURY AND TRAUMA

- ▶ Pathogenesis of cerebral hypoxia and edema
- ▶ Types of hematomas extradural
- ▶ Subdural
- ▶ Subarachnoid

CNS MALFORMATIONS AND DEVELOPMENTAL DISEASES

- ▶ Pathogenesis of neural tube defects
- ▶ Meningocele, meningocele
- ▶ Hydrocephalus

CEREBROVASCULAR DISEASES OF CNS

- ▶ What is CVA? It's type and pathophysiology
- ▶ Transient Ischemic Attack

Neurosciences II

INFECTIONS OF CNS

- ▶ Pathophysiology of meningitis, its types.
- ▶ Encephalitis
- ▶ Pathophysiology of Guillain Barre Syndrome

Special Senses

GENETIC AND METABOLIC DISEASES OF CNS

- ▶ Phenylketonuria,
- ▶ Maple syrup disease

Endocrinology

THYROID GLAND

- ▶ Pathophysiology
- ▶ Hypo & Hyperthyroidism

Genitourinary

PYELONEPHRITIS

- ▶ Pathophysiology of acute pyelonephritis and
- ▶ Acute tubular necrosis

GIT

GERD (GASTROESOPHAGEAL REFLUX DISEASE)

- ▶ Definition,
- ▶ Etiology,
- ▶ pathogenesis,
- ▶ morphology,
- ▶ Clinical features,
- ▶ Complications (Barrett esophagus)

H PYLORI ASSOCIATED CHRONIC GASTRITIS

- ▶ Epidemiology,
- ▶ Pathogenesis,
- ▶ Morphology,
- ▶ Clinical features

COMPETENCIES OF PHARMACOLOGY 2025

Neurosciences – I Module

Introduction to autonomic nervous system pharmacology

- Name the major types and subtypes of Autonomic receptors and the tissue in which they are found
- Describe the organ system effects of stimulation of the Parasympathetic and sympathetic Nervous system

Neurosciences – II Module

Introduction to Central nervous system pharmacology

- Identify the major excitatory and inhibitory CNS neurotransmitters in the CNS
- Identify the sites of drug action at synapses

Special Senses Module

Drugs acting on eye

- List one anti-muscarinic agent promoted for each mydriasis & cycloplegia
- List & describe several drugs useful in glaucoma

Drugs affecting pain / NSAIDS analgesics

Describe the effects of NSAIDS on Prostaglandin synthesis for relief of pain

Endocrinology Module

Introduction to

Anti-thyroid drugs

- Sketch the biochemical pathway for thyroid hormone synthesis & release & indicate the sites of action of anti-thyroid drugs
- List the principal drugs for the treatment of hyperthyroidism

Anti-diabetic Drugs

Describe the effects of insulin on hepatocytes muscle & adipose tissue

Genitourinary Module

Diuretic drugs

List five major types of diuretics & relate them to their sites of action

GIT Module

Drugs affecting acid peptic disease

Identify five different groups of drugs in peptic ulcer disease

COMPETENCIES OF BEHAVIORAL SCIENCES 2025

Module	Assessment	Competencies	Relevance
Neuroscience I & II Module	Paper-I Block-4	<u>Breaking bad news:</u> c. Steps of breaking bad news d. Major challenges in breaking bad news <u>Handling Difficult Patients</u> b. Understanding difficult patients behavior c. Management Steps for handling difficult patients	Essential
Special Senses & Endocrinology Module	Paper-II Block-5	<u>Crisis interventions:</u> a. Definition and types of crisis b. Robert's seven stage model of crisis intervention c. Communication strategies in crisis intervention d. Psychological first aid	Supplementary
GIT & Genitourinary Module	Paper-III Block-6	<u>Disaster management</u> c. Definition and significance of disasters in our life d. Principals of disaster management <u>Conflict resolution:</u> a. Common reasons of conflict in healthcare settings b. Method of conflict resolution	Essential

COMPETENCIES OF COMMUNITY MEDICINE 2025

Neuroscience I & II Module Poliomyelitis • Signs and symptoms • Types, management, vaccine, prevention
Special Senses Module • Blindness, Hearing and Deafness, Noise Pollution
Endocrinology Module • Diabetes Mellitus • Types, Complications, Prevention,
Genitourinary Module • Sexually transmitted diseases Classification, pathogens and diseases, syndromic management of Urethral discharging in males, vaginal discharge, lower abdominal pain in female, genital ulcers, scrotal swelling and inguinal bobo
GIT Module • GERD signs and symptoms, prevention and management, Intestinal worms, types, signs and symptoms, prevention and management, signs and symptoms , prevention, management, investigation of Typhoid, Cholera, Diarrhea and Dysentery

COMPETENCIES OF RESEARCH 2025

Neuroscience I & II Module <u>Synopsis</u> • Title • Introduction • Objective and key words • Material and Methodology • References
Special Senses & Endocrinology Module <u>Material and Methodology</u> • Study Design • Sampling type • Sample size calculation by Manual and via WHO & Epi info calculator • Inclusion and exclusion criteria • Study Duration
GIT & Genitourinary Module <u>Discussion</u> • Definition and How to write

COMPETENCIES OF PEL 2025

Module	Assessment	Competencies	Relevance
Neuroscience I & II Module	Paper-I Block-I	<u>Professionalism:</u> b. Application of professionalism in healthcare <u>Ethics:</u> b. Common ethical dilemmas in health care settings	Essential
Special Senses & Endocrinology Module	Paper-I Block-II	<u>Professionalism:</u> a. PMDC guideline on professionalism and ethics <u>Ethics:</u> a. Pillars of medical ethics	Essential
Genitourinary Module & GIT	Paper I Block III	<u>Leadership:</u> e. Introduction and concept of leadership in healthcare settings f. Attributes of effective leaders g. Leadership styles in healthcare h. Medical leadership competency framework	Supplementary

CLERKSHIP SCHEDULE FOR 2ND YEAR MBBS 2025**SATURDAY 01:00PM-02:00PM****TOTAL HOURS: 32 WEEKS (32*1)****TOTAL STUDENTS : 300****TOTAL NO. OF BATCHES : 16 (8 FOR 1ST AND 8 FOR 2ND ROTATION)****TOTAL WARDS FOR ROTATION : 8 IN 1ST ROTATION MEDICINE(W#7,10,11,12),****PAEDS(W#19,20), ENT(W#2) AND RADIOLOGY(W#14)****8 IN 2ND ROTATION(SURGERY(W#4,5,6,9), GYNAE(W#16,17,18) AND****OPHTHALMOLOGY(W#15)****1ST ROTATION(MEDICINE AND ALLIED FOR BATCHES M1-M8 AND SURGERY
AND ALLIED FOR BATCHES S1-S8)**

DATE	M1	M2	M3	M4	M5	M6	M 7	M8	S1	S2	S3	S4	S5	S6	S7	S8
12-4-25	W#7	W#10	W#11	W#12	W#19	W#20	W#2	W#14	W#4	W#5	W#6	W#9	W#16	W#17	W#18	W#15
19-4-25	W#7	W#10	W#11	W#12	W#19	W#20	W#2	W#14	W#4	W#5	W#6	W#9	W#16	W#17	W#18	W#15
26-4-25	W#7	W#10	W#11	W#12	W#19	W#20	W#14	W#2	W#4	W#5	W#6	W#9	W#17	W#18	W#15	W#16
03-5-25	W#7	W#10	W#11	W#12	W#19	W#20	W#14	W#2	W#4	W#5	W#6	W#9	W#17	W#18	W#15	W#16
10-5-25	W#7	W#10	W#11	W#12	W#2	W#14	W#19	W#20	W#4	W#5	W#6	W#9	W#18	W#15	W#16	W#17
17-5-25	W#7	W#10	W#11	W#12	W#2	W#14	W#19	W#20	W#4	W#5	W#6	W#9	W#18	W#15	W#16	W#17
24-5-25	W#7	W#10	W#11	W#12	W#14	W#2	W#19	W#20	W#4	W#5	W#6	W#9	W#15	W#16	W#17	W#18
31-5-25	W#7	W#10	W#11	W#12	W#14	W#2	W#19	W#20	W#4	W#5	W#6	W#9	W#15	W#16	W#17	W#18
12-7-25	W#19	W#20	W#2	W#14	W#7	W#10	W#11	W#12	W#16	W#17	W#18	W#15	W#4	W#5	W#6	W#9
19-7-25	W#19	W#20	W#2	W#14	W#7	W#10	W#11	W#12	W#16	W#17	W#18	W#15	W#4	W#5	W#6	W#9
26-7-25	W#19	W#20	W#14	W#2	W#7	W#10	W#11	W#12	W#17	W#18	W#15	W#16	W#4	W#5	W#6	W#9
02-8-25	W#19	W#20	W#14	W#2	W#7	W#10	W#11	W#12	W#17	W#18	W#15	W#16	W#4	W#5	W#6	W#9
09-8-25	W#2	W#14	W#19	W#20	W#7	W#10	W#11	W#12	W#18	W#15	W#16	W#17	W#4	W#5	W#6	W#9
16-8-25	W#2	W#14	W#19	W#20	W#7	W#10	W#11	W#12	W#18	W#15	W#16	W#17	W#4	W#5	W#6	W#9
23-8-25	W#14	W#2	W#19	W#20	W#7	W#10	W#11	W#12	W#15	W#16	W#17	W#18	W#4	W#5	W#6	W#9
30-8-25	W#14	W#2	W#19	W#20	W#7	W#10	W#11	W#12	W#15	W#16	W#17	W#18	W#4	W#5	W#6	W#9
2ND ROTATION(SURGERY AND ALLIED FOR BATCHES M1-M8 AND MEDICINE AND ALLIED FOR BATCHES S1-S8)																
DATE	S1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	M1	M2	M3	M4	M5	M6	M 7	M8
06-9-25	W#7	W#10	W#11	W#12	W#19	W#20	W#2	W#14	W#4	W#5	W#6	W#9	W#16	W#17	W#18	W#15
13-9-25	W#7	W#10	W#11	W#12	W#19	W#20	W#2	W#14	W#4	W#5	W#6	W#9	W#16	W#17	W#18	W#15
20-9-25	W#7	W#10	W#11	W#12	W#19	W#20	W#14	W#2	W#4	W#5	W#6	W#9	W#17	W#18	W#15	W#16
27-9-25	W#7	W#10	W#11	W#12	W#19	W#20	W#14	W#2	W#4	W#5	W#6	W#9	W#17	W#18	W#15	W#16
4-10-25	W#7	W#10	W#11	W#12	W#2	W#14	W#19	W#20	W#4	W#5	W#6	W#9	W#18	W#15	W#16	W#17
11-10-25	W#7	W#10	W#11	W#12	W#2	W#14	W#19	W#20	W#4	W#5	W#6	W#9	W#18	W#15	W#16	W#17
18-10-25	W#7	W#10	W#11	W#12	W#14	W#2	W#19	W#20	W#4	W#5	W#6	W#9	W#15	W#16	W#17	W#18
25-10-25	W#7	W#10	W#11	W#12	W#14	W#2	W#19	W#20	W#4	W#5	W#6	W#9	W#15	W#16	W#17	W#18
01-11-25	W#19	W#20	W#2	W#14	W#7	W#10	W#11	W#12	W#16	W#17	W#18	W#15	W#4	W#5	W#6	W#9
08-11-25	W#19	W#20	W#2	W#14	W#7	W#10	W#11	W#12	W#16	W#17	W#18	W#15	W#4	W#5	W#6	W#9
15-11-25	W#19	W#20	W#14	W#2	W#7	W#10	W#11	W#12	W#17	W#18	W#15	W#16	W#4	W#5	W#6	W#9
22-11-25	W#19	W#20	W#14	W#2	W#7	W#10	W#11	W#12	W#17	W#18	W#15	W#16	W#4	W#5	W#6	W#9
29-11-25	W#2	W#14	W#19	W#20	W#7	W#10	W#11	W#12	W#18	W#15	W#16	W#17	W#4	W#5	W#6	W#9
06-12-25	W#2	W#14	W#19	W#20	W#7	W#10	W#11	W#12	W#18	W#15	W#16	W#17	W#4	W#5	W#6	W#9
13-12-25	W#14	W#2	W#19	W#20	W#7	W#10	W#11	W#12	W#15	W#16	W#17	W#18	W#4	W#5	W#6	W#9

BATCH DISTRIBUTION

BATCH NO.	ROLL NUMBERS
M1	1-9, 140-149
M2	10-18, 150-159
M3	19-27, 160-169
M4	28-36, 170-179
M5	37-45, 180-189
M6	46-54, 190-199
M7	55-63, 200-209
M8	64-72, 210-219
S1	73-81, 220-229
S2	82-90, 230-239
S3	91-99, 240-249
S4	100-108, 250-259
S5	109-117, 260-269
S6	118-126, 270-279
S7	127-132, 280-289
S8	133-139, 290 onwards(detainees included)

LEARNING OUTCOMES 2025

Medicine and Allied Outcomes

1. Blood Pressure Assessment:

Attain proficiency in accurately assessing blood pressure for clinical insights.

2. Pulse Rate Evaluation:

Develop precision in evaluating pulse rates, crucial for understanding cardiovascular health.

3. Respiratory Rate Proficiency:

Acquire precision in determining respiratory rates, vital for assessing overall well-being.

4. Temperature Recording:

Demonstrate competence in recording body temperature, essential for diagnosing and monitoring illnesses.

5. ECG Bedside Interpretation:

Master the skill of interpreting bedside ECGs, identifying cardiac abnormalities for optimal patient care.

Additional Skills:

- Understand rhythm and volume of pulse.
- Recognize causes of tachycardia and bradycardia.
- Differentiate high and low volume pulse.
- Identify types of irregular rhythms and their causes.
- Understand the range of normal systolic and diastolic BP.
- Know normal respiratory rate and causes of abnormalities like tachypnea, hyperpnea.
- Understand different types of breathing patterns such as Cheyne-Stokes and acidotic breathing.
- Understand normal temperature and recognize causes of hypo and hyperthermia.

Surgery and Allied Outcomes:

1. Infection Control Mastery:

Adept in maintaining aseptic conditions through effective handwashing and gloving.

2. Vascular Access Skills:

Proficient in venepuncture and intravenous line insertion techniques.

3. Urinary Catheterization Proficiency:

Observing Foley's catheter insertion skills.

4. Gastro Procedures Competence:

Acquiring skills in observing and understanding nasogastric tube insertion.

CURRICULUM
OF
Islamiat
&
Pakistan Studies
2025

The study of religion and country endorses all relevancy and competency acquisition for the purpose of service to humanity and community orientation.

ISLAMİYAT

Course Content:

1. Understand the basic principles of Islam.
2. Explain the concept of the Islamic state.
3. Explain the Quran as a guide for modern society and scientific development.
4. Describe the life of the Holy Prophet Peace be upon him as an example to follow.
5. Explain ethics in the Islamic prospective.
6. Describe the rights of the individual in Islam.
7. Describe the rights of women and children in Islam.
8. Explain the contribution of Islamic scholars to science and medicine.
9. Understand Islam in terms of modern scientific development.
10. Explain the concept of Rizk-e-Hilal.
11. Explain the concept of Hukook-ul-Ibad.

PAKISTAN STUDIES

A short course on Pakistan Studies will be completed in First and Second year with an exam at the end of second year.

Course Content:

1. Describe brief the salient features of the Pakistan movement.
2. Explain the basis for the creation of Pakistan.
3. Give a brief account of the history of Pakistan.
4. Explain the ethnic and cultural distribution of the population of Pakistan.
5. Describe the Provinces and resources available in Pakistan.
6. Explain current problems faced by Pakistan.
7. Describe the social, economic and health problems of the rural population of Pakistan.

ISLAMİYAT AND PAKISTAN STUDIES BOOKS

- Standard Islamiyat (Compulsory) for B.A, B.Sc., M.A, M.Sc., MBBS by Prof. M.SharifIslahi Ilmi Islamiyat (Compulsory) for B.A. B.Sc., & equivalent.
- Pakistan studies (Compulsory) for B.A. B.Sc., B.Com., Medical/Engineering by Prof.Shah Jahan Kahlun
- Pakistan studies (Compulsory) for B.A, B.Sc., B.Com., B.Ed., Medical/Engineering by
- Prof. Shah Jahan Kahlun

EXAM GUIDELINES 2025

Islamic Studies/ Civics and Pakistan Studies	Islamic Studies/Civics 3 LEQs of 20 marks each	60 Marks	100*
	Pakistan Studies 2 LEQs of 20 marks each	40 Marks	
	Total	100	

* Total marks for the First and Second Professional Examinations shall be 900, each. Marks of Islamic Studies/Civics and Pakistan Studies shall not be counted towards total marks of any professional examination, and determination of position or merit of a candidate. However, the candidates shall have to take the examination in the subject in their Second Professional MBBS Examination. Those failing the subject in both annual & supplementary examinations, while passing all the other subjects of Second Professional Examination shall be promoted to the 3rd year MBBS, however they will be allowed two more attempts to clear the subject with Second professional Examination of the next session, failing which they shall be detained in the 3rd Professional MBBS.



G. ISLAMIC STUDIES/CIVICS AND PAKISTAN STUDIES

note:

The examination in Islamic Studies/Civics and Pakistan Studies shall be as follows: -

- I. One written paper of 100 marks in Islamic Studies/ Civics and Pakistan Studies having two components:
 - i. Islamic Studies/Civics component having total 60 marks. There will be three (3) Long Essay Questions (LEQs) to be attempted out of five (5), having 20 marks each.
 - ii. Pakistan Studies component having total 40 marks. There will be two (2) Long Essay Questions (LEQs) to be attempted out of four (4), having 20 marks each.

Note: Islamic Studies for Muslims, and Civics for Non-Muslims candidates.

in Islamiat and Pak Studies altogether are considered as passing marks.

- Three answers sheets for Islamiat and two answers sheets Pak Studies will be provided to the students.

No. 2809 / NMC

Dated - 14-06-2025

NISHTAR MEDICAL UNIVERSITY, MULTAN ACADEMIC CALENDER SESSION 2024-25 (N-70)

Mar 2025	Apr 2025	May 2025	Jun 2025	Jul 2025	Aug 2025	SEPT 2025	Oct 2025	Nov 2025	Dec 2025
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
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23	23	23	23	23	23	23	23	23	23
24	24	24	24	24	24	24	24	24	24
25	25	25	25	25	25	25	25	25	25
26	26	26	26	26	26	26	26	26	26
27	27	27	27	27	27	27	27	27	27
28	28	28	28	28	28	28	28	28	28
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30	30	30	30	30	30	30	30	30	30
31	31	31	31	31	31	31	31	31	31

PRINCIPAL
Nishtar Medical College,
MULTAN