



**STUDY GUIDE  
BLOCK 6  
INTEGRATED MODULER SYSTEM  
ACADEMIC SESSION 2024  
2<sup>nd</sup> YEAR MBBS**

**RAHBAR MEDICAL AND DENTAL COLLEGE  
LAHORE**

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# **BLOCK 6**

## **NEUROSCIENCES MODULE 1**

### **Modular Outcome:**

- Describe the neuroanatomy, histology and embryology of the central nervous system.
- Discuss the physiology of Autonomic Nervous System (ANS), motor and sensory system.
- Explain the pathophysiology of common diseases pertaining to the nervous system.
- Explain a basic management and prevention plan for common neurological disorders.
- Appreciate the burden of neuroscience disorders and their psychosocial impact.

NORMAL STRUCTURE			
THEORY			
CODE	GROSS ANATOMY	TOTAL HOURS = 46	
	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
NS-A-001	Describe the basic organization of nervous system	Human Anatomy	Nervous system
	Identify and describe the components of the Nervous system and their function	Human Anatomy	
NS-A-002	Trace the Origin, exit from vertebral canal, branches & Distribution of typical spinal nerve.	Human Anatomy	Spinal Nerves
NS-A-003	<p>Identify the Location, Extent, Coverings and Blood supply of spinal cord</p> <p>Discuss &amp; tabulate nuclear organization at different levels of Spinal cord.</p> <p>Describe, draw &amp; label the transverse section of spinal cord at mid cervical level showing ascending &amp; descending tracts</p> <p>Tabulate the sensory nerve endings, and anatomical sites of first, second, third order neurons of ascending tracts</p> <p>Tabulate first, second, third order neurons of descending tracts.</p> <p>Elaborate on the Cross-sectional details of white and gray matter of cervical, thoracic and lumbar segments of Spinal cord for localization of site of lesion.</p>	Human Anatomy	Spinal cord Clinical correlates (Spinal cord)

NS-A-004	Differentiate clearly between upper and lower motor neuron lesions	Human Anatomy	Brainstem
	Location, Relations, Blood supply and external	Human Anatomy	
	<p>features of medulla, pons midbrain.</p> <p>Cross sectional details of white and grey matter of Brain stem (mid brain, pons, medulla)</p> <p>Discuss clinical correlates of brain stem Medial and lateral medullary syndrome Weber syndrome, Benedikt syndrome</p>		
NS-A-005	<p>Location, Relations, Functional classification &amp; Blood supply along with major connections of Cerebellum (Cerebellar Peduncles)</p> <p>Define important clinical correlates</p>	Human Anatomy	Cerebellum
NS-A-006	Identify the Lobes, Sulci & Gyri, Cortical areas. Describe Venous drainage and arterial supply of each lobe	Human Anatomy	Cerebrum
	Describe Functional areas of cerebrum. Draw and Label Homunculus. Define important clinical correlates		
	Describe internal structure of cerebral hemisphere; <ul style="list-style-type: none"> <li>1. white matter</li> <li>2. Basal ganglia</li> <li>3. Lateral ventricle</li> </ul>		
NS-A-007	Describe components & functions of Limbic system & Reticular formation		Limbic system. Reticular formation
NS-A-008	<p>Explain the origin, exit from the brain and intracranial course of cranial nerves</p> <p>Describe the Functional Components and specific functions of each cranial nerve.</p>	Human Anatomy	Cranial nerves

NS-A-009	Identify the Location and sub division of Diencephalon.	Human Anatomy	Diencephalon
NS-A-010	Discuss the Location, Relations, Blood supply, nuclei and major connections of Thalamus, Hypothalamus, Epithalamus, Subthalamus, Metathalamus	Human Anatomy	Thalamus and hypothalamus

	<p>Describe and Illustrate the Hypothalamic and pituitary gland Nuclei with their functions, location afferents.</p> <p>Describe the Hypothalamo-Hypophyseal Portal System</p> <p>Describe the functions of Hypothalamus</p> <p>Explain the anatomical basis for the Thalamic Cautionization, Thalamic Pain, Thalamic Hand and Hypothalamic Disorders</p>		
NS-A-011	Explain the Gross anatomy of Intracranial fossae with intracranial foramina	Human Anatomy	Intracranial fossa
NS-A-012	Explain the attachments, blood supply and nerve supply of the meninges of the brain	Human Anatomy	Meninges
NS-A-013	Discuss the Origin, tributaries & area of drainage, termination of Dural venous sinuses	Human Anatomy	Dural venous sinuses
NS-A-014	<p>Explain the Formation, circulation and absorption into venous system of CSF (Cerebrospinal fluid)</p> <p>Describe ventricular system, Lateral, 3<sup>rd</sup> &amp; 4<sup>th</sup> ventricles</p>	Human Anatomy	CSF
NS-A-015	<p>Discuss the Origin, course, branches and distribution of internal carotid artery, vertebral artery</p> <p>Formation, Location, branches and area of supply of Circle of Willis</p>	Human Anatomy	Blood supply of brain & spinal cord
NS-A-016	Explain the Major subdivision of ANS into Sympathetic and parasympathetic nervous system with comparison of anatomical differences.	Human Anatomy	ANS

NS-A-017	Describe the Location, connections and functions of autonomic ganglion	Human Anatomy	Autonomic ganglia
NS-A-018	Explain the origin, termination and branches of the sympathetic chain Localize spinal cord lesions	Human Anatomy	Sympathetic chain
<b>CODE</b>	<b>EMBRYOLOGY &amp; POST-NATAL DEVELOPMENT</b>	<b>TOTAL HOURS = 03</b>	

	<b>SPECIFIC LEARNING OUTCOMES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>
NS-A-019	Explain the Development of Neural tube and Brain vesicles. Discuss related clinical anomalies	Embryology	Neural tube development
NS-A-020	Describe the development of the spinal cord and related clinical anomalies	Embryology	Spinal cord development
NS-A-021	Describe development of Pituitary gland	Embryology	Pituitary gland

<b>CODE</b>	<b>MICROSCOPIC ANATOMY (HISTOLOGY &amp; PATHOLOGY)</b>	<b>TOTAL HOURS = 05</b>	
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	<b>SPECIFIC LEARNING OBJECTIVES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>
NS-A-022	Describe the histological structure of Nervous tissue, Neuron, Nerve fiber, Sensory & motor nerve endings, Neuroglia, Blood brain barrier, ganglia	Histology	Nervous tissue
NS-A-023	Describe the histological structure of the spinal cord	Histology	Spinal cord
NS-A-024	Describe the histological structure of Cerebrum, Cerebellum	Histology	Cerebrum, Cerebellum

## PRACTICAL

<b>CODE</b>	<b>HISTOLOGY</b>	<b>TOTAL HOURS = 07</b>	
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	<b>SPECIFIC LEARNING OBJECTIVES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>
NS-A-025	Identify draw & label light microscopic structure of Peripheral nerve sensory ganglia, autonomic ganglia	Histology	CNS
NS-A-026	Identify Draw & label the light microscopic structure of the spinal cord	Histology	Cerebrum

NS-A-027	Identify Draw & label the light microscopic structure of the Cerebrum	Histology	Cerebellum
NS-A-028	Identify Draw & label the light m structure of the Cerebellum	Histology	Spinal Cord

NORMAL FUNCTION			
THEORY			
CODE	MEDICAL PHYSIOLOGY	TOTAL HOURS = 60	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
NS-P-001	Describe the general organization of nervous system	Medical Physiology	Organization of Nervous System, Neurons and Synapses
	Classify synapses		
	Explain physiological anatomy of synapses		
	Describe the properties of synaptic transmission		
	Classify the substances that act as neurotransmitters		
	Classify all sensory receptors in the body		
	Enumerate the properties of receptors		
	Explain the mechanism of adaptation of receptors		
	Enlist the rapid adapting mechanism of receptors		
NS-P-002	Explain the properties of receptors	Medical Physiology	Nerve fibers
	Explain the general classification of nerve fibers		
	Explain the numerical classification of nerve fibers		
	Explain Gasser classification of nerve fibers		
	Explain summation and its types		
	Describe the sensory areas of brain		
	Enlist Brodmann number of sensory areas		



NS-P-003	Describe the effects produced by damage to each sensory area of brain		Sensory areas of the brain
	Describe the pathophysiology and features of personal neglect syndrome		
NS-P-004	Classify and explain somatic sensations	Medical Physiology	Somatic sensations
NS-P-005	Enumerate the ascending tracts/Pathways		Ascending Tracts/ pathways
NS-P-006	Name the sensations carried by Dorsal column	Medical	Anterolateral

	medial lemniscus system DCMLS	Physiology	system
	Trace the pathway of DCMLS		
NS-P-007	Classify pain		Pain
	Differentiate between slow pain and fast pain		
	Describe the analgesia system in brain and spinal cord		
	Describe the cause and features of Brown Sequard Syndrome		
NS-P-008	Describe the Physiological anatomy of spinal cord		Spinal cord
	Name the anterior motor neurons and their location		
	Explain the Renshaw cells feedback		
	Classify the spinal cord reflexes according to number of synapses		
NS-P-009	Describe the structure & functions of Muscle spindle	Medical Physiology	Muscle Spindle and stretch reflex
	Trace the reflex arc of stretch reflex		
	Discuss the clinical significance of stretch reflex		
NS-P-110	Define tone and how it is maintained		Tone
NS-P-011	Trace the reflex arc of Golgi Tendon Organ GTO, Golgi tendon reflex		GTO
	Explain the importance of Golgi tendon reflex		
	Name the motor areas of brain		

NS-P-012	Enlist Brodmann number of motor areas of brain Explain the features produced due to damage to the motor areas		Motor areas of the brain
NS-P-013	Enlist the functions of brain stem	Medical Physiology	Brainstem
NS-P-014	Enumerate the descending tracts		Descending tracts
	Describe the functions of Pyramidal tract		
	Describe the effect of lesions in motor cortex of brain or pyramidal tract		
NS-P-015	Discuss the location of upper and lower motor neuron		Location of motor neurons
	Explain the features of upper motor neuron lesion		
	Explain the features of lower motor neuron lesions		
NS-P-016	Define spinal shock		Spinal shock and hemi section
	Enumerate and explain the stages of spinal shock		
	Describe the features of hemi section of spinal cord (at the level, above the level, below the level)		
NS-P-017	Name the functional parts of cerebellum	Medical Physiology	Cerebellum
	Explain the functions of spinocerebellum		
	Describe the functions of cerebro cerebellum		
	Discuss the functions of vestibule cerebellum		
	Explain the clinical features of cerebellar disease		
NS-P-018	Name the components of Basal ganglia	Medical Physiology	Basal Ganglia
	EXPLAIN the putamen and caudate circuits		
	Enlist the neurotransmitters in basal ganglia and enlist the functions of basal ganglia		
	Enumerate and explain the clinical abnormalities of putamen circuit		
	Explain the pathophysiology and features of Huntington's disease		

	Explain the types of rigidity		
	Differentiate spasticity and rigidity		
	Define decerebrate rigidity		
NS-P-019	Enumerate the components of vestibular Apparatus	Medical Physiology	Vestibular apparatus
	Name the sensory organs of vestibular apparatus		
	Describe the role of vestibular Apparatus in maintenance of linear and angular equilibrium		
NS-P-020	Enlist the components of limbic system		Limbic system
	Describe the functions of amygdala		
	Explain the effects of bilateral ablation of the amygdala–The Klüver-Bucy Syndrome		
	Explain the functions of hippocampus		
	Explain the functions of Hypothalamus		
	Explain Functions of Thalamus		
	Discuss the Thalamic syndrome		
NS-P-021	define brain stem reticular formation (BRF), name the neurotransmitters of BRF, enlist functions of BRF, differentiate between the functions of Pontine and medullary reticular Formation	Medical Physiology	Brain stem reticular formation
NS-P-022	Enumerate and discuss the physiological basis of Electroencephalogram EEG waves		EEG
NS-P-023	Explain the types of sleep	Medical Physiology	Sleep
	Discuss the stages of slow wave sleep		
	Explain the changes in EEG during sleep wake cycle		
	Enumerate the areas and hormones/ neurotransmitters involved in sleep		
	Describe sleep disorders (narcolepsy, cataplexy, insomnia, somnolence, somnambulism, bruxism, nocturnal enuresis and sleep apnea)		
	Enumerate different types of epilepsy		

NS-P-024	Explain the features and physiological basis and EEG waves in different types of epilepsy		Epilepsy
NS-P-025	Define memory	Medical	Memory
	Classify memory on the basis of duration and information stored		
	Explain the Molecular Mechanism of Intermediate Memory		
	Enumerate the structural changes of long-term memory		
	Explain the higher intellectual functions of prefrontal association cortex		
	Physiology		
NS-P-026	Explain the mechanism of consolidation of memory	Physiology	Speech
	Explain retrograde and anterograde amnesia		
	Explain the physiological basis and features of Alzheimer's disease		
	Enlist the areas of speech		
	Explain the functions of motor and sensory areas of speech		
	Trace and explain the pathway of written and heard speech		
	Enlist the abnormalities of speech		
Explain the features of motor aphasia			
Elaborate the features of sensory aphasia			
NS-P-027	Define dyslexia, alexia, agraphia	Medical Physiology	ANS
	Discuss Components of Autonomic nervous system		
	Explain the physiological anatomy of sympathetic and parasympathetic nervous system		
	Describe the types of adrenergic and cholinergic receptors		
	Explain the effects of sympathetic and parasympathetic on various organs/ system of body		

CODE	MEDICAL BIOCHEMISTRY	TOTAL HOURS = 20	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
NS-B-001	Explain the digestion and absorption of lipids with enzymes involved in it. Discuss role of bile acids and salts in lipid digestion and absorption	Medical Biochemistry	Digestion and absorption of lipids
NS-B-002	Explain the concept of lipid transport and storage		Lipid transport and storage

NS-B-003	Discuss the reactions of beta-oxidation, alpha and omega oxidation of unsaturated and saturated fatty acids Calculate energy yield from palmitate in oxidation		Sphingolipidosis
NS-B-004	Discuss role of carnitine shuttle		Carnitine shuttle
NS-B-005	Discuss the role of citrate shuttle in fatty acid synthesis		Citrate shuttle
NS-B-006	Explain the pathway of fatty acid synthesis and its regulation Explain the steps of the reactions of hepatic ketogenesis and regulation		Fatty acid synthesis
NS-B-007	Describe utilization of ketone bodies by extrahepatic tissue. Describe the Synthesis and degradation of phospholipids and sphingolipids interpret the disorders related to enzyme deficiencies.		Metabolism of phosphor and sphingolipids
NS-B-008	Discuss the metabolism of glycolipids interpret the disorders related to enzyme deficiencies.		Glycolipid metabolism
NS-B-009	Explain fast feed cycle with reference to pathways activated and suppressed in each tissue in starved and fed state Discuss integration of metabolism		Fast feed cycle

NS-B-010	Explain fast. Discuss the structure, biochemical function and metabolism, dopamine, serotonin, histamine, GABA Correlate the biochemical functions of these neurotransmitters with their deficiency diseases	Medical Biochemistry	Neurotransmitters
NS-B-011	Explain proto-oncogene and oncogene concept.		Oncogene
NS-B-012	Discuss tumor markers and their significance.		Tumor markers

NS-B-013	Explain the role of genetics in cancers especially breast, ovary, lung and colon.		Cancer
NS-B-014	Discuss the concept of xenobiotics.		Xenobiotics

## PRACTICAL

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 14	
		DISCIPLINE	TOPIC
NS-B-015	Interpret the lysosomal storage diseases on given data Neiman pick disease, Gaucher's disease etc.	Biochemistry Practical	Data Interpret
NS-B-016	Perform the estimation of triglycerides by kit method		Triglycerides estimation
NS-P-028	Examine the Sensory System	Physiology Practical	Sensory system
NS-P-029	Examine the Superficial Reflexes		Superficial Reflexes
NS-P-030	Examine the Deep Reflexes		Deep Reflexes
NS-P-031	Demonstrate Cerebellar Function Test		Cerebellar Tests
NS-P-032	Demonstrate the testing of Cranial Nerve (CN) VII		CN VII
NS-P-033	Demonstrate the Testing of Cranial Nerves (XI, XII)		CN X, XI, XII
NS-P-034	Examine the Motor system		Motor system
<b>PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS</b>			
		<b>TOTAL HOURS = 05</b>	

CODE	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
NS-Ph-001	1. Classify various opioid receptors 2. Describe Mechanism of Action (MOA), pharmacological actions, clinical uses and adverse effects of opioid agonist, mixed agonist -antagonist and antagonist	Pharmacology	Opioids
NS-Ph-002	1. Classify various CNS stimulants and depressants 2. Describe MOA, pharmacological actions, clinical uses and adverse effects of CNS stimulant and		CNS stimulants & depressants

	depressants		
NS-Pa-001	Define cerebral vascular accident (CVA). Discuss the etiology and morphological changes of Cerebrovascular accidents	Pathology	CVA
NS-Pa-002	Define Meningitis Identify types of meningitis		Meningitis

#### DISEASE PREVENTION AND IMPACT

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 10	
		DISCIPLINE	TOPIC
NS-CM-001	Students should be able to depict the depth of problem in context of mental illnesses	Community Medicine and Public Health	Epidemiology of Mental Disorders
NS-CM-002	Able to learn the general approach to prevent mental illnesses at community level		Community based interventions for Mental Illnesses
NS-BhS-001	Explain the theoretical basis of classic conditioning, operant conditioning and observational learning with examples in medical practice Incorporate learning principles to help prepare people for medical interventions		Learning and Behavior

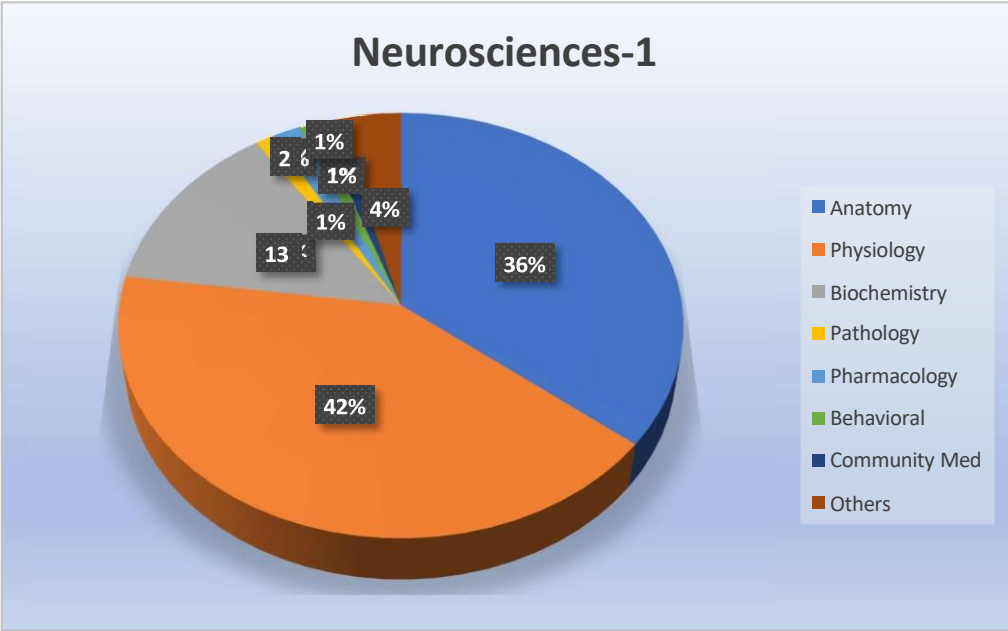
NS-BhS-002	Outline the structure of memory and explain the distinction between short- and long-term memory. Describe memory improvement techniques and how the appropriate ones will help patients recall long and complex explanations	Behavioral Sciences	Memory
NS-M-001	Identify various types of CVA (cerebrovascular accident) Describe various symptoms and signs Outline management strategies	Medicine	Stroke/CVA
NS-S-001	Discuss the role of surgery in stroke	Surgery	Stroke/CVA
NS-M-002	Define Epilepsy Enlist various types of epilepsy Identify various symptoms and signs Outline management strategies	Medicine	Epilepsy

NS-M-003	Enlist various types of meningitis Describe symptoms and signs Outline management strategies	Medicine/ Neurology	Meningitis
NS-S-002	Describe triage in ER Emergency Room	Surgery	Head injury
NS-S-003	Identify the various types of hematomas	Neurosurgery	Hematoma/ CVA
NS-Pe-001	Describe the clinical features of Cerebral Palsy	Pediatrics	Cerebral Palsy

### AGING

CODE	THEORY	TOTAL HOURS = 01	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
NS-Ag-001	Define dementia	Medicine	Dementia
	Discuss various causes for dementia		
	Discuss various risks for dementia		
	Outline management strategies		





Module Weeks	Recommended Minimum Hours
<b>07</b>	<b>171</b>



**Weekly Planner**  
**2nd Year MBBS 2024. Neurosciences**  
**WEEK – 1      THEME:**  
**Date 30th Sept - 4th October 2024**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2.15pm-3.00pm	3:00pm-4:00pm
Monday 30th September	OSPE/OSVE	OSPE/OSVE		OSPE/OSVE	OSPE/OSVE	OSPE/OSVE	OSPE/OSVE	OSPE/OSVE	OSPE/OSVE
Tuesday 1st October	OSPE/OSVE	OSPE/OSVE		OSPE/OSVE	OSPE/OSVE	OSPE/OSVE	OSPE/OSVE	OSPE/OSVE	OSPE/OSVE
Wednesday 2nd October 24	Practicals Histology (A) Physiology(B) Biochemistry (C)			LGIS Physiology Dr Sara (001)	LGIS HOD* Anatomy Gross Nervous system NS-A-001	LGIS Physiology Dr Saima (002)	LGIS Biochemistry 001 Prof. Dr. Asima Malik	LGIS QURAN.  Prof. M. Ali	<b>S D L</b>
Thursday 3rd October, 24	Practicals Histology (B) Physiology(C) Biochemistry (A)			LGIS Physiology Dr Saima (003)	LGIS Biochemistry 001, 002 Prof. Dr. Asima Malik	LGIS Physiology Dr Sara (001)	SGD HOD* Anatomy Gross Nervous system NS-A-001	SGD HOD* Anatomy Gross Nervous system NS-A-001	
Friday 4th October 24	Practicals Histology (C) Physiology (A) Biochemistry (B)			TBL Anatomy SH Nervous tissue NS-A-022  *HOD	LGIS Physiology Dr. Saima (008)	LGIS Physiology Dr. Saima (008)	1:15pm-2:00pm Jumma Prayer	LGIS BS *HOD	

**Weekly Planner**  
**2nd Year MBBS 2024. Neurosciences**  
**WEEK – 2      THEME:**  
**Date                      2024**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2:15pm-3:00pm	3:00pm-4:00pm
Monday 7th October	Practicals Histology (A) Physiology(B) Biochemistry (C)			LGIS Physiology Dr. Rafique (004)	LGIS Biochemistry 003      Prof. Dr. Asima Malik	SGD HOD* Anatomy Gross Nervous system NS-A-001	SGD HOD* Anatomy Gross/workshop	LGIS BS / workshop	
Tuesday 8th October	STUCON	STUCON		STUCON	STUCON	STUCON	STUCON	STUCON	
Wednesday 9th October	STUCON			STUCON	STUCON	STUCON	STUCON	STUCON	
Thursday 10 OCTOBER	Practicals Histology (B) Physiology(C) Biochemistry (A)			LGIS Physiology Dr Saima (009)	LGIS HOD* Anatomy Gross Nervous system NS-A-001,002	LGIS Physiology Dr Sara (007)	LGIS Biochemistry 003 Prof. Dr. Asima Malik	LGIS PERL	
Friday 11 OCTOBER	Practicals Histology (C) Physiology (A) Biochemistry (B)			LGIS Physiology Dr. Rafique (005,006)	LGIS      Anatomy gross *HOD ANS NSA –A-016,017	LGIS Physiology Dr Sara (007)	1:15pm-2:00pm Jumma Prayer	LGIS PERL	

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Weekly Planner									
2nd Year MBBS 2024. Neurosciences									
WEEK – 3					THEME:				
Date					2024				
Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2:15pm-3:00pm	3:00pm-4:00pm
Monday 14th October, 24	SGD HOD* PERL	LGIS Biochemistry 004 Prof. Dr. Asima Malik		LGIS Physiology Dr. Rafique (006)	LGIS Physiology Dr. Saima (010)	LGIS SH - Nervous tissue NS-A-022. Dr. Samina	SGD HOD* Anatomy Gross Spinal cord NS-A-003	LGIS QURAN. <i>Prof. M. Ali</i>	
Tuesday 15th October, 24	LGIS Biochemistry 005,006 Prof. Dr. Asima Malik	LGIS AGING. Medicine *HOD NS-Ag-001		LGIS Physiology Dr. Rafique (012)	LGIS Nervous tissue NS-A-022 SH. Dr Samina	LGIS Physiology Dr Sara (007)	SGD HOD* Pharma Opioids Ph-001	2:15pm-3:00pm LGIS Islamiat/Pak studies *H.O.D	
Wednesday 16th October, 24	Practicals Histology (A) Physiology(B) CFRC (C)			LGIS Physiology Dr Saima (011)	SGD HOD* Anatomy Gross Spinal cord NS-A-003	LGIS Physiology Dr. Ujala (013)	LGIS Spinal cord NS-A-023. SH- Dr Samina	LGIS QURAN. <i>Prof. M. Ali</i>	
Thursday 17th October, 24	Practicals Histology (B) Physiology(C) CFRC (A)			LGIS HOD* Anatomy Gross Spinal cord NS-A-003	LGIS Physiology PBL	LGIS Physiology PBL	LGIS Biochemistry 006, 007 Prof. Dr. Asima Malik	SGD HOD* Pharma Opioids NS-Ph-001	
Friday 18th October, 24	Practicals Histology (C) Physiology (A) CFRC (B)			Anatomy Formative assessment *HOD	LGIS Physiology Dr. Sara (016)	LGIS Biochemistry 008 Dr. Afshan Bilal	1:15pm-2:00pm Jumma Prayer	LGIS PERL	

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**Weekly Planner**  
**2nd Year MBBS 2024. Neurosciences**  
**WEEK – 4      THEME:**  
**Date            2024**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2.15pm-3.00pm	3:00pm-4:00pm
Monday 21 <sup>st</sup> October, 24	TEST Physiology	LGIS Biochemistry 008 Dr. Afshan Bilal		LGIS Physiology Dr. Rafique (014)	LGIS HOD* Anatomy Gross Spinal cord NS-A-003	LGIS Physiology Dr. Saima (017)	PBL HOD* Anatomy Gross Spinal cord NS-A-003	LGIS QURAN.  <i>Prof. M. Ali</i>	
Tuesday 22 <sup>nd</sup> October, 24	SGD HOD* Anatomy Gross Brainstem NS-A-004	LGIS Physiology Dr. Saima (017)		LGIS Physiology Dr. Rafique (014)	LGIS HOD* Anatomy Brainstem NS-A-004	PBL HOD* Anatomy Gross Brainstem NS-A-004	LGIS Biochemistry 009 Dr. Mariam Shoukat	LGIS QURAN.  <i>Prof. M. Ali</i>	
Wednesday 23 <sup>rd</sup> October, 24	Practicals Histology (A) Physiology(B) CFRC (C)			LGIS Physiology Dr. Saima (017)	LGIS Anatomy SE Neural tube development NS-A-019. Prof. Attiya	LGIS Biochemistry 009 Dr. Mariam Shoukat	SGD HOD* Anatomy Gross Brainstem  NS-A-004	LGIS QURAN.  <i>Prof. M. Ali</i>	
Thursday 24 <sup>th</sup> October, 24	Practicals Histology (B) Physiology(C) CFRC (A)			LGIS Biochemistry 009 Dr. Mariam Shoukat	LGIS HOD* Anatomy Gross Brainstem NS-A-004	LGIS Physiology PBL	LGIS Physiology PBL	LGIS Pathology CVA NS-Pa-001	
Friday 25 <sup>th</sup> October, 24	Practicals Histology (C) Physiology (A) CFRC (B)			LGIS Anatomy Gross *HOD Brainstem NS-A-004	LGIS Physiology Dr. Ujala (015)	LGIS Biochemistry 010 Prof. Dr. Riffat Yasmin	1:15pm-2:00pm Jumma Prayer	LGIS PERL	

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**Weekly Planner**  
**2nd Year MBBS 2024.Neurosciences**  
**WEEK – 5**      **THEME:**  
 Date              2024

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2:15pm-3:00pm	3:00pm-4:00pm
Monday 28th October, 24	TEST	LGIS Biochemistry 010 Prof Dr. Riffat Yasmin		LGIS Physiology Dr. Rafique (018)	LGIS HOD* Anatomy SE Spinal cord development NS-A-020	LGIS HOD* Anatomy Gross Brainstem (Mid brain) NS-A-004	LGIS HOD*    SH Cerebrum NS-A-024	LGIS PERL	
Tuesday 29th October, 24	TEST Biochemistry 011, 012 Prof Dr. Asima Malik	LGIS *HOD PERL		LGIS Physiology Dr. Rafique (018)	LGIS Anatomy SE Pituitary gland NS-A-021 Prof. Attiya	LGIS HOD* Blood supply of brain & spinal cord NS-A-015	LGIS Physiology Dr. Saima (020)	2:15pm-3:00pm LGIS Islamiat/Pak studies *H.O.D	
Wednesday 30th October, 24	Practicals Histology (A) Physiology(B) CFRC (C)			LGIS Biochemistry 013 Prof Dr. Asima Malik	SGD HOD* Anatomy Gross  Cerebellum NS-A-005	LGIS Physiology Dr. Sara (020)	LGIS HOD* Anatomy Gross Cerebellum NS-A-005	LGIS QURAN.  Prof. M. Ali	
Thursday 31 <sup>st</sup> October, 24	Practicals Histology (B) Physiology(C) CFRC (A)			LGIS Physiology Dr. Sara (020)	SGD HOD* Anatomy Gross Cerebrum NS-A-006	LGIS Physiology Dr. Ujja (020)	LGIS Biochemistry 014 Prof. Dr. Riffat Yasmin	LGIS Medicine EPILEPSY *HOD NS-M- 002	
Friday 1 <sup>st</sup> November, 24	Practicals Histology (C) Physiology (A) CFRC (B)			SGD HOD* Anatomy Gross Cerebrum NS-A-006	LGIS Physiology PBL	LGIS Physiology PBL	1:15pm-2:00pm Jumma Prayer	LGIS Pharmacology. *HOD CNS stimulants & depressants NS-Ph-002	

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**Weekly Planner**  
**2nd Year MBBS 2024. Neurosciences**  
**WEEK – 6**      **THEME:**  
**Date**              **2024**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2:15pm-3:00pm	3:00pm-4:00pm
Monday 4 <sup>th</sup> November, 24	TEST Physiology	LGIS Biochemistry 014 Prof. Dr. Riffat Yasmin		LGIS Physiology Dr. Rafique (021)	LGIS HOD* Anatomy Gross Cerebrum NS-A-006	SGD HOD* Anatomy Gross Cerebrum NS-A-006	LGIS SH Cerebellum NS-A-024 Dr. Samina	LGIS QURAN.  <i>Prof. M. Ali</i>	
Tuesday 5 <sup>th</sup> November, 24	TEST	LGIS Pathology Meningitis NS-Pa-002		LGIS Physiology Dr. Rafique (022)	LGIS Limbic system. Reticular formation NS-A-007  Dr Samina	LGIS Anatomy Gross Diencephalon and Thalamus NS-A-009,010. Dr. Kanwal	LGIS Physiology Dr. Sara (023)	2:15pm-3:00pm LGIS Islamiat/Pak studies *H.O.D	
Wednesday 6 <sup>th</sup> November, 24	Practicals/Revision Histology (A) Physiology(B) Biochemistry (C)			LGIS Physiology Dr. Sara (023)	LGIS Anatomy Gross Thalamus and hypothalamus NS-A-010 Dr. Kanwal	LGIS Physiology Dr. Rafique (024)	SGD HOD* Anatomy Gross Cranial nerves NS-A-008	LGIS QURAN.  <i>Prof. M. Ali</i>	
Thursday 7 <sup>th</sup> November, 24	Practicals/Revision Histology (B) Physiology(C) Biochemistry (A)			LGIS Biochemistry 014 Prof. Dr. Riffat Yasmin	SGD HOD* Anatomy Gross Cranial nerves NS-A-008	LGIS Physiology Dr. Ujala (027)	LGIS Medicine STROKE *HOD NS-M-001	LGIS Surgery STROKE *HOD NS-S-001	
Friday 8 <sup>th</sup> November, 24	Practicals/Revision Histology (C) Physiology (A) Biochemistry (B)			SGD Anatomy Gross Cranial nerves NS-A-008	LGIS Physiology PBL	LGIS Physiology PBL	1:15pm-2:00pm Jumma Prayer	LGIS Pediatrics Cerebral Palsy  NS-Pe-001	

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**Weekly Planner**  
**2nd Year MBBS 2024. Neurosciences**  
**WEEK – 7      THEME:**  
**Date            2024**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2:15pm-3:00pm	3:00pm-4:00pm
Monday 11 <sup>th</sup> November, 24	<b>MODULE TEST</b>	<b>MODULE TEST</b>		LGIS Physiology Dr. Rafique (025)	SGD HOD* Anatomy Gross Cerebrum NS-A-006	SGD HOD* Anatomy Gross CSF NS-A-014	LGIS Physiology Dr. Saima (026)	LGIS QURAN.  <i>Prof. M. Ali</i>	
Tuesday 12 <sup>th</sup> November, 24	LGIS Pathology Meningitis NS-Pa-002	LGIS Physiology Dr. Saima (026)		LGIS Physiology Dr. Rafique (025)	SGD HOD* Anatomy Gross Meninges NS-A-012	SGD HOD* Anatomy Gross Dural venous sinuses NS-A-013	LGIS *HOD PERL	2:15pm-3:00pm LGIS Islamiat/Pak studies *H.O.D	
Wednesday 13 <sup>th</sup> November, 24	OSPE/OSVE Histology (A) Physiology(B) Biochemistry (C)			LGIS Physiology Dr. Sara (019)	SGD HOD* Anatomy Gross  Intracranial fossa NS-A-011	LGIS Physiology Dr. Ujala (027)	SGD HOD* Anatomy Gross  Intracranial fossa NS-A-011	LGIS QURAN.  <i>Prof. M. Ali</i>	
Thursday 14 <sup>th</sup> November, 24	OSPE/OSVE Histology (B) Physiology(C) Biochemistry (A)			LGIS Physiology Dr. Sara (019)	SGD HOD* Anatomy Gross REVISION	LGIS Physiology Dr. Rafique (MCQs Test)	LGIS Medicine Meningitis *HOD NS-M- 003	LGIS Surgery TRIAGE *HOD NS-S-002	
Friday 15 <sup>th</sup> November, 24	OSPE/OSVE Histology (C) Physiology (A) Biochemistry (B)			SGD HOD* Anatomy Gross REVISION	LGIS Physiology PBL	LGIS Physiology PBL	1:15pm-2:00pm Jumma Prayer	LGIS Neurosurgery. Hematoma, CVA NS-S-003	

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## **BLOCK 6**

### **INFLAMMATION MODULE 2**

#### **Modular Outcome:**

- Define inflammation and describe its fundamental characteristics.
- Explain the cellular and molecular mechanisms that underlie the inflammatory response.
- Differentiate between acute and chronic inflammation
- Discuss the physiological role of inflammation in tissue repair and host defense.
- Identify how dysregulated inflammation contributes to the pathogenesis of various diseases.
- Describe the key inflammatory mediators, including cytokines, chemokines, and prostaglandins.
- Illustrate the signaling pathways involved in the initiation and resolution of inflammation.
- Recognize the roles of different immune cells (e.g., neutrophils, macrophages, lymphocytes) in the inflammatory response.
- Discuss the pharmacological aspects of steroidal and non-steroidal anti-inflammatory drugs  
Discuss the clinical aspects of inflammation.

<b>NORMAL STRUCTURE</b>			
<b>THEORY</b>			
<b>CODE</b>	<b>EMBRYOLOGY &amp; POST-NATAL DEVELOPMENT</b>	<b>TOTAL HOURS = 03</b>	
	<b>SPECIFIC LEARNING OUTCOMES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>
IN-A-001	Identify role of inflammation in implantation Development of cells involved in acute & chronic inflammation Development of integumentary system	Embryology	Role of inflammation in Implantation & Development of Integumentary System
<b>CODE</b>	<b>MICROSHOPIC STRUCTURE</b>	<b>TOTAL HOURS = 02</b>	
	<b>SPECIFIC LEARNING OBJECTIVES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>
IN-A-002	Discuss the microscopic structure of components involved in inflammation (cells, capillaries) Discuss the histology of integumentary system	Histology	Integumentary system & Inflammatory Response at Cellular Level
<b>PRACTICAL</b> 			
<b>CODE</b>	<b>HISTOLOGY</b>	<b>TOTAL HOURS = 02</b>	
	<b>SPECIFIC LEARNING OBJECTIVES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>
IN-A-003	Draw and identify microscopic structure of integumentary system	Histology	Integumentary System
<b>CODE</b>	<b>MEDICAL BIOCHEMISTRY</b>	<b>TOTAL HOURS = 01</b>	
	<b>SPECIFIC LEARNING OBJECTIVES</b>	<b>DISCIPLINE</b>	<b>TOPIC</b>

IN-B-001	Explain the biochemical and therapeutic roles of eicosanoids (prostaglandins, leukotrienes, thromboxane and prostacyclin)	Medical Biochemistry	Eicosanoids
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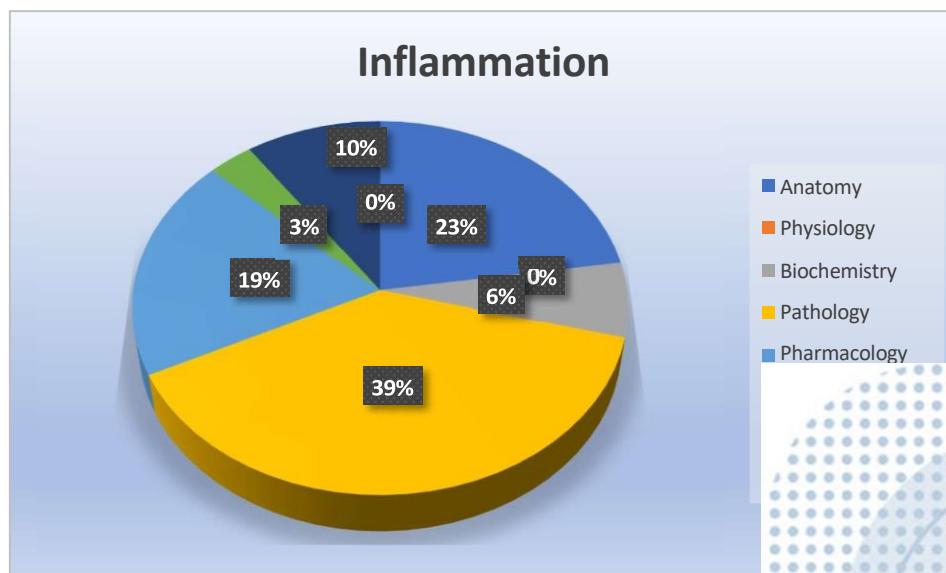
PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 06+12	
		DISCIPLINE	TOPIC
IN-Ph-001	Enumerate prostaglandin analogues Discuss the clinical use and adverse effect of prostaglandin analogues	Pharmacology & Therapeutics	Prostaglandin analogues
IN-Ph-002	Enlist anti-inflammatory drugs Differentiate between steroidal and non-steroidal anti-inflammatory drugs		Anti-inflammatory drugs
IN-Ph-003	Discuss mechanism of action, clinical usage, and adverse effects of steroidal anti-inflammatory drugs		Steroidal anti-inflammatory drugs
IN-Ph-004	Discuss mechanism of action, pharmacological effects, clinical usage, and adverse effects of non-steroidal anti-inflammatory drugs		Non-steroidal anti-inflammatory drugs (NSAIDs)
IN- Ph-005	Differentiate between selective and non-selective cyclooxygenase (COX) inhibitors Differentiate between Aspirin and paracetamol Classify antihistamines Discuss the role of histamines and antihistamines in inflammation and allergies, adverse effects and drug interactions		COX inhibitors
IN-Pa-001	Define acute inflammation Enlist stimuli for Acute Inflammation Recognize microbes, necrotic cells, and foreign substances causing acute inflammation Identify different components of inflammation		

	Define necrosis and explain its type with example	Pathology	
IN-Pa-002	Discuss the role of vascular and cellular events in acute inflammation Differentiate between transudate and exudate Classify chemical mediators Describe the different pathways of synthesis of chemical		Process of acute inflammation

	mediators and their role in clinical practice Discuss the role of different chemical mediators in acute inflammation Describe the different morphological patterns and outcomes of acute inflammation		
IN-Pa-003	Define chronic inflammation Discuss the role of chronic inflammatory cells and mediators in chronic inflammation Discuss the causes, pathophysiology and morphology of granulomatous inflammation Classify mycobacteria Explain the pathogenesis, clinical manifestations and lab diagnosis of typical mycobacteria Explain the pathogenesis, clinical manifestations and lab diagnosis of atypical mycobacteria		Chronic Inflammation
IN-Pa-004	Discuss the concept of Cell Proliferation, the Cell Cycle and Stem Cells in tissue repair Discuss the role of Growth Factors, receptors, signal transduction and extracellular matrix Involved in Regeneration and Repair Explain the types of healing along with the steps in scar formation Identify the factors that influence the tissue repair Discuss the complication of wound healing -keloid, Hypertrophy, Scarring		Cell Repair

**DISEASE PREVENTION AND IMPACT**

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 03+01	
		DISCIPLINE	TOPIC
IN-CM-001	Discuss the mode of transmission of communicable diseases	Community Medicine and Public Health	Communicable Diseases
	Explain the general concept of prevention of communicable diseases		
	Discuss the primary, secondary and tertiary prevention of acute and chronic diseases		
	Discuss the role of immunoprophylaxis and chemoprophylaxis in prevention of communicable diseases		
IN-BhS-001	Understand the correlation between psychological stress and inflammation	Behavioral Sciences	Role of Psychological stress in Inflammation
<b>AGING</b>			
CODE	THEORY	TOTAL HOURS = 01	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
IN-Ag-001	Explain inflammatory changes and role of leukotriene and cytokines in old age	Biochemistry	Inflammatory changes & signaling molecules in Aging



Module Weeks	Recommended Minimum Hours
01	31

Weekly Planner									
2nd Year MBBS 2024. INFLAMMATION									
WEEK – 1      THEME: skin infections									
Date 18 November to 22nd November 2024									
Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-2:15pm	2:15pm-3:00pm	3:00pm-4:00pm
Monday 18 November	LGIS Anatomy SH IN-A-002 *HOD	LGIS Biochemistry 001 Dr. Afshan Bäl		LGIS Community Med Communicable Diseases IN-CM 001	LGIS Pathology Inflammation IN-Pa-001	LGIS Pharmacology *HOD Prostaglandin analogues IN-Ph-001	LGIS Pathology Inflammation IN-Pa-001	LGIS QURAN.  <i>Prof. M. Ali</i>	
Tuesday 19th November	LGIS Community Med Communicable Diseases IN-CM 001	LGIS Pathology Inflammation IN-Pa-002		LGIS Anatomy SH IN-A-002 *HOD	LGIS Pathology Inflammation IN-Pa-002	LGIS Pharmacology *HOD IN-Ph- 002    Anti Inflammatory drugs	LGIS BS Role of Psychological stress in Inflammation IN-BHS 001 *HOD	2:15pm-3:00pm LGIS Islamiat/Pak studies *H.O.D	
Wednesday 20th November	Practicals/SGD Histology (A) CFRC (B) Pathology (C)			LGIS Anatomy SE IN-A-001 *HOD	LGIS Pathology Inflammation IN-Pa-002	LGIS Pharmacology *HOD Steroidal anti inflammatory drugs IN-Ph-003	LGIS Pathology Inflammation IN-Pa-002	LGIS Aging inflammatory changes & signalling molecules in Aging IN-Ag-001	
Thursday 21st November	Practicals/SGD Histology (B) CFRC (C) Pathology (A)			LGIS Community Med Communicable Diseases IN-CM 001	LGIS Pathology Inflammation IN-Pa-003	LGIS Pathology Inflammation IN-Pa-003	LGIS Pharmacology *HOD (NSAIDs) IN- Ph-004	LGIS Pharmacology *HOD Non Steroidal anti Inflammatory drugs IN-Ph-004	
Friday 22nd November	Practicals/SGD Histology (C) CFRC (A) Pathology(B)			LGIS Pathology Cell repair IN-Pa-004	LGIS Pathology Cell repair IN-Pa-004	LGIS Pharmacology *HOD COX inhibitors    IN- Ph-005	1:15pm-2:00pm Jumma Prayer	LGIS PERL	

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**Block-6 C-FRC Schedule 2nd year MBBS  
Session 2023-2**

<b>Week</b>	<b>Date/Time</b>	<b>Topic</b>	<b>Batch No</b>	<b>Venue</b>	<b>Facilitator</b>	<b>Log Book Entries</b>
Week 3 Wednesday	16-10-24 08.00am- 10.00am	Interpretation of Normal CT brain	C	Radiology	*HOD Radiology	2 Log book Entries
Week 3 Thursday	17-10-24 08.00am- 10.00am	Interpretation of Normal CT brain	A	Radiology	*HOD Radiology	2 Log book Entries
Week 3 Friday	18-10-24 08.00am- 10.00am	Interpretation of Normal CT brain	B	Radiology	*HOD Radiology	2 Log Book Entries
Week 4 Wednesday	23-10-24 08.00am- 10.00am	Assess Glasgow Coma Scale	C	Lecture Hall # 1	*HOD Anaesthes ia	3 Log Book Entries
Week 4 Thursday	24-10-24 08.00am- 10.00am	Assess Glasgow Coma Scale	A	Lecture Hall # 1	*HOD Anaesthes ia	3 Log Book Entries
Week 4 Friday	25-10-24 08.00am- 10.00am	Assess Glasgow Coma Scale	B	Lecture Hall # 1	*HOD Anaesthes ia	3 Log Book Entries

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Prof Dr. Iram Qamar  
Program Coordinator  
Physiology Deptt



## **ASSESSMENT POLICY:**

1. Second Professional examination will be held at the end of the Second year MBBS class as per University of Health Sciences schedule.
2. All students must prepare all the subjects, Anatomy (including Histology), Physiology, Biochemistry, Behavioral sciences, Community medicine & public health, Pathology, Pharmacology, mentioned as per above sections including clinical skills and PERL. The assessment will be held in all three blocks, which were taught during Second year MBBS.
3. There will be four papers in the first-year professional examination as per following:
  - a) Paper 01 will be based on contents of Block No. 04.
  - b) Paper 02 will be based on contents of Block No. 05.
  - c) Paper 03 will be based on contents of Block No. 06.
4. All papers will be based on written and Oral/Practical/Clinical examination except Islamic Studies, Ethics, Professionalism, and Pakistan Studies, which will be written only.
5. The written and Oral/Practical/Clinical examination will carry 150 marks each thus a total of 300 marks for each of the three block (Block No. 04, 05 & 06).
6. The total marks of second year MBBS will be 900 (300 marks of each block, 04, 05 & 06) .
7. Major component of the second will include:
  - Anatomy including Applied and Clinical Anatomy.
  - Physiology including Applied and Clinical Physiology.
  - Biochemistry including Applied and Clinical Biochemistry.
8. The Applied and Clinical part of all the above three mentioned component will be based on Clinical correlations.
9. Minor Components of the year include Pathology, Pharmacology and Therapeutics, Community Medicine, Behavioral Sciences, Clinical Foundation 2 and PERL 2.
10. Written Examination:
  - There will be one written paper for each of Paper 4, 5 & 6 of the Blocks.
    - This written paper will be based on one best type MCQs (70%) and SEQs (30%).
    - Each MCQ will have five options (One best option and four distractors) and each will carry 01 Mark.
    - There will be no negative marking.
    - There will be no sections of SEQs and each will carry 05 Marks.
    - SEQs will only be from the major components of first year that is Anatomy, Physiology and Biochemistry.
    - There will be total 85 MCQs and 07 SEQs in each of three Block papers that is Block 04, 05 & 06.

- The duration of written paper will be of 180 Minutes or 03 Hours.
  - MCQs part will be of 110 Minutes and SEQs will be 70 Minutes.
1. Oral/Practical/Clinical Examination:
    - There will an Oral/Practical and Clinical Examination of each paper 4, 5 and 6 will consist of a total of twelve (12) OSPE/OSCE/OSVE Stations.
    - There will be seven (7) OSPE (objectively structured practical examination) stations from major subject areas.
    - There will be two (2) Observed OSCE (objectively structured clinical examination) stations based on C-FRC-2 and PERL-2.
    - There will be three (3) Observed interactive OSVE (objectively structured viva examination) from major subject areas. Each OSVE station will have a structured viva to assess.
    - Each OSPE/OSCE Observed station will carry 08 Marks.
    - Each OSVE station will carry sixteen (16) Marks.
    - Duration of Oral/Practical and Clinical Examination is 120 Minutes (2 Hours).
    - Time for each OSPE/OSCE/OSVE station will be 08 Minutes.
  2. Each student of Second Year MBBS will have to appear in Second Year Professional Examination as follows:
    - Block No. 04 (GIT & Nutrition-1 + RENAL) 300 Marks.
    - Block No. 05 (Endocrinology & Reproduction-1 + Head & Neck, Special Senses) 300 Marks.
    - Block No. 06 (Neurosciences-1 + Inflammation) 300 Marks.
  3. No grace marks shall be allowed either in written or practical examination.
  4. At least 25% MCQs and 25% SEQ shall cover Applied Clinical Cases scenario to assess high order thinking of Second Year MBBS examination.

## **Block No. 06 (NEUROSCIENCES +INFLAMMATORY)**

The examination of block no. 06 will be as follows:

I. One written paper of 120 Marks having following two parts:

- a) Part I shall have eighty-five Multiple Choice Questions (MCQs) with 85 total marks (01 mark for each MCQ) and allocated time will be 110 Minutes.
- b) Part II will have seven (7) Structured Essay Questions (SEQs) with 35 total marks (05 marks for each SEQ) and allocated time will be 70 Minutes.
- c) Oral/Practical/Clinical Examination shall be of 120 marks.
- d) The Continuous Internal Examination conducted by college of enrollment shall carry 60 marks (20% of the total 300 marks) of the Block. These 60 marks will be equally distributed for Written and Oral/Practical/Clinical Examination.

<b>YEAR II</b>						
<b>Subject</b>	<b>Theory</b>		<b>Practical</b>		<b>Marks</b>	<b>Total</b>
<b>Block 6 Modules</b> (Neurosciences+ Inflammation)	Part I MCQs (85)	85 marks	Practical/Clinical Examination	07 OSPE	56	<b>300</b>
				02 OSCE	16	
				03 OSVE	48	
	Part II SEQs (7)	35 marks	Internal Assessment 20%	30 marks		
	Internal Assessment 20%	30 marks				
	<b>Total</b>	<b>150</b>	<b>Total</b>	<b>150</b>		

### **REGULATION:**

1. This examination shall be permitted to any students who:

- a) Has been enrolled/registered and completed one academic year proceedings in a constituent or affiliated medical college of University of Health Sciences (UHS).
  - b) has his/her name been submitted for the purpose of examination to Registrar of UHS from Principal of constituent or affiliated medical college, where he /she is enrolled and eligible as per prerequisite of first year MBBS examination.
  - c) Has his/her marks of internal assessment of all the Blocks are submitted to Registrar of University of Health Sciences by the Principal of the college along with admission forms.
  - d) Produces the following certificates duly attested by the Principal of the medical college:
    - i. Good Character.
    - ii. Attendance Certificate having not less than **85%** attendance of full course in both lectures delivered and practical conducted in second year MBBS.
    - iii. Certificate of having passed all the Block examinations conducted by the college of enrollment with **50%** cumulative percentage in aggregate of Block 4, 5 & 6 Second year.
    - iv. Candidates failing short of attendance in lectures and practicals shall not be admitted to the annual examination. Student though will be allowed for next examination if they attend **85%** of lectures delivered and practical conducted before the commencement of next examination by remaining enrolled as regular student of the college.
2. The minimum passing marks shall be 50% in written and 50% in Oral/Practical/Clinical Examination and 50% as an aggregate, independently and concomitantly at one and the same time of Second year MBBS examination.
  3. Candidates securing more than **85%** marks in any of Block will be declared as distinction in the Block subject he/she secured **80%** marks in written component of that paper. Similarly, If he/she does not pass in second year examination as a whole at and same time shall not be declared to have a distinction in single Block or paper.
  4. Any candidate failing to clear one or more papers in annual examination shall be provisionally allowed to join third year. He/she must clear that failed paper in supplementary examination within 4 weeks' time frame, failing to do he/she will be detained back in second year. Under no circumstances he/she shall be promoted to third year MBBS profession until and unless he/she cleared the failed papers.
  5. If a student appears by any chance for the first time in Supplementary examination as he/she did not appear in annual examination and failed to clear one or more papers shall be detained in same second year class, no provisional joining in next class shall be allowed.
  6. Any student failed to clear second year MBBS in four consecutive attempts inclusive of availed or un-availed after being eligible for examination shall be expelled from college and shall not be allowed to continue MBBS or BDS studies in the college or shall not be allowed to get admission as fresh candidate in either MBBS or BDS. (Ref. UHS Circulars/137-20/2750 dated 23-11-2020).
  7. The college may arrange remedial classes and one re-sit for each block examination, either with the subsequent block examination or before completion of subsequent block examination, and before or during preparatory leave for the terminal block of the professional year, before

issuance of the date sheet for the concerned professional examination, subject to the following conditions:

- i. At the completion of each block, the principal of the college shall submit a detailed report to the university, including cases of the students with short attendance, poor performance / absence in the block examination along with the reasons and evidence for the same, proposed schedule for remedial classes and re-sit examinations.
  - ii. Competent Authority UHS will have the cause and the submitted evidence evaluated and documented, before permitting the college to arrange remedial classes and re-sit examination at the concerned block. No college is allowed to conduct remedial classes and re-sit examinations without prior approval of the competent authority.
  - iii. The students can appear in re-sit of a block examination along with the subsequent block examination and before or during preparatory leave for the terminal block of the professional year, once the requirement of attendance is met with. Remedial classes shall be permitted only for those students who shall have attended 50% of total attendance of the concerned block in the first instance.
  - iv. The valid reason for short attendance in a block or absence from a block examination may include major illness/accident/surgery of the student or death of an immediate relative /being affiliated by a natural calamity or disaster.
8. Every candidate shall submit their admission to Registrar of UHS through Principal of the college where he/she is enrolled and completed Second year MBBS.
  9. The marks of internal assessment shall be submitted to Controller of Examination of UHS within 02 weeks after completion of each Block 4, 5 & 6 examination. No Internal Assessment will be accepted after the commencement of annual examination.
  10. Parent Teacher Meeting should be schedule after every Block to share the attendance, internal assessment and performance of the students with their parents and University of Health Sciences.
  11. Fresh internal assessment for supplementary examination shall not be permissible. Revised internal assessment for detained students can be submitted. A proper continuous internal assessment record shall be maintained by respective departments of the medical college.
  12. The candidates will submit their respective fee to UHS through Principal of their College. Principal will deposit student fees through bank draft or pay order or cross cheque in the name Treasurer University of Health Sciences along with admission forms.
  13. Only one annual and one supplementary of first professional examination shall be allowed in a particular academic session. In exceptional situations, i.e. national calamities, war or loss of solved answer books in case of accident, special examination may be arranged. This will require permission of syndicate and board of governors.

## **MBBS 2<sup>nd</sup> Professional**

### **BLOCK 6**

Theme	Subject	Written Exam			Oral/Practical/Clinical Exam			
		MC Q (1 mark)	SEQ (5 mark each)	Marks	OSPE (8 marks each observed)	OSCE (8 marks each observed)	OSVE (16 marks each observed)	Marks
Normal Structure	Anatomy applied/clinical	24	03	39	03	-	01	40
Normal Function	Physiology applied/clinical	26	03	41	03	-	01	40
	Biochemistry applied/clinical	09	01	14	01	-	01	24
Disease Burden & Prevention	Community Medicine & Public Health	04	-	04	-	-	-	-
	Behavioral Sciences	03	-	03	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	12	-	12	-	-	-	-
	Pharmacology	07	-	07	-	-	-	-
CFRC	CF-2-3	-	-	-	-	01	-	08
PERLs	PERLs-2-3	-	-	-	-	01	-	08
<b>Total</b>		<b>85</b>	<b>7x5=35</b>	<b>120</b>	<b>07 stations x 08 = 56</b>	<b>02 stations x 08 = 16</b>	<b>03 stations x 16=48</b>	<b>120</b>

## Academic Calendar 2nd Year 2024

<b>BLOCK 4</b>		<b>4<sup>th</sup> March to 4<sup>th</sup> June 2024 (11 Wks + 1 wk Spring Break)</b>
	<b>Spring Break</b>	<b>3<sup>rd</sup> April to 9<sup>th</sup> April 2024; Eid ul fitr 10-12<sup>th</sup> April 24</b>
<b>1.</b>	<b>GIT &amp; Nutrition Module (6wks)</b>	<b>4<sup>th</sup> March to 26<sup>th</sup> April 2024</b>
	<b>Major Module test</b>	<b>22<sup>nd</sup> April</b>
	<b>Minor Module Test</b>	<b>29<sup>th</sup> April</b>
<b>2.</b>	<b>Renal Module (4wks)</b>	<b>29<sup>th</sup> April to 24<sup>th</sup> May 2024.</b>
	<b>Major Module test</b>	<b>20<sup>th</sup> May 2024</b>
	<b>Minor Module test</b>	<b>24<sup>th</sup> May 2024</b>
	<b>Block 4 Exam (1wk)</b>	<b>27<sup>th</sup> May - 4<sup>th</sup> June 2024</b>
	<b>Written</b>	<b>30<sup>th</sup> May 2024</b>
	<b>OSPE/OSVE</b>	<b>3<sup>rd</sup> 4<sup>th</sup> June 2024</b>
<b>BLOCK 5</b>		<b>5<sup>th</sup> June to 1<sup>st</sup> Oct, 2024 (12 wks + 4wks Summer Break)</b>
	<b>Summer Break</b>	<b>16 June to 13<sup>th</sup> July 2024</b>
<b>1.</b>	<b>Endo, Repro &amp; Genetics Module (7wks)</b>	<b>5<sup>th</sup> June to 16<sup>th</sup> August 2024</b>
	<b>Major Module test</b>	<b>12<sup>th</sup> August, 2024</b>
	<b>Minor Module test</b>	<b>16<sup>th</sup> August, 2024</b>
	<b>Head &amp; Neck &amp; Sp. Senses Module (5wks)</b>	<b>19<sup>th</sup> August - 20<sup>th</sup> September 2024</b>

2.	Major Module test	16 <sup>th</sup> September, 2024
	Minor Module test	20 <sup>th</sup> September, 2024
	Block 5 Exam (1wk)	23 <sup>rd</sup> September-1 <sup>st</sup> October 2024
	Written	26 <sup>th</sup> September, 2024
	OSPE/OSVE	30 <sup>th</sup> September & 1 <sup>st</sup> October 2024
<b>BLOCK 6</b>		2nd October-3 <sup>rd</sup> December 2024 (9 Weeks)
1.	Neuro. Module (7wks)	2 <sup>nd</sup> October to 15 <sup>th</sup> November 2024
	Major Module test	11 <sup>th</sup> November, 2024
2.	Inflammation Module (1wk)	18 <sup>th</sup> -23 <sup>rd</sup> November 2024
	Block 6 Exam (1wk)	30 <sup>th</sup> November to 3 <sup>rd</sup> December 2024
	Written	28 <sup>th</sup> November 2024
	OSPE/OSVE	2 <sup>nd</sup> 3 <sup>rd</sup> December 2024
Revision/Mock Tests		4 <sup>th</sup> to 24 <sup>th</sup> December 2024
Winter break/ PREPARATORY LEAVES (4wks)		25 <sup>th</sup> December to 23 <sup>rd</sup> January 2025
<b>PROFESSIONAL EXAMS</b>		24 <sup>th</sup> January 2025 onwards





## **RESOURCE BOOKS:**

### **Anatomy**

- Snell's Clinical Anatomy 10<sup>th</sup> ed.
- Langman's Medical Embryology 12<sup>th</sup> ed
- Medical Histology by Laiq Hussain Siddiqui 8th ed.
- General Anatomy by Laiq Hussain Siddiqui 6th ed.

### **Physiology**

- Guyton AC and Hall JE. Textbook of Medical Physiology. W. B. Saunders & Co., Philadelphia 14th Edition.
- Essentials of Medical Physiology by Mushtaq Ahmed

### **Biochemistry**

- Harpers illustrated Biochemistry 32nd edition. Rodwell.V.W MCGrawHill publishers.
- Lippincott illustrated Review 8th edition Kluwer.W.
- Essentials of Medical Biochemistry vol 1&2 by Mushtaq Ahmed.

### **Pathology**

- Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pathologic basis of disease. WB Saunders.
- Richard Mitchall, Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and
- Cotran, Pocket Companion to Pathologic basis of diseases. Saunder Harcourt.
- Walter and Israel. General Pathology.
- Churchill Livingstone.

### **Medicine**

- Davidson's Principles and Practice of Medicine

### **Pharmacology**

- Basic and Clinical Pharmacology by Katzung, McGraw-Hill.
- Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins

### **Behavioural Sciences**

- Handbook of Behavioural Sciences by Prof. Mowadat H.Rana, 3rd Edition

- Medical and Psychosocial aspects of chronic illness and disability SIXTH EDITION by Donna R.Falvo, PhD Beverly E.Holland, PhD, RN

### **Community medicine**

- Parks Textbook of Preventive and Social Medicine. K. Park (Editor)
- Public Health and Community Medicine

- Ilyas, Ansari (Editors)

### **Surgery**

- Bailey and Love's short practice of surgery

### **Islamiyat**

- Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.
- Ilmi Islamiyat(compulsory) for BA, BSc & equivalent.

