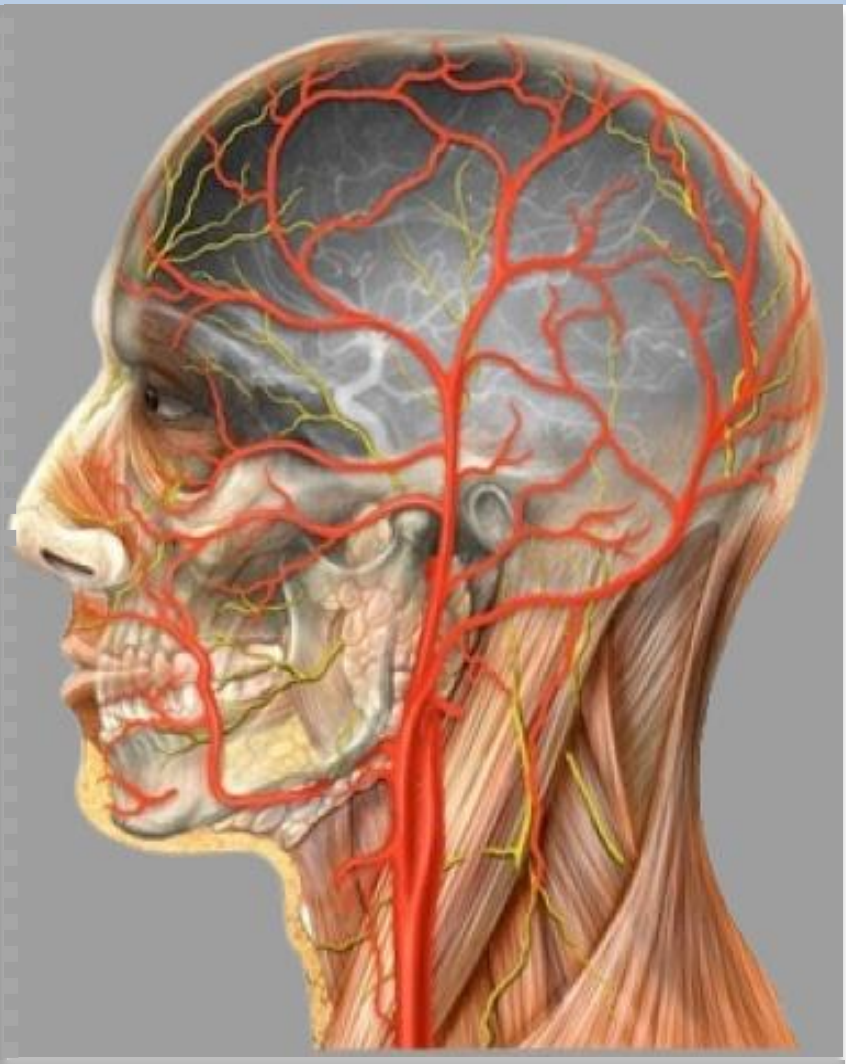
Study Guide- Fourth Year MBBS

- 6th Feb- 28 March 2023
- Duration 8 weeks



NEUROSCIENCES II MODULE

LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE
Institute for Postgraduate Medical Studies & Health Science

STUDY GUIDEFORNEUROSCIENCES-II MODULE

Module name: **Neurosciences-II** *Year:* ***Four*** *Duration:* ***8 weeks (February-March 2023)***

Timetable hours: **Interactive Lectures, Case-Based Integrated Learning (CBIL), Clinical Rotations, Presentations, Tutorial**, **Demonstrations, Skills, Self-Study**

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	• Dr. Rajesh Kumar (**Neurology**)
CO-COORDINATOR:	• Dr. Sana Farooq Shah (**DHPE**)

DEPARTMENTS' & RESOURCE PERSONS' FACILITATING LEARNING

BASIC HEALTH SCIENCES	**CLINICAL AND ANCILLARY DEPARTMENTS**
COMMUNITY MEDICINE Dr. Saima Zainab	***FAMILY MEDICINE*** Dr. Farheen Saboor
MICROBIOLOGY Professor Shaheen Sharafat	***NEUROLOGY*** • Dr. Ahmed Asif • Dr. Rajesh Kumar
PATHOLOGY Professor Naveen Faridi	***NEUROSURGERY*** Dr. Aamir Saghir
PHARMACOLOGY Professor Tabassum Zehra	***PEDIATRICS*** Dr. Raman Kumar
	PSYCHIATRY Dr. Iqtidar Taufiq
	RADIOLOGY Dr. Muhammad Misbah Tahir
	RESEARCH & SKILLS DEVELOPMENT CENTER Dr. Kahkashan Tahir
DEPARTMENT of HEALTH PROFESSIONS EDUCATION • Professor Nighat Huda • Professor Sobia Ali • Dr. Afifa Tabassum • Dr. Sana Shah • Dr. Ahsan Naseer	
LNH&MC MANAGEMENT • Professor Karimullah Makki, Principal, LNH&MC	

INTRODUCTION

INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

THE STUDY GUIDE:

- Communicates information on organization and management of the module.
- 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, clinical skills, demonstration, tutorial and case based learning that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer assisted learning programs, web- links, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and Term examinations on the student's overall performance.

INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how student learning program of the module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules and regulations

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

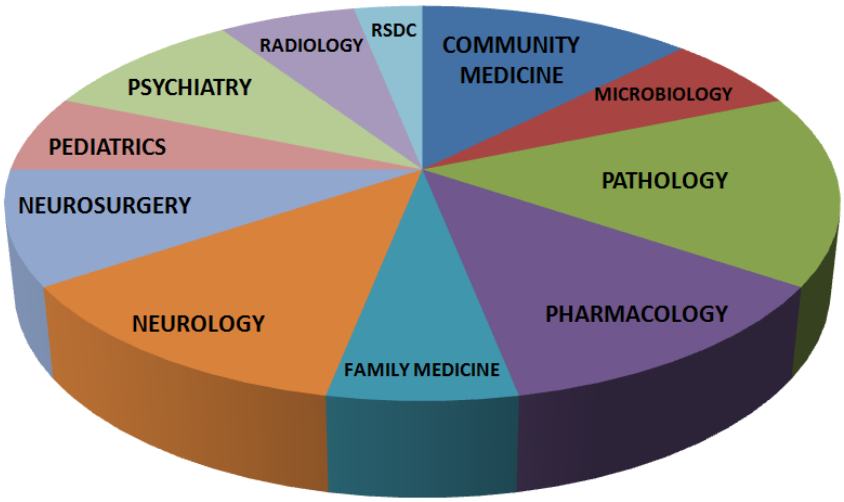
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings, clinical skills, demonstration, tutorial and case based learning that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer assisted learning programs, web- links, 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
  - achievement of objectives.
- Focuses on information pertaining to examination policy, rules and regulations.

CURRICULUM FRAMEWORK
Students will experience integrated curriculum similar to previous modules**.**

INTEGRATED CURRICULUM comprises system-based modules such as Eye/ENT, dermatology, genetics, rehabilitation, reproductive system-II and neurosciences-II modules which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples.

LEARNING EXPERIENCES: Case based integrated discussions, Task oriented learning followed by task presentation, skills acquisition in skills lab, computer-based assignments, learning experiences in clinics, wards.

INTEGRATING DISCIPLINES OF NEUROSCIENCES-II MODULE



LEARNING METHODOLOGIES

The following teaching / learning methods are used to promote better understanding:

- Interactive Lectures
- Small Group Discussion
- Case- Based Discussion (CBD)
- Clinical Experiences
- Clinical Rotations
- Skills session
- Self Study

INTERACTIVE LECTURES: In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

SMALL GROUP SESSION: This format helps students to clarify concepts, acquire skills or desired attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials and self study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

CASE-BASED DISUCSSION (CBD): A small group discussion format where learning is focused around a series of questions based on a clinical scenario. Students' discuss and answer the questions applying relevant knowledge gained previously in clinical and basic health sciences during the module and construct new knowledge. The CBD will be provided by the concern department.

CLINICAL LEARNING EXPERIENCES: In small groups, students observe patients with signs and symptoms in hospital wards, clinics and outreach centers. This helps students to relate knowledge of basic and clinical sciences of the module and prepare for future practice.

- **CLINICAL ROTATIONS:** In small groups, students rotate in different wards like Medicine, Pediatrics, Surgery, Obs & Gyne, ENT, Eye, Family Medicine clinics, outreach centers & Community Medicine experiences. Here students observe patients, take histories and perform supervised clinical examinations in outpatient and inpatient settings. They also get an opportunity to observe medical personnel working as a team. These rotations help students relate basic medical and clinical knowledge in diverse clinical areas.

SKILLS SESSION: Skills relevant to respective module are observed and practiced where applicable in skills laboratory.

SELF STUDY: Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

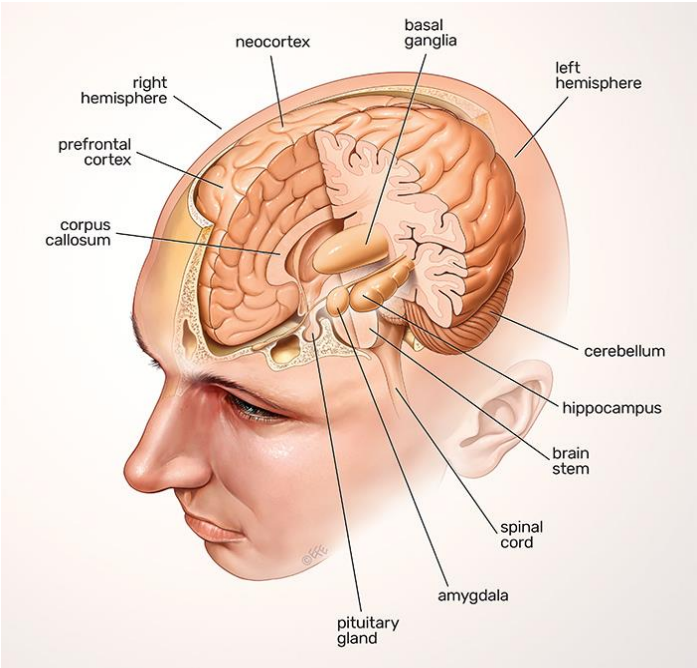
MODULE:NEUROSCIENCES-II

INTRODUCTION

Neurological disorders are diseases of the central and peripheral nervous system. The jurisdiction starts from Cerebral cortex and moves down through brain stem, spinal cord, cranial nerves, peripheral nerves, nerve roots, autonomic nervous system, neuromuscular junction, and finally involves muscles.

This module will provide students with a multidisciplinary approach to understanding the etiology of neurological and mental disorders. Neurological problems are the leading cause for disability globally. An estimated 1-billion people around the world have a neurological disorder or disease, which is almost 15-percent of the world's population. According to WHO more than 6 million people die because of stroke each year; over 80% of these deaths take place in low- and middle-income countries. Psychiatric disorders are also major human toll of ill health. According to 2012WHOdata, Neuro-Psychiatric disorders are among 12 leading causes of disability and death in Pakistan.

In this module students will learn about the etiology of common disorders encountered by neurologists and psychiatrists and develop comprehensive understanding of the biological, pathological, psychological and social factors behind these disorders. The basis for pharmacological treatments for conditions such as epilepsy, Parkinson's disease and schizophrenia will also be discussed.



OBJECTIVES	LEARNING STRATEGY
COMMUNITY MEDICINE	Tutorial
1. Poliomyelitis and prevention	
• Describe poliomyelitis and its epidemiology	
• Classify different types of poliomyelitis	
• Discuss its control & prevention	
• Explain Global Polio Eradication Initiative	
2. Tetanus & Prevention	Interactive Lecture
• Describe Tetanus & its Epidemiology	
• Classify its types	
• Explain its control & prevention	
3. Leprosy & Prevention	
• Describe Leprosy & its Epidemiology	
• Classify the different types of Leprosy	
• Discuss its control & prevention	
• Explain the national Leprosy control Program	
4. Stroke & Prevention	
• Describe Stroke & its epidemiology	
• Explain the risk factors of Stroke	
• Discuss its control & prevention	
5. Rabies & Prevention	
• Describe Rabies & its epidemiology	
• Discuss its control & prevention	
6. Snake bite & prevention	Tutorial
• Classify Snakes	
• Identify the characteristic features of different types of Snake Venom	
• Discuss epidemiology of snake bite	
• Explain the management of snake bite	
• Discuss the preventive measures of snake bite	
7. Introduction to mental health	Interactive Lecture
• Describe Mental Health	
• List mental health problems	
• Discuss recommendations by World Health Report 2001 for Mental Health.	
• Explain prevention and control of mental health problems	
8. Substance Abuse	Tutorial

• Describe Substance abuse & its epidemiology	
• Identify the criteria of drug addiction	
• Classify psycho-active drugs	
• Describe the phases of Drug addiction	
• Explain the control & Prevention of substance abuse	

PHARMACOLOGY	
1. Sedatives & hypnotics: Benzodiazepines I&II	Interactive Lecture
• Classify the drugs used as Sedatives & Hypnotics	
• Discuss the basic & clinical pharmacology of those Sedatives & Hypnotics drugs	
2. Drug used in migraine	CBL
• List the drugs used in migraine	
• Discuss the basic & clinical pharmacology of those drugs	
3. Drugs of General anesthetics I&II	Interactive Lecture
• List the drugs used as pre anesthetic medications	
• Classify the drugs used as General anesthetics	
• Discuss the basic & clinical pharmacology of those Drugs	
4. Local anesthetics	Tutorial
• List the drugs used in local anesthetics	
• Classify the drugs used as local anesthetics	
• Discuss the basic & clinical pharmacology of those Drugs and their differences	
5. Anti-epileptic drugs	Interactive Lecture
• Classify the drugs used in epilepsy	
• Discuss the basic & clinical pharmacology of those drugs	
6. Anti-psychotic drugs I &II	
• Classify antipsychotic drugs according to different aspect	
• Discuss the basic & clinical pharmacology of those drugs	
7. **Antidepressant drugs**	
• Classify the Antidepressant Drugs	
• Discuss the basic & clinical pharmacology of those drugs	
8. **CNS Stimulants and Hallucinogens**	Tutorial
• List different classes of CNS stimulants and hallucinogens	
• Discuss the basic & clinical pharmacology of those drugs	
9. Anti-Parkinson drugs	CBL
• Classify the Anti-Parkinson Drugs	
• Discuss the basic & clinical pharmacology of those drugs	

10. Drugs of Abuse & Alcohols	Tutorial
• List the drugs of Abuse	
• Discuss the basic and clinical pharmacology of those drugs and Alcohols	

PATHOLOGY AND MICROBIOLOGY	
1. Patterns of nerve injury, Cerebral Edema & Raised ICP	Interactive Lecture /Tutorial
• Discuss the pathophysiology of reactions of Neurons, Glial tissue, Astrocytes, and Microglia to injury	
• Define cerebral edema; discuss its types and etiological factors	
• Discuss the pathogenesis, morphology and clinical presentation of cerebral edema, hydrocephalus and raised intracranial pressure	
• List and discuss the pathogenesis and morphology of different types of brain herniation	
2. Traumatic injuries to CNS	Interactive Lecture
• Define traumatic vascular injury	
• Discuss the patterns of vascular injury in the CNS	
• Define epidural and subdural hematoma	
• Discuss the etiology, pathogenesis, and clinical presentation of epidural and subdural hematoma	
3. Cerebrovascular Diseases: (Hypoxia, Ischemia, Infarction)	
• Define cerebrovascular diseases	
• Classify types of ischemic and vascular injury to brain	
• Discuss the risk factors, pathogenesis, localization, morphology and clinical course of global and focal cerebral ischemia	
• Discuss the pathogenesis and morphology of various infarcts in the brain and spinal cord	
4. Hypertensive Cerebrovascular disease (CVD), intracranial hemorrhage and malformations	Interactive Lecture
• Discuss effects of hypertension on CNS, types of CVD associated with hypertension, and	
• hypertensive intra-parenchymal hemorrhage	
• Discuss the etiology, pathogenesis, morphology and clinical course of intracranial hemorrhages	
• Discuss hypertensive cerebrovascular disease & hypertensive encephalopathy	
• Discuss intracranial hemorrhage including intraparenchymal hemorrhage, Cerebral	

• amyloid angiopathy, Subarachnoid Hemorrhage and Ruptured Saccular Aneurysms	
• Discuss vascular malformation including arteriovenous malformations, Cavernou	
• malformations and Capillary telangiectasias	
5. Meningitis & Brain Abscess	Interactive Lecture
• Define meningitis and brain abscess.	
• Discuss common Central Nervous System infections including acute (pyogenic) bacterial infections, acute aseptic viral infections, chronic bacterial meningitis, and fungal meningitis	
• List pathogens of meningitis and brain abscess.	
• Discuss in detail the transmission, pathogenesis, clinical features & laboratory diagnosis of Neisseria meningitides, Mycobacterium tuberculosis, Toxoplasma, Naegleria, Listeria & Cryptococcus	
6. Encephalitis	
• Define encephalitis	
• List pathogens of encephalitis	
• Discuss in detail the transmission, pathogenesis, clinical features & laboratory diagnosis of Herpes, Varicella, Rabies & Polio virus	
7. Neurodegenerative Diseases	Interactive Lecture /Tutorial
• Define neurodegenerative diseases	
• List the important neurodegenerative diseases	
• Discuss relationship between proteins and neurodegenerative diseases	
• Discuss the molecular genetics and pathogenesis of Alzheimer disease	
• Discuss important morphologic features, clinical presentation and diagnostic criteria of Alzheimer disease	
• Discuss the molecular genetics and pathogenesis of Parkinson disease	
• Discuss important morphologic features and clinical presentation and diagnostic criteria of Parkinson disease	
8. Brain tumors	
• Classify CNS tumors according to WHO classification	
• List genetic mutations, pathogenesis, morphology and clinical features of brain tumors including all types of Glioma, Ependymoma, Medulloblastoma and Meningioma	Tutorial/Interactive lecture
• Discuss the metastatic tumors to brain	
9. Diseases of skeletal muscles-I	Tutorial/Interactive lecture
• Discuss diseases of neuromuscular junction with special reference to pathophysiology and clinical features of Myasthenia gravis, Lambert-Eaton Myasthenic Syndrome & Botulism	

• Define Skeletal Muscle Atrophy	
• Discuss important features of Type I & II muscle fiber types	
• Discuss the pathogenesis and diagnostic profile of inflammatory neuropathies including dermatomyositis and Polymyositis	
• Discuss inherited diseases of skeletal muscle including X- linked muscular dystrophy with dystrophic mutation/ Duchenne and Becker Muscular Dystrophy	
10. Diseases of skeletal muscles-II	
• Discuss pathophysiology and clinical features of Inflammatory Neuropathy i.e. Guillain-Barré Syndrome (Acute Inflammatory Demyelinating Polyneuropathy)	
• Discuss pathophysiology and clinical features of Poliomyelitis	
• Discuss pathophysiology and morphology of Prion diseases	
• Parasitic infections of CNS	Interactive Lecture

NEUROSURGERY	
1. Hydrocephalus	
• Define Hydrocephalus	
• List common symptoms and signs of acute hydrocephalus in children	
• List common symptoms and signs of normal pressure hydrocephalus in adults	
• Define communicating and non-communicating hydrocephalus	
• Describe the difference in the treatments of these conditions	
2. Traumatic spinal cord injury	
• Discuss the initial management of spinal injury	
3. Traumatic brain injury	
• Describe the initial assessment of a patient with head injury	
4. Raised Intracranial Pressure (ICP)	
• Identify the symptoms and signs of raised ICP	Interactive Lecture
• Describe the evaluation of a patient with raised ICP with reference to Space Occupying Lesion (SOL)	
5. Brain tumors	
• Define brain tumors	
• Classify brain tumors	
• List their causes & clinical features	
• Name the investigations related to brain tumors	
• Discuss the management plan and complications of brain tumors	
6. Spinal tumors	
• Define spinal tumors	

• Classify spinal tumors	
• List the causes & clinical features of spinal tumors	
• Name the investigations related to spinal tumors	
• Discuss the management plan of spinal tumors	
7. Compressive myelopathy	
• Define compressive myelopathy	
• List the causes of compressive myelopathy	
• Discuss its clinical features	
• State the investigations for this condition	
• Discuss its management	
	Practical
• Neuro critical care	

RADIOLOGY	
1. CT Scan Brain	Interactive Lecture
• Describe the role of radiographic imaging studies in diagnosis and management of stroke patients	
• Identify the following on a CT film:	
• i. Normal cranial and neurological anatomy	
• ii. Skull fracture	
• iii. Extra-cerebral blood	
• iv. Intracranial blood	
• v. Appearance of both hemorrhagic and ischemic strokes	
2. MRI Brain	
• Discuss the radiological features of normal and diseased MRI Brain	
• List the indications and contraindications of MRI Brain	
• Neurodegenerative disease Tumor infection on MRI	Practical

PSYCHIATRY	
1. Introduction to Mental Health, and Biopsychosocial model & Non-pharmacological intervention	Interactive Lecture
• Define the concept of health and mental health	
• Describe positive mental health	
• Differentiate between Psychiatry and Psychology	
• Define the role of biological, psychological and social factors in custom continuation and healing of illness	
• Discuss the management of illness	

• Describe the role of personality, attitudes, attributes, impact of family society, social factors and cultures on the etiology, presentation and the management of illness	
2. Counseling & Psychotherapy	
• Define counseling	
• Discuss attending and listening, verbal techniques and role of empathy in healing of illness	
• Discuss the role of counseling, informational care and handling difficult patients and their families	
• Differentiate among counseling, psychotherapy and active listening	
• Differentiate among various types of psychotherapies/counseling	
• Differentiate among empathy, sympathy and apathy	
• Describe the prerequisites of counseling/ psychotherapy	
• Differentiate between boundary and barrier	
• Describe the basic rules of counseling	
• Explain rules and boundaries setting of counseling	
• Enumerate some basics dos and don'ts of counseling	
3. Breaking bad news	Tutorial
• List the application of biopsychosocial model in communicating with patient & his family	
• Discuss the methods to address the concerns and emotional reactions of patients	
• Discuss disclosure models of breaking bad news and management of the related issues	
4. Anxiety disorders- I; Introduction, types & etiology	Interactive Lecture
• Define normal and abnormal anxiety	
• Describe the presentation of anxiety disorders	
• Discuss their etiological theories	
• Distinguish the essential features of generalized anxiety disorder (GAD), panic attacks and panic disorder, phobias (Specific, Agoraphobia and Social Phobia), Obsessive compulsive disorder (OCD), Acute stress reaction and post-traumatic stress disorder (PTSD)	
5. Anxiety disorders- II; differentiating points, diagnosis & management	Interactive Lecture
• Discuss the clinical features and etiology of PTSD and Acute stress reaction	
• Compulsive Disorder	
• Describe the management of these disorders	
6. Depressive disorders	
• Describe the diagnostic criteria for mood disorders (Depressive disorder)	
• List the common risk factors for mood disorders	
• Discuss their management	

• List the risk factors of depressive disorder	
7. Self-harm, and Suicide	Tutorial/Practical
• Define self-harm and suicide	
• List the risk factor of self-harm and suicide	
• Name the common causes of self-harm and suicide	
• Discuss suicide risk assessment	
• Discuss the important outline management plan	
• Discuss the prevention	
8. Bipolar Affective disorder	
• Describe the diagnostic criteria and types of bipolar affective disorder	
• List the common risk factors and co-morbids for bipolar affective disorder	
• Discuss the management of bipolar affective disorder	
9. Somatic and Medically Unexplained Symptoms	Interactive Lecture
• Discuss the assessment of medically unexplained symptoms according to their severity	
• Explain the approach for establishing an appropriate diagnosis	
• State the management of these condition including a stepped approach	
• Describe the diagnostic approach for patients with fits/attack (Epilepsy vs Convulsion disorder)	
10.Schizophrenia and related disorders	Tutorial/Practical
• Explain the concept of Psychosis and its presentation, and prevalence of various psychotic disorders	
• Diagnose Acute Psychotic disorders, schizophrenia, and Delusional disorders based on	
• given criteria	
• Discuss the principles of treatment of schizophrenia and other psychotic disorders	
• Describe their etiological factors and prevalence	
11. Disorders of Addictive Behaviour / Alcohol & Other Substance use	Interactive Lecture
• Define Addiction	
• Discuss the behavioral issues related to addiction	
• Differentiate among tolerance, excessive use, abuse/misuse, dependence, withdrawal and intoxication	
• Classify drugs of addiction	
• Discuss briefly the effects of alcohol and other illicit drugs on the body (cannabis, opioids, cocaine, amphetamines and LSD)	
• Describe the modes of action of alcohol and other illicit drugs	
• Explain the psychological, emotional, physical and social insults of these drugs	
• Describe delirium tremens	

• Describe the impact of suddenly stopping the use of addictive drugs	
• Discuss the difference of harm minimization and drug eradication	
12. Psychosexual disorders	
• Discuss different types of psychosexual disorders	
• Describe their characteristic features, etiology and prevalence	
• Explain principles of management of these conditions	
13. Introduction to childhood psychiatric disorders	Interactive Lecture
• Discuss the presentation of various childhood psychiatric disorders, i.e. Attention deficit hyperactive disorder (ADHD), Autism Spectrum Disorder, Depressive disorder and Mental Retardation	
• Categorize mental health disorders (such as emotional disorders, behavior disorders) in children and adolescents	
• Discuss the factors impacting childhood mental and emotional health	
• Describe the use of multimodal treatment	
14. Introduction to old age psychiatric disorders, Delirium and Dementia	Interactive Lecture
• Describe the variations in presenting psychiatric symptoms in this age group	
• Explain the high likelihood of co-morbidity in this age group	
• Diagnose common psychiatric illnesses in the geriatric group	
• Describe the use of multimodal treatment in old age patients	
• Name standardized assessment tools and their use in measuring cognitive impairment	
• Formulate the differential diagnosis of a patient presenting with cognitive impairment suggestive of dementia	
• Compare features of dementia versus delirium	
• Formulate the clinical assessment and differential diagnosis of an elderly patient with delirium	
• Explain the salient features of delirium and dementia	

PAEDIATRICS	
1. Cerebral Palsy and mental retardation	Interactive Lecture
• Define cerebral palsy	
• List causes of cerebral palsy	
• Classify cerebral palsy	
• List the causes of cerebral palsy	
• Explain the management of cerebral palsy	
2. Common CNS infections in children	
• List the common pathogens of CNS infections in various ages	
• Name the common signs and symptoms of CNS infections	
• Interpret the CSF reports of cases with CNS infections	

• Discuss the management of CNS infections and their complications	
3. Upper and lower motor neuron lesions with Acute flaccid Paralysis (AFP)	Tutorial
• Define Upper and lower motor neuron lesions	
• Name the Differentiating symptoms and signs of upper and lower motor neuron lesions	
• Discuss the common conditions associated with Acute flaccid paralysis (AFP) [Polio ,GBS ,transverse myelitis and traumatic neuritis]	
• List the common conditions associated with upper motor neuron lesions	
• Discuss the importance of Polio eradication program in Pakistan	
4. Seizures in Children	Interactive Lecture
• Define seizures	
• Classify seizures	
• List causes of seizures in children	
• Name the complications of seizures	
• Define febrile seizures & childhood epilepsy	
• Discuss management of acute seizures	
Intellectual Disability	
• Describe neuro protective strategies	Interactive Lecture

Family Medicine	
• Biopsycho social model	Tutorial

<u>Skill lab</u>	Tutorial
• Explain Lumbar puncture procedure	

LEARNING RESOURCES

SUBJECT	RESOURCES
COMMUNITY MEDICINE	**TEXTBOOKS** 1. Preventive and Social Medicine by K Park 2. Community Medicine by M. llyas 3. Basic *Statistics* for the Health Sciences by Jan W Kuzma 4. Textbook of Community Medicine and Public Health, 2018. Saira Afzal, Sabeena Jalal
NEUROLOGY	**TEXTBOOKS** 1. Davidson's Principles and Practice of Medicine 2. Kumar and Clark's Clinical Medicine, Edited by Parveen Kumar, 9th Edition
NEUROSURGERY	**TEXTBOOK** 1. Bailey & Love's Short Practice of Surgery , 26th Edition
PATHOLOGY	**TEXTBOOKS** 1. Robbins & Cotran, Pathologic Basis of Disease,9th edition. 2. Rapid Review Pathology,4th edition by Edward F. Goljan MD **WEBSITES:** http://library.med.utah.edu/WebPath/webpath.html http://www.pathologyatlas.ro/
PEDIATRICS	**TEXTBOOKS** 1. Nelson Textbook of Pediatrics, 19th Edition 2. Textbook of Pediatrics by PPA, preface written by S. M. Haneef 3. Clinical Pediatrics by Lakshmanaswamy Aruchamy, 3rd Edition
PHARMACOLOGY	**TEXT BOOKS** 1. Lippincot Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung
PSYCHIATRY	**TEXT BOOK** 1. Oxford textbook of psychiatry by Michael G. Gelder, 2nd Edition 2. Handbook of Behavioural Sciences, by Mowadat H. Rana 3. Drugs used in Psychiatry, by Prof. Muhammad Iqbal Afridi 4. Kaplan Series, Behavioural Sciences, Psychiatry

ASSESSMENT METHODS:

- **Best Choice Questions(BCQs)** also known as MCQs (Multiple Choice Questions)
- **Objective Structured Practical/Clinical Examination (OSPE or OSCE)**

Internal Evaluation

- Students will be assessed comprehensively through multiple methods.
- 20% marks of internal evaluation will be added to JSMU final exam. That 20% may include class tests, assignment, practicals and the internal exam which will all have specific marks allocation.

Formative Assessment

Individual department may hold quiz or short answer questions to help students assess their own learning. The marks obtained are not included in the internal evaluation

For JSMU Examination Policy, please consult JSMU website!

More than 75% attendance is needed to
Sit for the internal and final examinations

LNH&MC EXAMINATION RULES & REGULATIONS

- Student must report to examination hall/venue, 30 minutes before the exam.
- **Exam will begin sharp at the given time.**
- No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- **Cell phones are strictly not allowed in examination hall.**
- If any student is found with cell phone in any mode (silent, switched off or on) he/she will be not be allowed to continue their exam.
- No students will be allowed to sit in exam without University Admit Card, LNMC College ID Card and Lab Coat
- Student must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

SCHEDULE:

WEEKS	4TH YEAR	MONTH
WEEKS 1 -8	NEUROSCIENCES II MODULE	6-2-2023 28-3-2023
Module Exam Date 30-3-2023 to 31-3-2023		
4 WEEKS	HEAD & NECK & SPECIAL SENSES 2 (EYE)	
4 WEEKS	HEAD & NECK & SPECIAL SENSES 3 (EYE)	
4 WEEKS	ENDOCRINOLOGY 2	
6 WEEKS	REPRODUCTIVE 2	
4 WEEKS	URINARY 2	
2 WEEKS	DERMATOLOGY	
2 WEEKS	ORTHOPEDICS	
2 WEEKS	REHABILITATION