AYUB MEDICAL COLLEGE
ABBOTTABAD

DEPARTMENT OF MEDICAL EDUCATION

NEUROSCIENCES I A

2N YEAR MBBS

BLOCK: D. (NEUROSCIENCES 1 A)
DURATION:6 WEEKS
FROM:2023

STUDENT NAME

_____

Contents

1. Module Committee: 2
2. What Is A Study Guide? 3
2.1 : The study guide: 3
2.2 : Module objectives. 3
2.3 : Achievement of objectives. 3
2.4 : CURRICULUM FRAMEWORK: 3
3. Recommended List Of Icons 5
4. Table of Specification 6
5. Organization of Module 7
5.1 Introduction: 7
5.2 ROLE OF ANATOMY DEPARTMENT 7
5.3 Rationale 7
6. Learning Objectives 8
Knowledge 8
b .Skills 8
c . Attitude 9
Specific learning objectives 10
7. Examination and Methods of Assessment: 27
7.1 Instruction: 27
7.2 INSTRUCTIONS FOR INTERNAL ASSESMENT TESTS 27
7.3 INSTRUCTIONS FOR ATTEMPTING PAPER 27
7.4 INTERNAL ASSESSMENT: 28
7.5 BLOCK D Mcq blue print 28
Ospe blue print (Block- D) 29
8. Learning Opportunities and Resources 30
8.1 BOOKS 30
8.2 Website: 31
9. Timetables 34
10. For inquiry and troubleshooting 40
11. Course Feedback Form 41

1. Module Committee:

s.no	Name	Department	Role
1.	Prof. Dr. Umar Farooq	CEO & Dean	
2.	Prof. Dr. Irfan U. Khattak	DME	Director
		Module Team	
3.	Prof Dr Robina Shaheen	Anatomy Department	Block co-ordinator
4.	Assoct. Prof Dr Humaira Imtiaz	Anatomy Department	Module Co-ordinator
5.	Assoct.Prof.Dr nadia Daud	Biochemistry Department	Member
6.	Assoct.Prof.Dr Amir Nazir	Physiology Department	Member

2. What Is A Study Guide?

It is an aid to Inform students how student learning program of the module has been organized, to help students organize and manage their studies throughout the module and guide students on assessment methods, rules and regulations.

2.1 : The study guide:

- Communicates information on organization and management of the module.
- This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings.

2.2 : Module objectives.

- Provides a list of learning resources such as books, computer-assisted learning programs, weblinks, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's performance.

2.3 : Achievement of objectives.

- Focuses on information pertaining to examination policy, rules and regulations.

2.4 : CURRICULUM FRAMEWORK:

STUDENTS WILL EXPERIENCE INTEGRATED CURRICULUM.

It comprises of blocks further subdivided into modules based on various systems of body such as nervous system. The integrated system thrives on not only learning of structural and functional aspects of a topic at the same time but also introduction of its clinical aspects.It provides a deeper understanding of subject by focusing on contents ,basic skills and higher level thinking. Integrated curriculum provides good perception of a system where students are actively involved in learning process .In medical education it is likely a move towards reduction in fragmentation of the medical course with aim is to improve

medical education education by bridging the traditional barrier between basic and clinical sciences

3. Recommended List Of Icons

Introduction To Case

For Objectives

Critical Questions

Assessment

Resource Material

4. Table of specification

Following is the table of specification for Neurosciences IA according to final distribution of MCQs for second year MBBS Annual KMU examination.

S-NO	SUBJECT/DISCIPLINE	LECTURES/DSL/LGD No. of Hrs	SGD/ DISSECTION/DEMO No. of Hrs	PRACTICALS No. of Hrs	TUTORIALS No. of Hrs	SUBJECT wise %AGE DISTRIBUTION	NO OF MCQS	NO OF OSPE stations
1	ANATMOY (gross, histo,embryo)	18	60	2×6	2	47.4	21+6+4 =31	4
2	PHYSIOLOGY	33		2×6	2	24.2	27	4
3	BIOCHEMISTRY	12		2×6	2	13.4	02	1
4	PATHOLOGY	1		-	2	1.5	01	-
5	PHARMACOLOGY	2		-	2	2.0	01	-
6	NEUROSURGERY	3		-	-	1.5	-	-
7	RADIOLOGY	4		-	-	2.0	-	-
8	PRIME			-	2	1.0	03	-
9	G.MEDICINE	6		-	-	3.1	02	
10	Forensic medicine	1				0.5	01	
11	PAK.STUDIES	3		-	-	1.5	-	-
12	ISLAMIAT	3		-	-	1.5	-	-
		SUBTOTAL = 92+47+26+21=194						

5. Organization of Module

5.1 Introduction:

Neurosciences IA is the first of the two modules included in block D. It is named so as it encompasis study of nervous system, where anatomy, physiology and biochemistry are the major subjects taught and learned most of the time covering structural, developmental, functional and biochemical events of the system. It is integrated with other relavent clinical disciplines like pharmacology ,pathology, radiology , medicine and neurosurgery and PRIME. The course content is further organised around six clinical themes, each to be covered over a period of one week as given below.

5.2 ROLE OF ANATOMY DEPARTMENT

Anatomy department is responsible for development of studyguide and other administrative activities like co-ordination with other departments including DME, chalking out time table , timely intimation of course to students and college administration , smooth conduction of assesments , keeping record of students attendance and internal assessment of the module and Block as a whole. Anatomy department is also responsible for hosting OSPE of the block during professional exams as well.

Annual examination marks including both kmu mcq paper and internal assesments will be given with collobration of other major disciplines that is physiology and biochemistry.

BlOCK D is 11 weeks session with two modules IA is of 6 and IB of 5 weeks.

THEME FOR NEUROSCIENCES I A MODULE FOR FIVE WEEKS IS AS FOLLOWS

S NO.	THEME	WEEK
1	Numbness and tingling	1 week
2	Paraplegia	1 week
3	Syncope	1 week
4	Hemiplegia/aphasia	1 week
5	Tremors	1 week
6	Headache	1 week

5.3 Rationale

The central and peripheral nervous system constitute an important mean to control all voluntary and involuntary body activities.In addition it also differentiates human beings from other living worlds in terms of higher mental facilities.diseases of the nervous system are common all over the world. Timely diagnosis and management of acute CNS problems like cerebrovascular accidents and infections prevents morbidity and mortality.Early diagnosis and prompt treatment of degenerative and demylination diseases like parkinsons and multiple sclerosis is important to reduce the occurance of disability burden on community.understanding the structure and function of nervous system and its relationship with pathophysiology of diseases is essential for diagnosis and management . NS I A module provides the basic understanding by integrating the teaching of anatomy , physiology and functions of different structures of the nervous system along with the biochemistry of neurotransmitters and the basic pharmacology and pathology related to the disorders of central and peripheral nervous systems.

6. Learning Objectives

General Learning Outcomes

By the end of this module the students would be able to; the 2nd year MBBS students will be able to:

Knowledge

Describe the gross anatomical features of Cerebrum, Midbrain, Pons, Medulla oblongata, cerebellum and Spinal cord

Describe the microscopic structure of peripheral nerve ,spinal cord ,cerebrum and cerebellum.

Describe the myelination of nerve.

Describe the development of forebrain, midbrain and hindbrain.

Describe the basic functions of synapses, neurotransmitters and mechanisms of electrical events during neuronal excitation

Describe the organization, structure and functions of motor system of the brain and spinal cord.

Describe the sensory of brain.

Explain the organization, structure and functions of cerebellum and basal ganglia

Describe the blood supply and venous drainage of brain and spinal cord.

Describe the coverings of brain and spinal cord.

Explain the structure, formation and drainage of cerebrospinal fluid in the brain and spinal cord

Describe the cerebrospinal fluid and blood brain barriers

Describe the ascending and descending tracts of brain stem

Describe analgesia system in brain & spinal cord

Describe the mechanism of consolidation of memory

Describe the functions of limbic system and reticular activating system

. Describe the functions of autonomic nervous system

Describe the applied anatomy of nervous system

Describe the functions of limbic system and reticular activating system

Describe the pathophysiology and prevention of common diseases like stroke, epilepsy, hydrocephalus and brain injuries

b .Skills

1.Draw a labeled diagram of the identified structures with the help of eosin and hematoxylin pencils on the histology notebooks

2 Identify the slide of transverse section of cervical spinal cord under the microscope

3 .Examine the sensations (tactile, position, pain, thermal, vibration) of lower limb on a standardized patient.

4.Identify the slide of transverse section of thoracic segments of spinal cord under the microscope

5 .Examine a standardized patient for deep tendon reflexes of lower limbs

6 .Identify the slide of transverse section of Lumbar segment of spinal cord under the microscope

7 .Examine a standardized patient for upper limbs tendon reflexes

8 .Identify the histological layers of cerebral cortex under the microscope

9 .Examine a standardized patient for power, tone and movements of upper and lower limbs, speech, memory and other higher cortical functions
10 Identify the slides of different neural structures under the microscope
11 .Examine a standardized patient for neurological system of upper and lower limbs

c . Attitude

Demonstrate the effective attitude towards the colleagues
Demonstrate a professional attitude, team building spirit and good communication skills

Specific learning objectives

1 THEME–I: (numbness and tingling)

Subject	Topic	Learning objectives	MIT	NO OF HOURS
Gross anatomy	Overview of nervous system	Describe the general features of neurons and its classification	SGD/Dissection	2
		Differentiate between central and peripheral nervous system.		
		Describe the general features of brain (forebrain, midbrain and hindbrain)		
		Describe the general features of spinal cord including its enlargements at different levels		
		Describe the general features of cranial and spinal nerves		
		Differentiate between the anatomical aspects of sympathetic and parasympathetic system	SGD/Dissection	2
Embryology	Forebrain, midbrain and hindbrain	Describe the development of primary and secondary brain vesicles	LGD	1
		Enlist the derivatives of the brain vesicles	LGD	1
		Describe the development of prosencephalon, mesencepahalon and rhombencephalon	LGD	1
		Discuss congenital anomalies associated with each region of brain	LGD	1
Physiology	Organization of the Nervous System	Describe general design of the nervous system		
		Describe various divisions of the nervous system.		
		Describe structural and functional unit of CNS.		
		Describe Functional components of Neuron.		
		Describe Functional and Structural classification of Neurons		
		Describe major levels of central nervous system function		
		Describe Glial cells and their functions.	LGD	1

		Compare nervous system to a computer		
	Basic Functions of Synapses	Define and classify synapses	LGD	1
		Explain physiological structure of synapse		
		Describe Mechanism by Which an Action Potential Causes Transmitter Release from the Presynaptic Terminals		
		Describe synaptic transmission and explain properties of synaptic transmission.		
		Describe mechanism of action of neurotransmitter on the post synaptic membrane.		
		Describe Second messenger system in the post synaptic neuron		
	Functions of Neurotransmitters	Define the characteristics of a neurotransmitter	LGD	1
		Enumerate the neurotransmitters involved in central nervous system.		
		Classify neurotransmitters and describe the actions of some common neurotransmitters in central nervous system.		
	Electrical Events during Neuronal Excitation and Inhibition	Describe resting membrane potential of the neuronal soma.	LGD	1
		Describe Effect of Synaptic Excitation on the Postsynaptic Membrane—Excitatory Postsynaptic Potential.		
		Describe Effect of Inhibitory Synapses on the Postsynaptic Membrane—Inhibitory Postsynaptic Potential.		
		Describe Generation of Action Potentials in the Initial Segment of the Axon Leaving the Neuron—Threshold for Excitation		
	Sensory Receptors	Define and classify receptors.	LGD	1
		Classify receptors according to their location in the body.		

		Describe specific functions of receptors.		
		Describe Receptor or generation potential		
		Discuss mechanism of action of sensory transduction.		
	Coding of Sensory Information	Describe Doctrine of specific nerve energies		
		Describe Modality of Sensation—The "Labeled Line Principle"		
		Define and discuss law of projection		
		Discuss properties of stimulus; modality, Stimulus location Stimulus intensity Stimulus duration		
		Describe Frequency of action potentials with threshold level of receptor potential		
	Transmission and Processing of Signals in CNS	Describe Relaying of signals through Neuronal pools; Divergence, Convergence, Prolongation of Signals		
	Types of nerve fibers, its regeneration and degeneration	Describe the mechanism of degeneration & regeneration.		
		Describe the duration required for regeneration inside & out of CNS.		
		Enumerate the causes of degeneration.		
		Discuss Wallerian degeneration		
		Identify the microscopic appearance of degenerating neurons		
	Somatic Sensations	Describe Tactile receptors in the skin and their functions: Pacinian corpuscles, Meissner's corpuscles, Ruffini endings, Merkle cell, A-delta and C free nerve endings	LGD	1
	Transmission in the Dorsal column–medial	Describe ascending pathways and enumerate the differences between the two.		

	Lemniscal system			
		Describe Transmission in the Dorsal column–medial Lemniscal system		
		Describe Spatial Orientation of the Nerve Fibers in the Dorsal Column–Medial Lemniscal System		
		Describe two-point discrimination		
	Somatosensory Cortex	Identify the diagrammatic representation of different areas of the body in the somatosensory cortex I		
		Identify Broadman's areas of cerebral cortex and correlate each one of them with their respective functions.		
		Describe the functions of somatosensory area I.	LGD	1
		Describe layers of the somatosensory cortex and their function.		
		Describe the functions of somatosensory association area		
	Transmission of Sensory signals in the Anterolateral pathway	Differentiate the submodalities of nondiscriminative touch, temperature and nociception based on receptor transduction mechanism, localization within the spinal gray matter, and central termination of the pathways.	LGD	1
		Describe functional organization at all levels and sub-modalities served by the anterolateral system and the equivalent components of the spinal trigeminal system.		
Biochemistry	Neurotransmitters	Explain the biosynthesis of different neurotransmitters	LGD	1
	Brain and nervous tissues metabolism	Describe the metabolism of brain and nervous tissues		
General Medicine	Peripheral neuropathies	Describe the etiology and types of peripheral neuropathies	LGD	1

		Discuss the clinical presentation and complications of diabetic neuropathies		
Skills and affective domain				
Histology	Transverse section of spinal cord (cervical level) -1	Identify the slide of transverse section of cervical spinal cord under the microscope	PRACTICAL	2
Physiology	Examination of sensations	Examine the sensations (tactile, position, pain, thermal, vibration) of lower limb on a standardized patient	PRACTICAL	2

Theme-2 (Paraplegia)

subject	Topic	Learning objectives	MIT	NO OF HOURS
Gross anatomy		Describe the shape, grooves and sulci and extension of spinal cord	LGD	1
		Enlist the segments of spinal cord		
		Differentiate between white and grey matter of spinal cord		
		Describe the meningeal covering of spinal cord		
		Describe the blood supply of spinal cord		
	Grey Matter of Spinal Cord	Describe the distribution of spinal cord into horns	LGD/ LH	1
		Differentiate between anterior, lateral and posterior horns		
		Describe the distribution of sensory and motor neuron within the grey matter		
		Explain formation of Rexed lamina of spinal cord		
	White matter of spinal cord	Enumerate the ascending tracts	LGD/LH	1
		Explain the origin, pathway and termination of dorsal column medial lemniscal system Explain the origin, pathway		
		and termination of anterolateral spinothalamic tract.		

		Enumerate the descending tracts	LGD/LH	1
		Explain the origin, pathway and termination of pyramidal tracts		
		Explain the origin, pathway and termination of extrapyramidal tracts	LGD/LH	1
		Differentiate between pyramidal and extrapyramidal tracts	LGD/LH	1
Embryology	Spinal cord	Discuss the development of alar and basal plate and its derivatives	LGD/LH	2
Histology	Spinal cord	Identify the light microscopic transverse section of spinal cord at cervical, thoracic, lumbar and sacral regions	LGD/LH	1
		Draw and label the transverse section of spinal cord at different levels		
Physiology	Introduction to Motor Nervous System (General Principles)	Describe organization of the spinal cord for motor functions	LGD	1
		Give an overview of the components of nervous system involved in motor control		
		Identify and differentiate upper and lower motor neurons		
		Describe the types of anterior horn cells		
		Describe the concept of Final Common Path		
		Describe broad types of motor activities		
	Motor functions of Spinal cord I: Stretch Reflex	Describe structural organization of the muscle spindle	LGD	1
		Define a reflex action and enlist components of reflex arc.		
		Describe types of reflexes and their level of integration.		
		Describe Stretch Reflex		
		Differentiate between Static (Tonic) and Dynamic (Phasic) stretch reflex		
		Describe Functions of muscle spindle		
		Discuss physiological significance of these reflexes.		
		Describe Functions of Gamma efferent system		
		Describe the role of the muscle spindle in voluntary motor activity		

	Motor functions of Spinal cord II: Golgi Tendon Reflex, Withdrawal Reflexes	Describe Golgi Tendon Reflex	LGD	1
		Differentiate between muscle spindle and Golgi tendon organ.		
		Describe types of polysynaptic reflexes and their level of integration.		
		Discuss physiological significance of these reflexes.		
		Describe reciprocal inhibition and reciprocal innervation		
	Support of the body against gravity, Reflexes of Posture And Locomotion	Describe Positive Supportive Reaction		
		Describe Cord “Righting” Reflexes.		
		Describe stepping and walking movements		
		Describe Excitatory-Inhibitory Antagonism Between Pontine and Medullary Reticular Nuclei		
	Vestibular Sensations and Maintenance of Equilibrium	Describe the physiologic anatomy of vestibular apparatus		
		Describe function of the utricle and saccule in the maintenance of static equilibrium		
		Describe function of semicircular ducts		
		Describe Neuronal Connections of the Vestibular Apparatus		
		Describe Vestibular mechanism for stabilizing the eyes		
	Lesions of the Spinal Cord:	Define muscle tone and describe its significance.		

	Upper and Lower Motor Neuron lesion		LGD	1
		Explain the sequence of events during development of muscle tone.		
		Discuss spinal shock		
		Differentiate between signs of the upper and lower motor neurons.		
General medicine	Hemi-section of spinal cord	Describe the clinical features of Brown Sequard syndrome	LGD	1
		Describe the etiology, clinical features, investigations and management of a patient with paraplegia		
Skills and affective domain				
Histology	Transverse section of thoracic segment of spinal cord-2	Identify the slide of transverse section of thoracic segments of spinal cord under the microscope	PRACTICAL	2
Physiology	Examination of deep tendon reflexes-1	Examine a standardized patient for deep tendon reflexes of lower limbs	PRACTICAL	2

Theme- 3 (Syncope)

Subject	**Topic**	**Learning objectived**	MIT	NO OF HOURS
Gross anatomy	Medulla	Enlist the components of brain stem	SGD/DEMO	2
		Describe the external features of brainstem		
		Describe the transverse section of medulla at the level of sensory decussation, motor decussation and inferior Olivary nuclei	SGD/DEMO	2
			SGD/DEMO	2
		Enumerate the cranial nerves nuclei present within the medulla	SGD/DEMO	2

	Pons	Describe the transverse section of pons at the level of cranial and caudal parts	SGD/DEMO	2
		Enumerate the cranial nerves nuclei present within the pons	SGD/DEMO	2
	Midbrain	Describe the transverse section of pons at the level of superior colliculus and inferior colliculus		
		Enumerate the cranial nerves nuclei present within the midbrain	SGD/DEMO	2
Physiology	Involuntary function of brain	Describe the involuntary functions of the brain		
	Functions of reticular activating system	Describe the structure and functions of RAS	LGD	1
	Coma and brain death			
	The Autonomic Nervous System 1	Describe the differences in the locations, level and organization of sympathetic and parasympathetic nervous system.		
		Identify the target organs of sympathetic and parasympathetic nervous system.		
		Describe the distribution of afferent and efferent sympathetic and parasympathetic fibers to their respective target organs.		
		Contrast the sympathetic and parasympathetic branches of the autonomic nervous system based on: spinal cord division of origin, length of preganglionic and postganglionic neurons, neurotransmitters and receptors at the ganglionic and target organ synapse.		
	The Autonomic Nervous System 2	Discuss basic characteristics of sympathetic and parasympathetic functions	LGD	1
		Describe receptors on the effector organs		

		Describe function of the adrenal medullae	LGD	1
		Describe sympathetic and parasympathetic "tone"		
		Describe "alarm" or "stress" response of the sympathetic nervous system		
Pharmacology	Drugs acting on sympathetic nervous system	Enlist the drugs acting on SNS and describe their mechanism of actions	LGD	1
	Drugs acting on parasympathetic nervous system	Enlist the drugs acting on PNS and describe their mechanism of action		
Forensic medicine	Brain death	Certify brain death	LGD	1
		Describe the medicolegal importance of brain death		
Skills and affective domain				
Histology	Transverse section of lumbar spinal cord-3	Identify the slide of transverse section of Lumbar segment of spinal cord under the microscope	PRACTICAL	2
Physiology	Examination of deep tendon reflexes-2	Examine a standardized patient for upper limbs tendon reflexes	PRACTICAL	2

Theme-4 (Hemiplegia)

Subject	Topic	Learning objectives	MIT	NO OF HOUR
Gross anatomy	Cerebrum • Grey matter of cerebrum • White matter of • cerebrum	Division of cerebrum into different lobes, its surfaces, sulci and gyri	SGD/DEMO	2
		Distribution of grey matter in cerebral hemispheres	SGD/DEMO	2
		Enumerate the types of white matter fibers	SGD/DEMO	2

		Differentiate between association, projection and commissural fibers	SGD/DEMO	2
		Detailed account of corpus callosum		
	Diencephalon	Structure and important nuclei of Thalamus and Hypothalamus	SGD/DEMO	2
	Blood supply of brain	Describe the formation of circle of Willis	SGD/DEMO	2
Histology	Cerebral cortex	Identify the cerebral cortex on light microscope	LGD	1
		Enlist the different histological layers of cerebral cortex		
Physiology	Cortical Control of Motor Functions	Describe Motor Functions of Specific Cortical Areas	LGD	1
		Describe transmission of signal from the motor cortex to the muscles. (Pyramidal and extrapyramidal).		
		Explain the excitation of the spinal cord motor control areas by the primary motor cortex and red nucleus.		
	Functions of Descending Tracts	Describe the functions of Descending Tracts	LGD	1
		Describe Decerebrate and Decorticate Rigidity		
Community medicine	Risk factors of cerebrovascular diseases	Describe risk factors for the development of cerebrovascular diseases	LGD	1
		Explain the strategies to prevent cerebrovascular diseases		
General medicine	Stroke	Differentiate between hemorrhagic and ischemic stroke	LGD	1
		Describe the etiology, clinical features, investigations and prevention of stroke		
Skills and affective domain				
Histology	Cerebral cortex	Identify the histological layers of cerebral cortex under the microscope	PRACTICAL	2
Physiology	Examination of motor functions	Examine a standardized patient for power, tone and	PRACTICAL	2

	of the brain and spinal cord	movements of upper and lower limbs, speech, memory and other higher cortical functions		

Theme- 5 (Tremors)

Subject	Topic	Learning objectives	MIT	NO OF HOURS
Gross anatomy	Basal nuclei	Enumerate the components of basal nuclei Describe the structure and relation of corpus striatum, red nucleus and substantia nigra	SGD	2
	Cerebellum	Describe the general features of cerebellum	SGD	2
		Name the lobes of cerebellum and discuss its anatomical and physiological classification		2
		Enumerate the intracerebellar nuclei of cerebellum		2
		Describe the input and output of cerebellum		2
Histology	Histology of cerebellum	Identify the cerebellar cortex on light microscope	LGD	1
		Enlist the different histological layers of cerebellar cortex		
Physiology	Cerebellum I: Basic Circuit and Connections	Describe the divisions of cerebellum into 3 lobes and their connections.	LGD	1
		Describe Interconnections of neurons of cerebellar cortex		
		Describe Cerebellar afferent fibers		
		Describe Cerebellar efferent fibers		
		Describe the functional circuits of cerebellum		
	Cerebellum II: Functions and Disorders	Explain the functional differences between vermis and cerebellar hemispheres.		
		Describe Functions of vestibulocerebellum		
		Describe Functions of spinocerebellum		

		Describe Functions of cerebrocerebellum		
		Describe the clinical abnormalities of cerebellum		
	Basal Ganglia I: Pathways and connections	Describe the anatomical and physiological classification of basal ganglia.		
		Describe the functional circuits of basal ganglia.		
		Describe connections of putamen circuit.		
		Describe connections of caudate circuit.		
		Enlist the differences between direct and indirect pathways		
	Basal Ganglia II: Functions and Diseases	Describe functions of putamen circuit.	LGD	1
		Describe functions of caudate circuit.		
		Explain the clinical problems related to basal ganglia		
Biochemistry	Phosphosphingolipids	Describe the metabolism of phosphosphingolipids	LGD	1
Pharmacology	Drugs used in Parkinson's disease	Describe the groups of drugs used in Parkinson`s disease and their mechanism of actions	LGD	1
General medicine	Parkinson`s disease	Describe the pathology, clinical features and treatment of Parkinson`s disease	LGD	1

Theme-6 (Headache)

Subject	Topic	Learning objectives	MIT	NO OF HOURS
Gross anatomy	Dural venous sinus	Differentiate between paired and unpaired venous sinuses Discuss the structure and drainage of individual venous sinuses	SGD/ DEMO SGD/ DEMO	2 2 2

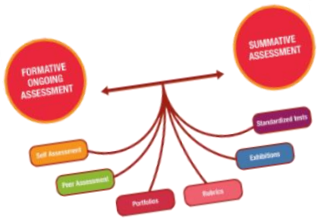
			SGD/ DEMO	
	CSF in ventricular system	Discuss the structure of choroidal plexus and the formation of CSF in ventricles	SGD/ DEMO	2
			SGD/ DEMO	2
Physiology	Pain Sensation Pathways	Describe pain receptors and type of stimuli causing pain.		
		Describe types of pain.	LGD	1
		Explain in detail the pathway for pain.		
	Pain suppression (analgesia) System in the brain and Spinal cord	Define analgesia	LGD	1
		Explain pain suppression system in the brain and spinal cord.		
		Describe Gate control theory and Brain Opiate system		
		Describe clinical abnormalities of pain: Primary and Secondary Hyperalgesia		
	Headache, Referred Pain	Define referred pain and describe its mechanism.		
		Describe the clinical significance of referred pain with examples.		
		Enumerate the causes of referred pain.		
		Enlist the causes of intra-cranial and extra-cranial headache and correlate with the underlying mechanism of pain.	LGD	1
	Thermal Sensations	Describe thermal receptors and their excitation		
		Describe mechanism of stimulation of thermal receptors		
		Describe transmission of thermal signals in the nervous system	LGD	1
	Functions of Specific Cortical Areas (Concept of	Name the association areas of brain. Briefly describe their location and function?	LGD	1

	Dominant Hemisphere)			
		Draw the diagram of cerebral cortex to show the different functional areas		
	Language and Speech	Define and classify speech		
		Describe how the brain performs the function of speech.		
		Describe Broca's area in the brain, and its function.		
		Describe wernicke's area in the brain, and its function.		
		Describe the speech pathways for perceiving a heard word and then speaking the same word & perceiving a written word and repeating it and correlate it with their clinical significance		
		Describe the effects of damage to broca's area and wernicke's area		
		Describe disorders related to speech.		
	Learning and Memory	Define and classify memory and explain its basic mechanism.		
		Describe the mechanism of synaptic facilitation and synaptic inhibition		
		Describe consolidation of memory, and briefly describe one of its most important features.		
		Describe Codifying of new memories	LGD	1
		Role of specific parts of the brain in the memory process		
		Explain disorders related to memory.		
	Activating-Driving Systems of the Brain	Describe bulboreticular facilitatory area. Explain continuous stimulation from lower brain by four neurohormonal systems.		
		Explain continuous stimulation from lower brain by four neurohormonal systems.		
	Limbic System	Describe the principal components of the limbic system: hippocampus, amygdala, prefrontal cortex, and nucleus accumbens), the pathways connecting them and their functions.		

		Discuss the anatomy of memory and emotion in relation to the limbic system		
		Describe Functions of limbic system		
		Describe the connection of hypothalamus with different areas of brain.		
		Describe the vegetative and endocrine functions of hypothalamus.		
		Describe the behavioral functions of hypothalamus.		
	Brain Waves and Sleep	Describe brain waves.		
		Describe the clinical significance of EEG.		
		Define sleep. Describe its various types and characteristics.		
		Describe basic theories of sleep.		
		Describe genesis of n-REM and REM sleep.		
		Enumerate the neurotransmitters involved in sleep.		
		Describe various sleep disorders.		
	Seizures and Epilepsy	Define seizure and epilepsy.		
		Classify seizures & epilepsies		
		Enumerate causes of seizure and epilepsy.		
		Discuss the clinical features of patient presents with epilepsy.		
		Discuss the significance of electrophysiologic studies imaging and other investigations in epilepsy.		
		Describe briefly about pharmacologic treatment.		
	CSF formation, circulation and functions	Describe regulation of cerebral blood flow	SGD	1
		Describe formation, flow, and absorption of cerebrospinal fluid		
		Describe Blood–Cerebrospinal Fluid and Blood-Brain Barriers		

Pathology	Alzheimer's disease	Explain the pathogenesis and microscopic findings of Alzheimer`s disease and its types	LGD	1
	Inflammation of brain	Describe the inflammatory processes related to meninges and brain parenchyma		
		Describe the pathogenic mechanisms of meningitis and encephalitis		
General medicine	Epilepsy	Explain the types of epilepsy	LGD	1
		Describe the investigations and enlist anti-epileptic drugs		
	Hydrocephalus	Describe the etiology, pathogenesis and clinical features of hydrocephalus		
Radiology	Neuroradiology- CT scans	Describe relevant CT scan findings of intracerebral bleeds, hematomas and subarachnoid hemorrhage	LGD	1
		Describe relevant CT scan findings of ischemic strokes		
	Neuroradiology- MRI scans	Describe relevant MR scan findings of intracerebral bleeds, hematomas	LGD	1
		Describe relevant MR scan findings of ischemic strokes		
Neurosurgery	Brain injuries	Describe the types, clinical presentations and investigations of a patient with head injury	LGD	1
	Brain and spinal tumors	Explain the types, clinical features and investigations of brain and spinal tumors		1
Skills and affective domain				
Histology	Slides of sacral segments and overview of nervous tissues	Identify the slides of different neural structures under the microscope	PRACTICAL	2
Physiology	Neurological examination of upper and lower limbs	Examine a standardized patient for neurological system of upper and lower limbs	PRACTICAL	2

MIT:mode of information transfer. E.g. lecture, SGD, DSL, Practical, skill lab etc etc



7. Examination and Methods of Assessment:

7.1 Instruction:

GENERAL RULES AND REGULATIONS

1.Students should follow prescribed college dress code during academic hours.

2. In college premises students should display college id cards

3 .Security has a right to check the id card and deny entry in college premises if student fail to produce it

4 .Ragging is strictly prohibited and anybody involved will be reported to anti ragging commity for necessary action.

5 .No student is allowed to leave the class without permission of teacher or till the end of lecture.

6 .Any student breaking/damaging college /hospital property shall be fined

7 .Students should read and observe rules and regulations of college as given in prospectus.

7.2 INSTRUCTIONS FOR INTERNAL ASSESMENT TESTS

The students must strictly follow test timings.

The students should not leave the hall without marking their attendance i.e not before half of the given time.

3. students must sit according to their roll numbers.

4. No Student will be allowed to sit in examination hall without college ID card or CNIC and lab coat.

5. Cell phones are not allowed during exam.for notting time they should bring their wrist watches.

7.All students should bring their own writing material. Borrowing is not allowed.

7.3 INSTRUCTIONS FOR ATTEMPTING PAPER

Students should write their class roll number on all the provided spaces

2 . Student should do signature at the right upper corner of the foremost (front)page of MCQs paper.

3. students should sign the attendance sheet as per specimen signature in the personal record form of department.

4.Encircle the best choice of MCQ stems.

5.Violators of any of the above instruction will be dealt (fine/ marks deduction upto 10) accordingly.

6.Any old student appearing in stage/block exam must intimate incharge of the class 03 days prior to exam.

7.4 INTERNAL ASSESSMENT:

I. Formative Assessment: **individual departments may hold quizzes , class tests (both MCQs and SEQs),presentations, to assess students during the session which will contribute towards enhancement of internal assessment**

II.Summative assessment : **Block exam will be conducted at the end of the block**

2.The structure of the block exam will be same as annual professional examination .

3.Passing score shall be 50% in theory paper.

4.Total marks of the block paper are 120.

5.Ospe test of 90 marks shall be taken at the end of block according to the kmu professional exam pattern

6.More than 75% attendance is needed to sit in Block and Annual examination.

Marks of internal assessment will be calculated on the basis of score in assesments according to university guide lines as follows:

Total weightage: 10% of block D exam =24 marks (including 10 marks of ospe and 14 marks of mcq paper)

BLOCK D(Nueroscience IA & IB) assessment comprises both mcqs and ospe , distribution is as follows;

7.5 BLOCK D Mcq blue print

Subject	***NS-1A***
Gross Anatomy	*21*
Histology	*6*
Embryology	*4*
Physiology	*27*
Biochemistry	*2*
PRIME including Research	*3*
Medicine	*2*
Pharmacology	*1*
Pathology	*1*
Forensic medicine	*1*
Total	***68***

Ospe blue print (Block- D)

Subject	NS-1A OSPE	NS-1A Viva stations
Anatomy	4 1	
Physiology	3	1
Biochemistry	0	1
Total	20	3

UNIVERSITY EXAM of 2nd yr MBBS:

Exam has 800 marks in total including D, E F blocks with practicals and internal assessment.

Any student who fail to clear the first professional MBBS part I in four chances availed or unavailed after becoming eligible for exam shall cease to become eligible for further medical education in Pakistan.

The institute will not forward examination form of any student unless she/he produces clearance certificate.

75 % attendance must be needed to sit in examination.

Block D carries 120 marks in theory paper in addition 14 marks are allotted for internal assesment.

Block D carries 90 marks in practical (ospe) in addition 1o marks are allotted for internal assessment.

Total marks of Block D are 234

Passing percentage is 50 %.

Year 2 Professional Exam in System-based Curriculum						
Theory paper	Modules	Theory marks	Internal assessment theory (10%)	OSPE/OSPE	Internal assessment OSPE/OSPE (10%)	TOTAL MARKS
Paper D	NS-1 NS-2	120	14	90	10	234
Paper E	GIT/Liver Renal	120	13	90	10	233
Paper F	Endocrine Reproduction	120	13	90	10	233
TOTAL MARKS		360	40	270	30	700*+100 =800

*+100 marks of Islamic and Pakistan studies

8. Learning Opportunities and Resources

8.1 BOOKS

SUBJECT	RESOURCES
ANATOMY	**GROSS ANATOMY** 1.NEUROANATOMY BY RICHARD S SNELL 2..R J. lasts 3.prince book of neuroanatomy **HISTOLOGY** 1.junqueira 's basic histology 2.laique hussain 3.Histology atlas by difore **EMBRYOLOGY** 1.keith l moore 2.langman book of embryology REFERENCE BOOK Greys anatomy
PHYSIOLOGY	**Textbook Of Medical Physiology by Guyton And Hall** **Human Physiology by Lauralee Sherwood** **Berne & Levy Physiology** **4 . Best & Taylor Physiological Basis of Medical Practice** . REFERENCE BOOKS **1. Guyton & Hall Physiological Review** **2. Essentials Of Medical Physiology by Jaypee** **3. Ganong ' S Review of Medical Physiology**
BIOCHEMISTRY	. TEXTBOOKS for 2nd PROFESSIONAL **1.Lippincott's illustrated Biochemistry.** **2.Pankaja Naik Or** **3. Satyanarayana & Chakrapani** **4.MCQ's Books & OLD PAPERS** . REFERENCE BOOKS 1. Harper's Illustrated Biochemistry 2. Textbook of medical biochemistry by Chatterjee-8thEdition 3.Lehninger Principle of Biochemistry 4. Biochemistry by Devlin
COMMUNITY MEDICINE	1.Public Health & Community Medicine by Shah Ilyas Ansari; 8th Edition 2.Parks Text book of Prevention & social edicine by K. Park; 25th Edition

FORENSIC MEDICINE	1.Priciples and Practice of Forensic medicine by Naseeb R Awan 2.Parikh's Text book of Medical Jurisprudence and Toxicology
PATHOLOGY	1.Robbin's Basic and Clinical Pathology; 9th Edition
GENERAL MEDICINE	1.Davidson's Principles and Practice of Medicine 2.Kumar and Clarks Clinical Medicine

8.2 Website:

https://www.kenhub.com
https://teachmeanatomy.info
http://booksinn.com.pk/product-category/medicalsciences
https://www.freebookcentre.net/medical_text_journals/books.html
PRIME (PSYCHIATRY)

https://www.euromedinfo.eu/how-culture-influences-health-beliefs.html/
https://www.ahrq.gov/health-literacy/improve/precautions/tool10.html
https://courses.lumenlearning.com/diseaseprevention/chapter/culture-beliefs-attitudes-and-stigmatized-illnesses/
https://www.goodtherapy.org/learn-about-therapy/issues/power
https://www.apa.org/pubs/journals/releases/amp-a0038929.pdf

Museum:

To assist learning students will utilize the models and transverse sections available in Anatomy museum

9. Timetables

AYUB MEDICAL COLLEGE ABBOTTABAD

TIME TABLE OF 2nd YEAR MBBS CLASS FOR THE SESSION 2023

NEURO SCIENCE 1A MODULE (1st WEEK)

D A Y S	8.00-9.00AM	9.00-10.00AM	10.00-11.00AM LH: 2	11.00AM-12.00PM LH: 2	12.00 -12.45PM LH: 2	12.45-1.15PM	1.15-3.00PM
MONDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr faisal Batch C. Biochemistry Dr Fizza Batch D. Tutorial Anatomy(L.H. 2)		**Physiology** Dr. Amir Nazir **Topic:** Sensory Neuroscience	**Physiology** Dr. Amir **Topic:** Sensory N.S	**PRIME** (Psychiatry)	PRAYER BREAK	**SGDs(Dissection) Topic: Introduction to N.S** Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
TUESDAY	**PRACTICALS** Batch A.Tutorial Anatomy (L.H. 2) Batch B. Histo – Dr. Rizwana Batch C. Physiology Dr faisal Batch D. Biochemistry Dr Fizza		**Biochemistry** DR Ayesha n.awan **Topic:** Brain & nervous tissue metabolism	**Physiology** Dr. Amir **Topic:** Sensory N.S	**Gross Anatomy** Dr Humaira Imtiaz **Topic:** Spinal cord- External features		**SGDs(Dissection)** **Topic: Introduction to N.S** Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
WEDNESDAY	**PRACTICALS** Batch A. Biochemistry Dr Maria Batch B. Tutorial Anatomy (L.H. 2) Batch C. Histo - Dr. Rizwana Batch D. Physiology Dr Faisal		**General Medicine** Dr.Fahar Zaman **Topic:** Peripheral neuropathy	**Physiology** Dr. Raeesa Topic: Motor function	**Histology** Dr. Fatima Sherin **Topic:** Sp Cord		**SGDs(Dissection)** **Topic:** Medulla oblongata Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
THURSDAY	**PRACTICALS** Batch A. Physiology Dr Faisal Batch B. Biochemistry Batch C. Tutorial Anatomy (L.H. 2) Batch D. Histo – Dr. Rizwana		**Pharmacology** Topic: Drug acting Dr Maha ousazai on A.N.S	**Physiology** Dr. Raeesa Topic: Motor function	Pak-Studies		**SGDs(Dissection) Topic:** Medulla oblongata Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
FRIDAY	**SGDs(Dissection) Topic:** Pons Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai		**Embryology** Dr. M. Ashfaq **Topic: D**evelopment of neural tube, ganglia & spinal cord with defects	**Physiology** Dr. Raeesa Topic: Motor function	Islamiat		**H A L F D A Y**

AYUB MEDICAL COLLEGE ABBOTTABAD
TIME TABLE OF 2nd YEAR MBBS CLASS FOR THE SESSION 2023
NEURO SCIENCE 1A MODULE (2nd WEEK)

D A Y S	8.00-9.00AM	9.00-10.00AM	10.00-11.00AM LH: 2	11.00AM-12.00PM LH: 2	12.00 -12.45PM LH: 2	12.45-1.15PM	1.15-3.00PM
MONDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Faisal Batch C. Biochemistry Dr Fizza Batch D. Tutorial Physiology(L.H. 2)		Physiology Dr. Amir Nazir Topic: Sensory Neuroscience	Physiology Dr. Amir Nazir Topic: Sensory N.S	Gen. Medicine Dr. Tauqeer (Hemi-section of sp. Cord)	PRAYER BREAK	SGDs(Dissection) Topic: Pons Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
TUESDAY	PRACTICALS Batch A. Tutorial Physiology (L.H. 2) Batch B. Histo – Dr. Rizwana Batch C. Physiology Dr Faisal Batch D. Biochemistry Dr Fizza		PRIME Dr.Zainab (Com. Medicine)	Physiology Dr. Amir Nazir Topic: Sensory N.S	Gross Anatomy Dr Humaira Imtiaz Topic: Spinal cord		SGDs(Dissection) Topic: Mid brain Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
WEDNESDAY	PRACTICALS Batch A. Biochemistry Dr Maria Batch B. Tutorial Physiology (L.H. 2) Batch C. Histo - Dr. Rizwana Batch D. Physiology Dr Faisal		Biochemistry DR Ayesha N awan Bain metabolism	Physiology Dr. Raeesa Topic: Brain stem. Control of motor function	Histology Dr. Fatima Sherin Topic: Cerebral cortex – I		SGDs(Dissection) Topic: Mid brain Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
THURSDAY	PRACTICALS Batch A. Physiology Dr Faisal Batch B. Biochemistry Dr Asma Batch C. Tutorial Physiology (L.H. 2) Batch D. Histo - Dr. Rizwana (Spinal card)		Pharmacology Dr Faryal mstaffa (Parasympathtic drugs)	Physiology Dr. Raeesa Topic: Motor cortex and cortico spinal tract	Pak Studies		SGDs(Dissection) Topic: Cerebrum (Grey & White) Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
FRIDAY	SGDs(Dissection) Topic: Cerebrum (Grey & White) Batch A:Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai		Embryology Dr. M. Ashfaq Topic: Development of hind brain	Physiology Dr. Raeesa Topic: Motor cortex and cortico spinal tract	Islamiat		H A L F D A Y

AYUB MEDICAL COLLEGE ABBOTTABAD

TIME TABLE OF 2nd YEAR MBBS CLASS FOR THE SESSION 2023

NEURO SCIENCE 1A MODULE (3rd WEEK)

D A Y S	8.00-9.00AM	9.00-10.00AM	10.00-11.00AM LH: 02	11.00AM-12.00PM LH: 02	12.00 -12.45PM LH: 02	12.45-1.15PM	1.15-3.00PM
MONDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Asfandyar Batch C. Biochemistry Dr Fizza Batch D. Tutorial Biochemistry (L.H. 2)		Pathology Dr shabana Alzheimer's disease	Physiology Dr. Amir Sensory N.S	Neuro surgery Dr Ehtasham (Brain injury)	PRAYER BREAK	SGDs(Dissection) Topic: Basal Nuclei Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
TUESDAY	PRACTICALS Batch A.Tutorial Biochemistry (L.H. 2) Batch B. Histo. Dr. Rizwana Batch C. Physiology Dr Asfandyar Batch D. Biochemistry Dr Fizza		Pathology Dr Shagufta Inflammation of brain	Physiology Dr. Amir Sensory N.S	Gross Anatomy Dr Humaira Imtiaz Topic: Spinal cord (Ascending tracts)		SGDs(Dissection) Topic: Lateral ventricle Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
WEDNESDAY	PRACTICALS Batch A. Biochemistry Dr Maria Batch B. Tutorial Biochemistry (L.H. 2) Batch C. Hist. Dr. Rizwana Batch D. Physiology Dr Asfandyar		Biochemistry DR Ayesha n awan Topic: Neurotrans mitters	Physiology Dr. Raeesa Topic: Cerebellum	Histology Dr. Fatima Sherin Topic: Cerebral cortex – II		SGDs(Dissection) Topic: Diencephalon Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
THURSDAY	PRACTICALS Batch A. Physiology Dr Asfandyar Batch B. Biochemistry Dr Asma Batch C. Tutorial Biochemistry (L.H. 2) Batch D. Histo. Dr. Rizwana		PRIME Dr. Zainab Com. Medicine	Physiology Dr. Raeesa Topic: Cerebellum	Biochemistry SDL		SGDs(Dissection) Topic: Diencephalon Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
FRIDAY	SGDs(Dissection) Topic: Blood supply of cerebrum & Diencephalon Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C:)Dr M. Orakzai		Embryology Dr. M. Ashfaq Topic: Development of mid brain	Physiology Dr. Amir Sensory N.S	Pak Studies		H A L F D A Y

AYUB MEDICAL COLLEGE ABBOTTABAD

TIME TABLE OF 2nd YEAR MBBS CLASS FOR THE SESSION 2022

NEURO SCIENCE 1A MODULE (4th WEEK) 21.02.2022 TO 25.02.2022

D A Y S	8.00-9.00AM	9.00-10.00AM	10.00-11.00AM LH: 02	11.00AM-12.00PM LH: 02	12.00 -12.45PM LH: 02	12.45-1.15 PM	1.15-3.00PM
MONDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Asfandyar Batch C. Biochemistry Dr Fizza Batch D. Tutorial C. Medicine (L.H. 2)		Physiology Dr. Amir Sensory N.S	Physiology Dr. Amir Sensory N.S	General Medicine Dr. Farhat (Stroke)	PRAYER BREAK	SGDs(Dissection) Topic: 3rd ventricle Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
TUESDAY	PRACTICALS Batch A. Tutorial C. Medicine (L.H. 2) Batch B. Histo Dr. Rizwana Batch C. Physiology Dr Asfandyar Batch D. Biochemistry Dr Fizza		Biochemistry DR Nadia Haleem Glycolipid metabolsin	Physiology Dr. Amir Sensory N.S	Gross Anatomy Dr Humaira Imtiaz Topic: Spinal cord (Ascending tracts)		SGDs(Dissection) Topic: Cerebellum Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
WEDNESDAY	PRACTICALS Batch A. Biochemistry Dr Maria Batch B. Tutorial C. Medicine (L.H. 2) Batch C. Histo Dr. Rizwana Batch D. Physiology Dr Asfandyar		Biochemistry DR Ayesha N wan Topic: Neurotrans mitters	Physiology Dr. Raeesa Topic: Cerebral cortex	Histology Dr. Fatima Sherin Topic: Cerebellum		SGDs(Dissection) Topic: Cerebellum Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
THURSDAY	PRACTICALS Batch A. Physiology Dr Asfandyar Batch B. Biochemistry Dr Asma Batch C. Tutorial C. Medicine (L.H. 2) Batch D. Histo - Dr. Rizwana (Cerebellum)		Forensic Medicine Dr Anatat Topic: Brain death	Physiology Dr. Raeesa Limbic system	Neuro surgery Dr Ehtasham (Brain tumors)		SGDs(Dissection) Topic: 4th Ventricle & CSF Batch A.(20-01 to 20-094) Dr. Awais Ali Shah Batch B.(20-095 to 20-188) Dr. Sarah khan Batch C.(20-189 to 20-280)Dr M. Orakzai
FRIDAY	SGDs(Dissection) Topic: Cranial fossae Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai		Embryology Dr. M. Ashfaq Topic: Development of fore brain and defect - I	Radiology Dr Azmat (Neuro radiology CT scan)	Pak Studies		H A L F D A Y

AYUB MEDICAL COLLEGE ABBOTTABAD
TIME TABLE OF 2nd YEAR MBBS CLASS FOR THE SESSION 2022
NEURO SCIENCE 1A MODULE (5th WEEK) 28.02.2022 TO 04.03.2022

D A Y S	8.00-9.00AM	9.00-10.00AM	10.00-11.00AM LH: 02	11.00AM-12.00PM LH: 02	12.00 - 12.45PM LH: 02	12.45-1.15PM	1.15-3.00PM
MONDAY	Batch A. Histo – Dr. Rizwana Batch B. Physiology Dr Sajjad Batch C. Biochemistry Dr Fizza Batch D. Tutorial Pathology(L.H. 2)		Community Medicine Topic: Risk factor of cerebrovascular disease	Physiology Dr. Amir Sensory N.S	Radiology Dr Azmat (Neuro radiology CT – Scan)	PRAYER BREAK	SGDs(Dissection) Topic: Cranial fossae Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C: Dr M. Orakzai
TUESDAY	PRACTICALS Batch A. Tutorial Pathology (L.H. 2) Batch B. Histo Dr. Rizwana Batch C. Physiology Dr Sajjad Batch D. Biochemistry Dr Fizza		General Medicine Dr. Nighat (Parkinson's disease)	Physiology Dr. Amir Sensory N.S	Gross Anatomy Dr Humaira Imtiaz Topic: Spinal cord (Descending tracts)		SGDs(Dissection) Topic: Meninges of brain Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C:Dr M. Orakzai
WEDNESDAY	PRACTICALS Batch A. Biochemistry Dr Maria Batch B. Tutorial Pathology(L.H. 2) Batch C. Histo Dr. Rizwana Batch D. Physiology Dr Sajjad		Biochemistry dr Ayesha n awan Prostagland in metabolism	Physiology Dr. Amir Sensory N.S	Histology Dr. Fatima Sherin Topic: Salivary glands		SGDs(Dissection) Topic: Dural venous sinuses Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C:Dr M. Orakzai
THURSDAY	PRACTICALS Batch A. Physiology Dr Sajjad Batch B. Biochemistry Dr Asma Batch C. Tutorial Pathology (L.H. 2) Batch D. Histo - Dr. Rizwana		General Medicine Dr. Jawad Husain (Epilepsy)	Physiology Dr. Raeesa Topic: Motor system	Radiology (Neuro radiology MRI scan)		SGDs(Dissection) Topic: Olfactory pathway & Auditory Pathway Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C:Dr M. Orakzai
FRIDAY	SGDs(Dissection) Topic: Intro to skull+ Norma verticalis & occipitalis Batch A: Dr. Awais Ali Shah Batch B: Dr. Sarah khan Batch C.: Dr M. Orakzai		Embryology Dr. M. Ashfaq Topic: Development of fore brain and defect - II	Physiology Dr. Raeesa Topic: Motor system	Islamiat		H A L F D A Y

AYUB MEDICAL COLLEGE ABBOTTABAD
TIME TABLE OF 2nd YEAR MBBS CLASS FOR THE SESSION 2022
NEURO SCIENCE 1A MODULE (6th WEEK) 07.03.2022 to 11.03.2022

D A Y S	Histology practical (8.00 - 10.00AM)	10.00-11.00AM LH: 02	11.00AM-12.00 LH: 02	12.00 -12.45PM LH: 02	12.45-1.15PM	1.15-3.00PM
MONDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Sajjad Batch C. Biochemistry Dr Fizza Batch D. Tutorial (Computer Lab)	Neuro surgery Dr Ehtasham Spinal tumor	Physiology Thermal sensation Dr. Aamir	Radiology Neuro radiology, MRI, scan (I)	PRAYER BREAK	SGDs(Dissection) Topic: Norma Frontalis+ Basalis(Ant.Part) Batch A Dr. Awais Ali Shah Batch B. Dr. Sarah Khan Batch C. Dr Mohammad
TUESDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Sajjad Batch C. Biochemistry Dr Fizza Batch D. Tutorial (Computer Lab)	Pharmacology Dr Azfar kamal Anti parkinsonian	Physiology Ascending tract Dr. Aamir	Gross Anatomy Dr Humaira Imtiaz Bony orbit		SGDs(Dissection) Topic: Norma basalis Batch A Dr. Awais Ali Shah Batch B. Dr. Sarah Khan Batch C. Dr Mohammad
WEDNESDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Sajjad Batch C. Biochemistry Dr Maria Batch D. Tutorial (Computer Lab)	Biochemistry Bio technology Dr. Barrira	Physiology ANS Dr. Raeesa	Histology Thyroid gland Dr. Fatima Sherin		SGDs(Dissection) Topic: Norma lateralis Batch A Dr. Awais Ali Shah Batch B. Dr. Sarah Khan Batch C. Dr Mohammad
THURSDAY	Batch A. Histo - Dr. Rizwana Batch B. Physiology Dr Sajjad Batch C. Biochemistry Dr Asma Batch D. Tutorial (Computer Lab)	G. Medicine Dr. Adnan Hydrocephalus	Physiology CSF Dr. Raeesa	Radiology Dr Azmat Neuro radiology, MRI, scan (II)		SGDs(Dissection) Topic: Mandible Batch A Dr. Awais Ali Shah Batch B. Dr. Sarah Khan Batch C. Dr Mohammad
FRIDAY	SGDs(Dissection) Topic: Muscles of facial expression + Scalp Batch A Dr. Awais Ali Shah Batch B. Dr. Sarah Khan Batch C. Dr Mohammad	Embryology Dr. M. Ashfaq Pharyngeal arches & derivatives	Physiology SGD	Pak studies		H A L F D A Y

10. For inquiry and troubleshooting

Please contact
DR ROBINA SHAHEEN /BLOCK CO ORDINATOR/rad407@gmail.com
DRHUMAIRAIMTIAZ/MODULECOORDINATOR/humairaimtiaz.94@gmail.com

11. Course Feedback Form

Course Title: __STUDY GUIDE OF SECOND YEAR M.B.BS,

Semester/Module ___IA Dates:_____

Please fill the short questionnaire to make the course better.

Please respond below with 1, 2, 3, 4 or 5, where 1 and 5 are explained.

THE DESIGN OF THE MODLUE

A. Were objectives of the course clear to you? Y ☐ N ☐

B. The course contents met with your expectations

l. Strongly disagree 5. Strongly agree ☐

C. The lecture sequence was well-planned

l. Strongly disagree 5. Strongly agree ☐

D. The contents were illustrated with

l. Too few examples 5. Adequate examples ☐

E. The level of the course was

l. Too low 5. Too high ☐

F. The course contents compared with your expectations

l. Too theoretical 5. Too empirical ☐

G. The course exposed you to new knowledge and practices

l. Strongly disagree 5. Strongly agree ☐

H. Will you recommend this course to your colleagues?

l. Not at all 5. Very strongly ☐

THE CONDUCT OF THE MODLUE

A. The lectures were clear and easy to understand

l. Strongly disagree 5. Strongly agree ☐

B. The teaching aids were effectively used

l. Strongly disagree 5. Strongly agree ☐

C. The course material handed out was adequate

l. Strongly disagree 5. Strongly agree ☐

D. The instructors encouraged interaction and were helpful

l. Strongly disagree 5. Strongly agree ☐

E. Were objectives of the course realized? Y ☐ N ☐

F. Please give overall rating of the course

90% - l00%	( )	60% - 70%	( )
80% - 90%	( )	50% - 60%	( )
70% - 80%	( )	below 50%	( )

Please comment on the strengths of the course and the way it was conducted.

Please comment on the weaknesses of the course and the way it was conducted.

Please give suggestions for the improvement of the course.

Optional – Your name and contact address:

Thank you!!