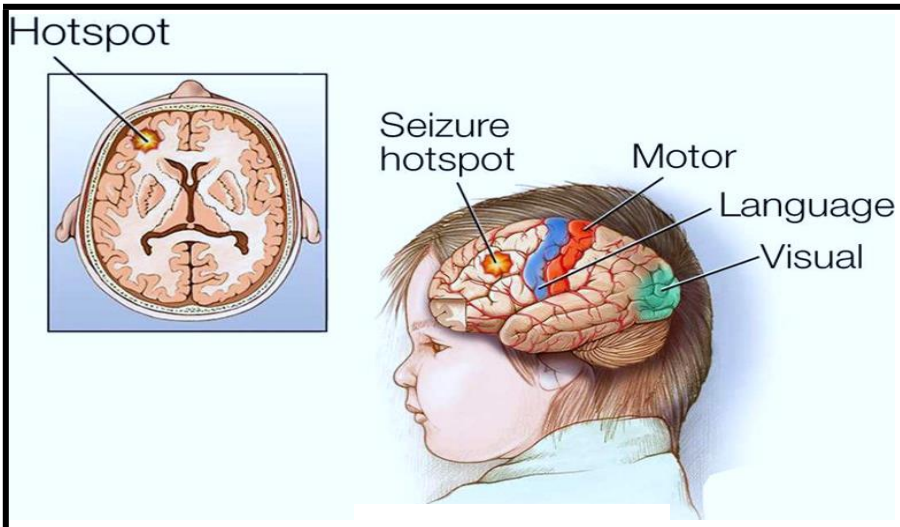


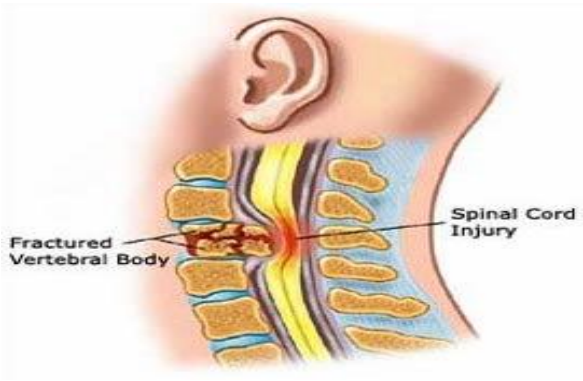
EPILEPSY

STUDY GUIDE

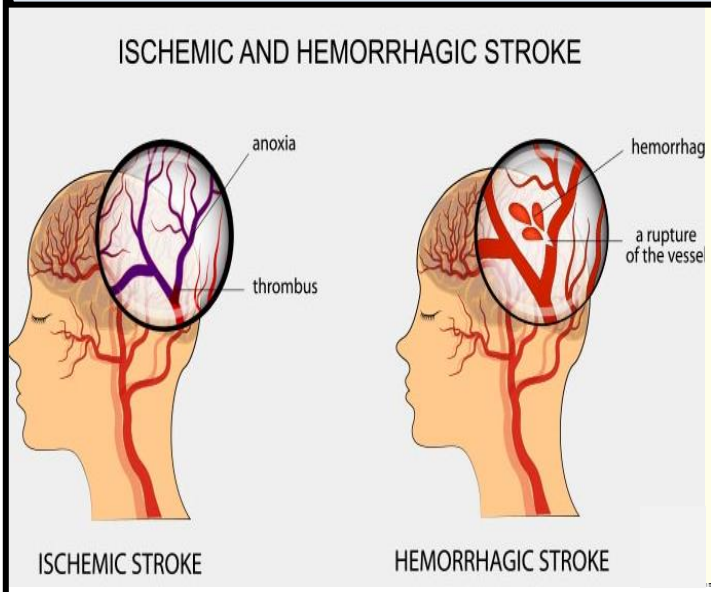
FOURTH YEAR MBBS

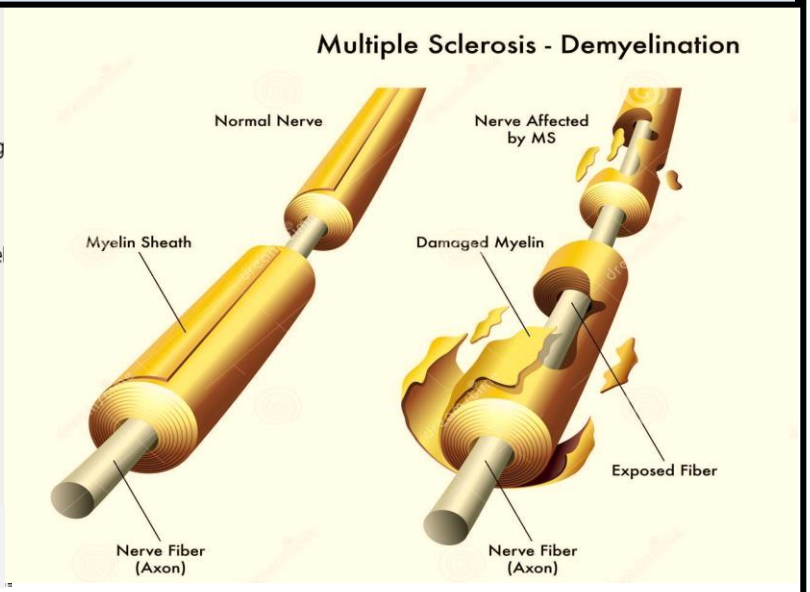
23rd AUG - 9TH OCT 2021

DURATION: 7 WEEKS



NEUROSCIENES II MODULE





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

STUDY GUIDE FOR NEUROSCIENES-II MODULE

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Module name: **Neurosciences-II** *Year:* ***Four*** *Duration:* ***7 weeks (August-October 2021)***

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

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	• Dr. Ahmed Asif (**Neurology**)
CO-COORDINATOR:	• Dr. Rajesh Kumar (**Neurology**) • Prof. Sobia Ali (**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 Nazir Ahmed Solangi	***PEDIATRICS*** Dr. Raman Kumar
	PHYSICAL THERAPY Mr. Muhammad Ali
	PSYCHIATRY Dr. Mahmood Rahman
	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	
LNH&MC MANAGEMENT • Professor Karimullah Makki, Principal, LNH&MC • Dr. Shaheena Akbani, Director A.A & R.T LNH&MC	
STUDY GUIDE COMPILED BY: Department of Health Professions Education	

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.

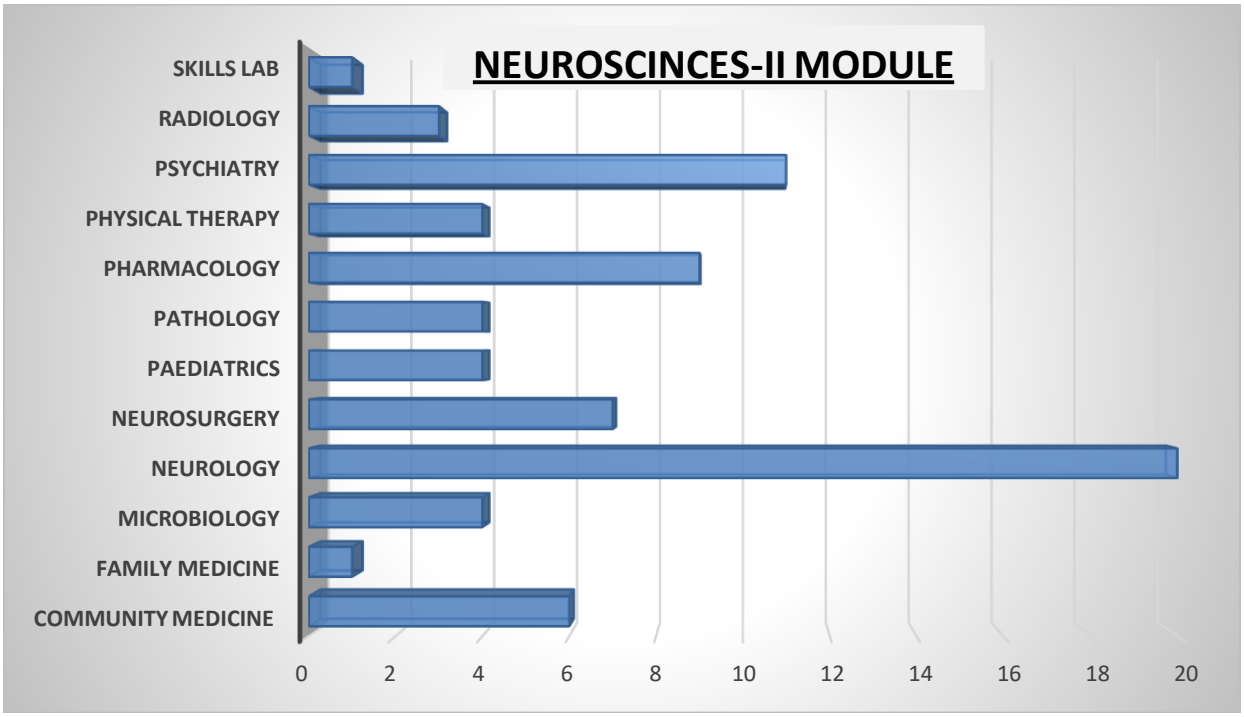
CURRICULUM FRAMEWORK

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 NEUROSCINCES-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 2012 WHO data, 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.

COURSE OBJECTIVES AND TEACHING STRATEGIES

At the end of the module the students will be able to:

COMMUNITY MEDICINE

OBJECTIVES	LEARNING STRATEGY
1. Research Methodology	Tutorial
Discuss research methodology	
Enumerate steps of research methodology	
Explain the study setting, target population, sample size, ethical review and duration	
Explain inclusion and exclusion criteria	
Calculate sample size	
2. Sampling Techniques	Interactive lecture
Define sampling techniques	
Explain process of sampling and Importance of sampling	
Describe types of sampling techniques	
3. Data Entry and Analysis	Tutorial
Describe SPSS interface variable view and data view	
Explain data entry in SPSS	
Describe data analysis and different tools of data analysis	
Discuss the types of data analysis & statistical tests used in data analysis	
4. Writing Discussion	Interactive lecture
Discuss the functions of discussion & structure of discussion	
Differentiate discussion from results	
5. Report writing	
Discuss the overview of report writing	
Enumerate the steps for report writing, essential component of report writing	
Explain the Evaluation of report writing	
Discuss the process of report writing	
Explain the purpose of report writing	
Identify key areas of report writing	
6. Reference writing	Small Group Discussion
Describe referencing and its various styles	
Use Endnote for referencing	

FAMILY MEDICINE

OBJECTIVES	LEARNING STRATEGY
Biopsychosocial model & Non-pharmacological intervention	Interactive lecture
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	

MICROBIOLOGY

OBJECTIVES	LEARNING STRATEGY
Common pathogens of nervous system with special references to different age groups	Interactive lecture
List the most common organisms that cause CNS infections in different age groups	
Describe the pathogenesis, etiologic agents, cellular reactions, type and location of pathologic changes associated with CNS infections	
List the signs and symptoms of CNS infection in different age groups	
Describe CSF findings of bacterial meningitis, tuberculous meningitis, fungal infections, encephalitis and viral diseases of nervous system	

NEUROLOGY

OBJECTIVES	LEARNING STRATEGY
1. History taking in neurology	Interactive lecture
List the essential components of neurological history	
2. Higher mental function examination	Tutorial
Perform higher mental functions examination in simulated patient	
3. Investigation of neurological disorders	Interactive lecture
List various neuro-imaging techniques	
Enumerate uses of various neurophysiological investigations [Electromyelogram (EMG), Nerve Conduction Study (NCS), and Electroencephalogram (EEG)]	
Discuss the indications, contraindications and process for lumbar puncture	
Interpret CSF reports of common conditions	
4. Lesion localization	
Localize the likely site/s of a lesion in the nervous system based on patient's symptoms and signs	
List the differential diagnosis based on detailed history, clinical presentation and complete examination findings	
5. Lesions of cranial nerve	Tutorial
List the causes of cranial nerve pathologies	
Diagnose common cranial nerve lesions that would explain loss of nerve function	
Relate cranial nerve deficits to damage of adjacent unrelated structures	
6. Approach to coma	Interactive lecture
Discuss pathophysiology of coma & altered mental status	
Assign Glasgow Coma Scale (GCS) score to a given case scenario	
Discuss assessment findings associated with coma & altered mental status	
Discuss management of coma & altered mental status	
7. Approach to headache & Primary headaches (Trigeminal autonomic cephalalgias)	
Classify headaches	
Define primary headache syndrome	
Differentiate among different patterns of headache	
Describe the process of history taking of a patient with headache	

8. Clinical presentation of different primary headaches	
Diagnose migraine and tension headache based on written data provided	
Discuss management plans for migraine, tension headache and cluster headache	
9. Secondary headaches	
Discuss differential diagnosis and appropriate diagnostic evaluation for common causes of secondary headaches	
List the red flag signs of secondary headache	
Describe the classic presentations of Trigeminal neuralgia	
Differentiate between common clinical findings seen in Trigeminal neuralgia and other facial pain syndromes	
10. Epilepsy and status epilepticus	Interactive lecture/Case- Based Learning
Define epilepsy & status epileptics	
Discuss pathophysiology of seizures	
Classify epilepsy	
Classify types of seizures clinically	
List most common causes of seizures	
Discuss pharmacological treatment of epilepsy and the management of status epilepticus	
11. Cerebrovascular Accidents (Stroke) - I	
Define the terms stroke, Cerebrovascular Accidents (CVA) & Transient Ischemic Attack (TIA)	
Describe causes of stroke	
Distinguish ischemic stroke (cerebral infarct) from hemorrhagic stroke (intracerebral hemorrhage) in terms of etiology and pathology	
Discuss assessment findings associated with stroke of different arterial territories (anterior and posterior circulation)	
Identify the signs & symptoms related to TIA	
12. Cerebrovascular Accidents (Stroke) - II	
Discuss the management plan of Cerebrovascular Accidents (acute treatment and secondary prevention)	
Discuss the complications of Cerebrovascular Accidents	
13. Acute CNS infections	Interactive lecture
Describe the clinical features & investigations of acute CNS infections	
Summarize the characteristics of their causative organisms	
Interpret the CSF studies in a patient with acute CNS infection	
Describe the possible complications of acute CNS infection if left untreated	
Explain the treatment plan for acute CNS infections	
Differentiate b/w acute and chronic CNS infections based on data provided	
14. Chronic CNS infections	
List the common chronic CNS infections	
Discuss clinical presentation of CNS TB and CNS fungal infections	
Discuss the management & complications of Chronic CNS infection	
Interpret the CSF studies in a patient with chronic CNS infection	

15. Approaches to movement disorders
Describe the presentation of patients with movement disorders
Discuss the pathogenesis and clinical features of Parkinson's disease (PD)
Discuss approach to a patient with PD
Summarize the differential diagnosis of Parkinson's disease
Outline the principles of drug management of Parkinson's disease
Discuss the clinical presentation and treatment of Wilson's disease
16. Multiple sclerosis (MS) and other demyelinative diseases
List the common CNS and PNS demyelinative diseases
Describe common anatomical locations of MS plaques, and parts of the CNS that are particularly prone to developing lesions
Discuss the epidemiology and pathogenesis of MS
Discuss the clinical presentation, workup, differential diagnosis and management of MS
17. Approach to neuropathies and Guillain-Barre syndrome (GBS)
Name the laboratory studies that are useful in the diagnosis of peripheral neuropathy (at least two)
List the most common inherited neuropathies
Differentiate between axonal and de-myelinated neuropathy
State the most common cause of neuropathy
Diagnose hereditary peripheral neuropathies based on pathological findings
Formulate an approach to the evaluation and differential diagnosis of a patient with peripheral neuropathy
Describe the clinical presentation and pathological findings of the GBS
Discuss its pathogenesis
Describe two of its key laboratory abnormalities
Interpret the CSF analysis in GBS
Discuss the management and complications of GBS
18. Myasthenia Gravis
Describe the pathophysiology of Myasthenia gravis
Explain its clinical presentation & investigations
Discuss its long-term management
Discuss the management of Myasthenia Crisis
19. Dementia
State the causes, clinical presentation and investigations of dementia
List the differential diagnosis of dementia
Describe the principles of its management
20. Muscular dystrophies
Define Muscular dystrophies
Classify their types
List the causes of Muscular dystrophies
Discuss their genetics & clinical features
Name the investigations related to Muscular dystrophies
Discuss the management plan and complications of Muscular dystrophies

21. Neurological manifestations of Covid-19	
Describe the neurological manifestations of Covid-19	
22. Sensory examination	Tutorial
To perform sensory examination	
23. CNS Examination	
Perform CNS examination on simulated patient following proper steps	

NEUROSURGERY

OBJECTIVES	LEARNING STRATEGY
1. Congenital disorders of CNS: Neural tube defects	Interactive lecture
Define Neural tube defects	
List the causes of Neural tube defects	
Classify Neural tube defects	
List the investigations related to neural tube defect	
Discuss the clinical features & complications of neural tube defect	
Discuss the management plan of neural tube defect	
2. 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	
3. Traumatic spinal cord injury	
Discuss the initial management of spinal injury	
4. Traumatic brain injury	
Describe the initial assessment of a patient with head injury	
5. Raised Intracranial Pressure (ICP)	
Identify the symptoms and signs of raised ICP	
Describe the evaluation of a patient with raised ICP with reference to Space Occupying Lesion (SOL)	
6. 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	
7. 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	

8. Compressive myelopathy	
Define compressive myelopathy	
List the causes of compressive myelopathy	
Discuss its clinical features	
State the investigations for this condition	
Discuss its management	

PAEDIATRICS

OBJECTIVES	LEARNING STRATEGY
1. Cerebral Palsy and intellectual disability	Interactive lecture
Define cerebral palsy	
List the causes of cerebral palsy	
Describe the topographic classification of cerebral palsy	
Discuss the associated conditions in cerebral palsy	
Explain management of cerebral palsy	
2. Upper and lower motor neuron lesions	Tutorial
Differentiate between the symptoms and signs of upper and lower motor neuron lesions	
Identify the common conditions associated with Acute flaccid paralysis (AFP) (Polio ,GBS ,transverse myelitis and traumatic neuritis)	
Identify the common conditions associated with upper motor neuron lesions	
Discuss the importance of Polio eradication program in Pakistan	
3. Seizures in Children	Interactive lecture
Identify various types of fits based on data provided	
List causes of seizures in children	
Define the febrile seizures & childhood epilepsy	
Discuss management of acute seizures	
4. Neuroprotective studies	
To differentiate between primary and secondary brain injuries	
To identify the 10 strategies that can prevent secondary brain injury in any brain trauma.	

PATHOLOGY

OBJECTIVES	LEARNING STRATEGY
1. Reaction of neurons and glial cells to injury, cerebral hypoxia & cerebral edema	Interactive lecture/ Small Group Discussion
Describe the pathophysiology of hypoxia and cerebral edema	
Discuss the role of microglia in CNS inflammation and repair	
Explain all the types of glial cells, their normal functions, and their reactions to injury	
2. Degenerative diseases of cerebral cortex like Alzheimer's disease	
Name the neurodegenerative diseases of cerebral cortex	
Discuss the role of environmental factors in the pathogenesis of Alzheimer's disease	
3. Brain tumors	
Classify CNS tumors according to WHO classification	
List genetic conditions associated with brain tumors	
Describe the pathogenesis, key gross and microscopic features, and clinical presentation of Glioma, medulloblastoma and memnigioma	

4. Diseases of skeletal muscles	
Define diseases of the neuromuscular junction with special reference to pathophysiology of Myasthenia gravis	
Describe diseases of the neuromuscular junction with special reference to pathophysiology of Myasthenia gravis	
Describe the neurogenic and myopathic changes in skeletal muscles	
Differentiate among various inherited diseases of skeletal muscle (including X- linked muscular dystrophy with dystrophic mutation/ Duchenne and Becker Muscular Dystrophy) on the basis of pathophysiology	
Enumerate various specific peripheral neuropathies including inflammatory neuropathies (Poliomyelitis)	
Describe the pathophysiology of Poliomyelitis	

PHARMACOLOGY

OBJECTIVES	LEARNING STRATEGY
1. Sedatives & Hypnotics- I (Benzodiazepines) & II (Barbiturates & Anxiolytics)	Interactive lecture
Classify the drugs used as Sedatives & Hypnotics	
Discuss the basic & clinical pharmacology of those Sedatives & Hypnotics drugs	
2. Drug used in migraine	
List the drugs used in migraine	
Discuss their basic & clinical pharmacology	
3. Drugs of General anesthetics I &II	
Discuss the drugs used as pre-anesthetic medications	
Classify the general anesthetics	
Discuss their basic & clinical pharmacology	
4. Local anesthetics	Case- Based Learning
List the local anesthetic drugs	
Classify the local anesthetic drugs	
Discuss their basic & clinical pharmacology	
5. Anti-epileptic drugs	Tutorial
Classify the drugs used in epilepsy	
Discuss their basic & clinical pharmacology	
6. Anti-psychotic drugs	Interactive lecture
Classify antipsychotic drugs	
Discuss their basic & clinical pharmacology	
7. Antidepressant drugs	Case- Based Learning
Classify the Antidepressant drugs	
Discuss their basic & clinical pharmacology	
8. CNS Stimulants and hallucinogens	Tutorial
Classify CNS stimulants and hallucinogens	
Discuss their basic & clinical pharmacology	
9. Anti-Parkinson drugs	Interactive lecture
Classify the Anti-Parkinson drugs	
Discuss their basic & clinical pharmacology	

PHYSICAL THERAPY

OBJECTIVES	LEARNING STRATEGY
1. Pediatric Rehabilitation	Interactive lecture
Summarize the theories of development and normal developmental milestones	
Describe assessment methods and rehab interventions for pediatric conditions {Cerebral Palsy, talipes equinovarus (TEV), Myopathies, Spina Bifida}	
2. Rehabilitative management of common cardiac conditions	Tutorial
Describe the method of comprehensive assessment of a patient presenting with common cardiac conditions, and evaluation for rehabilitation	
Formulate differential diagnosis for common cardiac conditions	
List the therapeutic interventions for common cardiac conditions	
Justify a rehabilitation management plan that specifies appropriate modalities of assessment and treatment	
Rehabilitative management of common neurological disorders	
Describe the method of assessment of a patient presenting with a neurological disease	
Formulate differential diagnosis for neurological conditions	
List the therapeutic interventions for neurological conditions	
Justify a rehabilitation management plan that specifies appropriate modalities of assessment and treatment for neurological conditions	
3. Rehabilitative Management of Stroke	
Explain the process of assessment and management of rehabilitation of patients with cerebro-vascular diseases	
Summarize the rehabilitation management of stroke deficit	
4. Rehabilitative management of common neurological disorders	
Describe the method of assessment of a patient presenting with a neurological disease	
Formulate differential diagnosis for neurological conditions	
List the therapeutic interventions for neurological conditions	
Justify a rehabilitation management plan that specifies appropriate modalities of assessment and treatment for neurological conditions	

PSYCHIATRY

OBJECTIVES	LEARNING STRATEGY
1. Counseling & Psychotherapy	Tutorial
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	
2. Anxiety disorders- I; Introduction, types & etiology	Interactive lecture/Tutorial
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)	
3. Anxiety disorders- II; differentiating points, diagnosis & management	
Discuss the clinical features and etiology of PTSD and Acute stress reaction	
Explain the causes of PTSD, Acute Stress Disorder and Obsessive Compulsive Disorder	
Describe the management of these disorders	
4. Depressive disorders & Bipolar Affective disorder	
Describe the diagnostic criteria for mood disorders (Depressive disorder)	
Identify common risk factors for mood disorders	
Discuss the management of mood disorders	
Discuss Self-harm, and Suicide and its risk factors	
Describe the diagnostic criteria and types of bipolar affective disorder	
Identify common risk factors and co-morbids for bipolar affective disorder	
Discuss the management of bipolar affective disorder	
5. Somatic and Medically Unexplained Symptoms	Tutorial
Discuss the assessment of medically unexplained symptoms according to their severity	
Explain the establishment of an appropriate diagnosis	
State the management of these condition including a stepped approach	
Describe the diagnose approach for patients with fits/attack (Epilepsy vs Convulsion disorder)	

6. Schizophrenia and related disorders	Interactive lecture
Explain the concept of Psychosis, its presentation, and prevalence of various psychotic disorders	
Diagnose Acute Psychotic disorder, schizophrenia, Delusional disorder based on given criteria	
Discuss the principles of treatment of schizophrenia and other psychotic disorders	
Describe the etiological factors and prevalence of this condition	
7. Disorders of Addictive Behaviour / Alcohol & Other Substance use	Tutorial
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 on the body of alcohol and other illicit drugs (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	
8. Psychosexual disorders	Interactive lecture
Discuss different types of psychosexual disorders	
Describe their characteristic features, etiology and prevalence	
Explain principles of management of these conditions	
9. Violence and Child Abuse	
Describe different kinds of child abuse	
Discuss their implications	
Explain the risk and etiological factors for child abuse	
Discus the identifying features of child abuse	
Explain the legal aspects of rights of a child	
Explain the management of cases of various types of child abuse	
Discuss the role of mental health professional in child abuse	
10. Introduction to childhood psychiatric disorders	
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	

11. Introduction to old age psychiatric disorders, Delirium and Dementia	
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	

RADIOLOGY

OBJECTIVES	LEARNING STRATEGY
1. CT Scan Brain	Small Group Discussion
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	
Identify the radiological features of normal and diseased spine and vertebral column	
3. Neuro-radiology of brain tumors, head injury and hydrocephalus	
Describe the role of the diagnostic radiological modalities in the evaluation of patients with brain tumor, head injury and hydrocephalus	
List the advantages and limitations of the following diagnostic tools used in the evaluation of brain tumors:	
i. Plain skull radiograph	
ii. Plain spine radiograph	
iii. CT scan of head or spine	

RESEARCH & SKILLS DEVELOPMENT CENTER

OBJECTIVES	LEARNING STRATEGY
Lumbar puncture	Small Group Discussion
To perform lumbar puncture with proper steps on mannequin.	

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)**

BCQs:

- A BCQ has a statement or clinical scenario of four options (likely answers).
- **Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.**
- Students mark their responses on specified computer-based sheet designed for LNHMC.

OSCE:

- All students rotate through the same series of stations in the same allocated time.
- At each station, a brief written statement includes the task. Student completes the given task at one given station in a specified time.
- Stations are observed, unobserved, interactive or rest stations.
- In unobserved stations, flowcharts, models, slide identification, lab reports, case scenarios may be used to cover knowledge component of the content.
- Observed station: Performance of skills /procedures is observed by assessor
- Interactive: Examiner/s ask questions related to the task within the time allocated.
- In Rest station, students in the given time not given any specific task but wait to move to the following station.

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	REPRODUCTIVE SYSTEM II MODULE	28th June 2021
		21st Aug 2021
WEEKS 1-7	NEUROSCIENCES II MODULE	23rd Aug 2021
		9th Oct 2021
PRE PROF. EXAMINATION*		

*Final dates will be announced later