

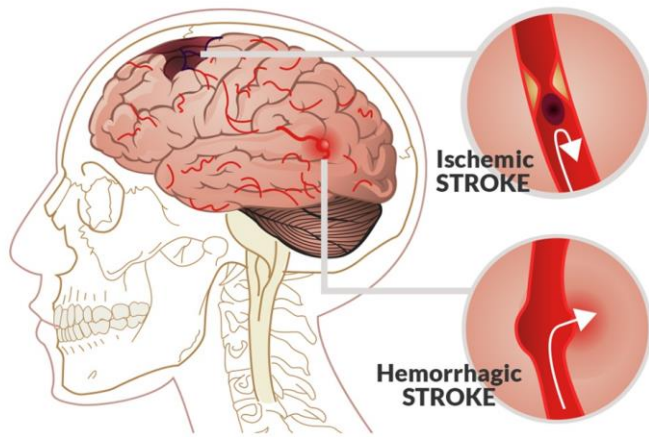
# STUDY GUIDE

## NEUROSCIENCES-II & PSYCHIATRY MODULE

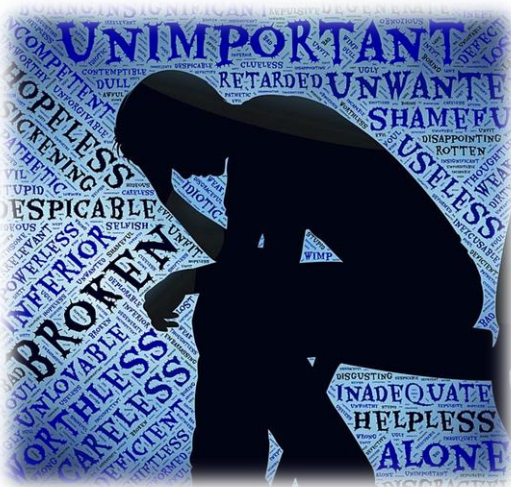
### FOURTH YEAR MBBS

9<sup>th</sup> June – 23<sup>rd</sup> July 2020

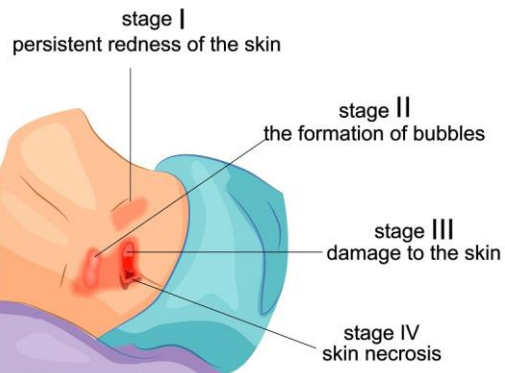
Duration: 7 weeks



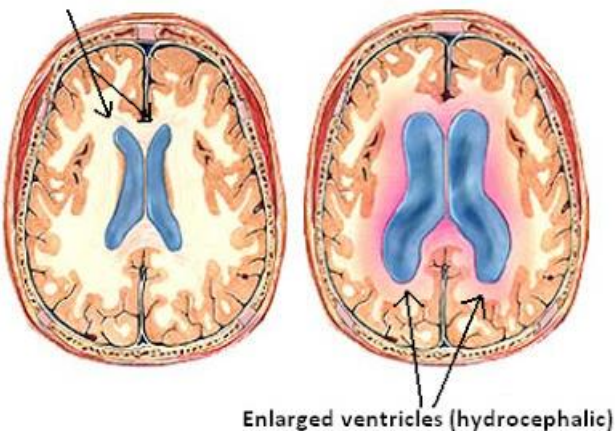
### STROKE



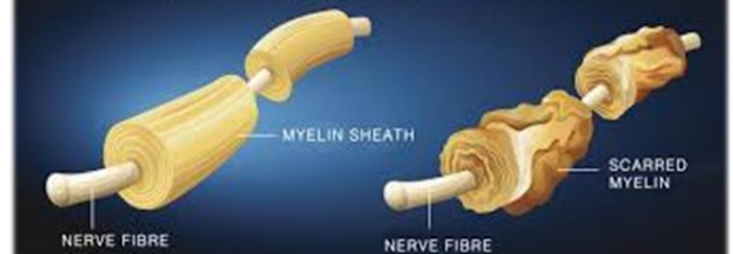
### PRESSURE ULCERS



Normal ventricles



### Multiple Sclerosis - Demyelination



LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE

Institute for Postgraduate Medical Studies & Health Science



**STUDY GUIDE FOR NEUROSCIENCES-II & PSYCHIATRY MODULE**

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Module name: **Neurosciences-II & Psychiatry** Year: **Four** Duration: **7 weeks (June-July 2020)**

Timetable hours: **Interactive Lectures, Case-Based Discussion (CBD), Clinical Rotations, Presentations, Demonstrations, Skills, Self-Study**

### MODULE INTEGRATED COMMITTEE

|                            |  |
|----------------------------|--|
| <b>MODULE COORDINATOR:</b> | <ul style="list-style-type: none"> <li>• Dr. Ahmed Asif (Neurology)</li> </ul>                                   |
| <b>CO-COORDINATOR:</b>     | <ul style="list-style-type: none"> <li>• Dr. Rajesh Kumar (Neurology)</li> <li>• Dr. Sobia Ali (DHCE)</li> </ul> |

### DEPARTMENTS' & RESOURCE PERSONS' FACILITATING LEARNING

| BASIC HEALTH SCIENCES   | CLINICAL AND ANCILLARY DEPARTMENTS   |
|---|--|
| <b>COMMUNITY MEDICINE</b> <ul style="list-style-type: none"> <li>• Dr. Saima Zainab</li> </ul>  | <b>NEUROLOGY</b> <ul style="list-style-type: none"> <li>• Dr. Ahmed Asif</li> <li>• Dr. Rajesh Kumar</li> </ul>          |
| <b>PHARMACOLOGY</b> <ul style="list-style-type: none"> <li>• Professor Nazir Ahmed Solangi</li> <li>• Professor Tabassum</li> </ul>   | <b>NEUROSURGERY</b> <ul style="list-style-type: none"> <li>• Dr. Aamir Saghir</li> </ul>                                 |
| <b>PATHOLOGY</b> <ul style="list-style-type: none"> <li>• Professor Naveen Faridi</li> </ul>  | <b>PEDIATRICS</b> <ul style="list-style-type: none"> <li>• Professor Samina Shamim</li> <li>• Dr. Raman Kumar</li> </ul> |
|   | <b>PSYCHIATRY</b> <ul style="list-style-type: none"> <li>• Dr. Mahmood Rahman</li> </ul>                                 |
|   | <b>RADIOLOGY</b> <ul style="list-style-type: none"> <li>• Dr. Muhammad Misbah Tahir</li> </ul>                           |
| <b>DEPARTMENT of HEALTH PROFESSIONS EDUCATION</b>   |  |
| <ul style="list-style-type: none"> <li>• Professor Nighat Huda</li> <li>• Dr. Mehnaaz Umair</li> <li>• Dr. Sobia Ali</li> <li>• Dr. M. Suleman Sadiq</li> <li>• Dr. Afifa Tabassum</li> </ul> |  |
| <b>LNH&amp;MC MANAGEMENT</b>  |  |
| <ul style="list-style-type: none"> <li>• Professor Karimullah Makki, Principal, LNH&amp;MC</li> <li>• Dr. Shaheena Akbani, Director A.A &amp; R.T LNH&amp;MC</li> </ul>                       |  |
| <b>STUDY GUIDE COMPILED BY:</b> 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.

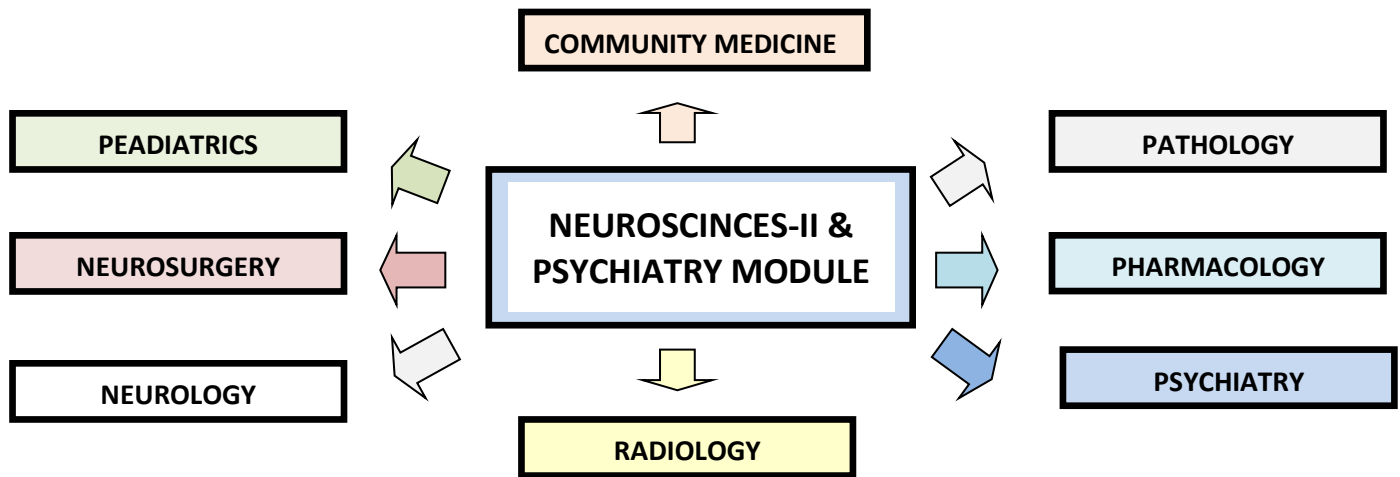
### **CURRICULUM FRAMEWORK**

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 & psychiatry 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 & PSYCHIATRY 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

**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-DIRECTED 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 & PSYCHIATRY****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 TOPICS, OBJECTIVES AND STRATEGIES**

By the end of Rehabilitation module students should be able to:

| <b>1. COMMUNITY MEDICINE</b>  |                          |
|---|--------------------------|
| <i>TOPICS &amp; OBJECTIVES</i>  | <i>TEACHING STRATEGY</i> |
| <b>1.1 Research Methodology</b>   |                          |
| Discuss research methodology  | Interactive lecture      |
| List steps of research methodology  |                          |
| Explain the study setting, target population, Sample size, ethical review             |                          |
| <b>1.2 Sampling Techniques</b>  |                          |
| Define Sampling   | Small group session      |
| Explain process of sampling and Importance of sampling & Types of sampling techniques |                          |
| <b>1.3 Data Analysis</b>  |                          |
| List the Tools of data analysis   | Interactive lecture      |
| Discuss the Types of data analysis & Statistical test used in data analysis           |                          |
| <b>1.4 Writing Discussion</b>   |                          |
| Discuss the Functions of Discussion & Structure of Discussion                         | Interactive lecture      |
| Differentiate discussion from results   |                          |
| <b>1.5 Report writing</b>   |                          |
| Discuss the over view of report writing   | Interactive lecture      |
| List the steps for report writing, Essential component of report writing              |                          |
| Explain the Evaluation of report writing  |                          |

| <b>2. PHARMACOLOGY</b>   |                          |
|--|--------------------------|
| <i>TOPICS &amp; OBJECTIVES</i>   | <i>TEACHING STRATEGY</i> |
| <b>2.1 Sedatives &amp; Hypnotics-I Benzodiazepines, Sedatives &amp; Hypnotics-II Barbiturates &amp; Others</b> |                          |
| Classify the drugs used as Sedatives & Hypnotics   | Small group session      |
| Discuss the basic & clinical pharmacology of those Sedatives & Hypnotics drugs                                 |                          |
| <b>2.2 Drug used in migraine</b>   |                          |
| List the drugs used in migraine  | Interactive lecture      |
| Discuss the basic & clinical pharmacology of those drugs   |                          |
| <b>2.3 Drugs of General anesthetics I&amp;II</b>   |                          |
| Discuss the drugs used as pre anesthetic medications   | CBIL                     |
| Classify the drugs used as General anesthetics   |                          |
| Discuss the basic & clinical pharmacology of those Drugs   |                          |
| <b>2.4 Local anesthetics</b>   |                          |
| List the drugs used in local anesthetics   | CBIL                     |
| Classify the drugs used as local anesthetics   |                          |
| Discuss the basic & clinical pharmacology of those Drugs and their differences                                 |                          |



|  |                     |
|--|---------------------|
| <b>2.5 Anti-epileptic drugs</b>                            |                     |
| Classify the drugs used in epilepsy                        | CBIL                |
| Discuss the basic & clinical pharmacology of those drugs   |                     |
| <b>2.6 Anti-psychotic drugs</b>                            |                     |
| Classify antipsychotic drugs according to different aspect | CBIL                |
| Discuss the basic & clinical pharmacology of those drugs   |                     |
| <b>2.7 Antidepressant drugs</b>                            |                     |
| Classify the Antidepressant Drugs                          | Interactive lecture |
| Discuss the basic & clinical pharmacology of those drugs   |                     |
| <b>2.8 CNS Stimulants and hallucinogens</b>                |                     |
| List different classes of CNS stimulants and hallucinogens | Small Group Session |
| Discuss the basic & clinical pharmacology of those drugs   |                     |
| <b>2.9 Anti-Parkinson drugs</b>                            |                     |
| Classify the Anti-Parkinson Drugs                          | CBIL                |
| Discuss the basic & clinical pharmacology of those drugs   |                     |

| <b>3. PATHOLOGY AND MICROBIOLOGY</b>   |   |
|--|---|
| <i>TOPICS &amp; OBJECTIVES</i>   | <i>TEACHING STRATEGY</i>                  |
| <b>3.1 Reaction of neurons and glial cells to injury, cerebral hypoxia &amp; cerebral edema</b>  |   |
| Describe the pathophysiology of hypoxia and cerebral edema   | Interactive lecture                       |
| 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  |   |
| <b>3.2 Degenerative diseases of cerebral cortex like Alzheimer's disease</b>   |   |
| Name six neurodegenerative diseases of cerebral cortex   | Interactive lecture + Small group session |
| Discuss the role of environmental factors in the pathogenesis of Alzheimer's disease   |   |
| <b>3.3 Brain tumors</b>  |   |
| List genetic conditions associated with brain tumors   | Small group session + Interactive lecture |
| Classify CNS tumors according to WHO classification  |   |
| Describe the pathogenesis, key gross and microscopic features and clinical presentation of Glioma, medulloblastoma and meningioma.   |   |
| <b>3.4 Diseases of skeletal muscles</b>  |   |
| Describe and define diseases of the Neuromuscular Junction with special reference to pathophysiology of Myasthenia gravis.   | Small group session + Interactive lecture |
| Describe the Neurogenic and Myopathic Changes in Skeletal Muscle   |   |
| Differentiate among various Inherited Diseases of Skeletal Muscle (including X-Linked Muscular Dystrophy with Dystrophin 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  |   |

|   |                                       |
|---|---------------------------------------|
| <b>3.5 Common pathogens of nervous system with special references to different age groups</b>   |                                       |
| List the most common organisms that cause CNS infection in different age groups   | Interactive lecture<br>(Microbiology) |
| Describe the pathogenesis, etiologic agents, cellular reactions, type and location of pathologic changes, signs and symptoms (where applicable), age group affected |                                       |
| Describe CSF findings of bacterial meningitis, tuberculous meningitis, fungal infections, viral diseases of nervous system and encephalitis                         |                                       |

| <b>4. NEUROLOGY</b>   |                          |
|---|--------------------------|
| <i>TOPICS &amp; OBJECTIVES</i>  | <i>TEACHING STRATEGY</i> |
| <b>4.1 Investigation of neurological disorder</b>   |                          |
| List various neuro imaging techniques   | Interactive lecture      |
| List uses of various neurophysiological investigations (EMGs, NCS, EEG)   |                          |
| Discuss the indications, contra-indications and process for lumbar puncture   |                          |
| Interpret CSF reports of common conditions  |                          |
| <b>4.2 CNS Examination</b>  |                          |
| Perform CNS examination with proper steps on simulated patient  | Hands-On                 |
| <b>4.3 Lesion localization</b>  |                          |
| Localize the likely site or sites in the nervous system where a lesion could produce a patient's symptoms and signs | Interactive lecture      |
| List the differential diagnosis based on detailed history/ clinical presentation and complete examination findings  |                          |
| <b>4.4 Lesion of cranial nerve</b>  |                          |
| List the causes of cranial nerve pathologies  | Interactive lecture      |
| Diagnose common cranial nerve lesions that would explain losses of function in the cranial nerves                   |                          |
| Relate cranial nerve deficits to damage of adjacent, unrelated structures   |                          |
| <b>4.5 Approach to coma</b>   |                          |
| Discuss pathophysiology of coma & altered mental status   | Interactive lecture      |
| Assign Glasgow Coma Scale score to a given case scenario  |                          |
| Discuss assessment findings associated with coma & altered mental status  |                          |
| Discuss management of coma & altered mental status  |                          |
| <b>4.6 Approach to headache &amp; Primary headaches (trigeminal, autonomic cephalgia's)</b>                         |                          |
| Define primary headache syndrome  | Interactive lecture      |
| Classify headaches  |                          |
| Differentiate among different patterns of Headache.   |                          |
| Describe the process of history taking of a patient with headache   |                          |
| <b>4.7 Clinical presentation of different primary headaches</b>   |                          |
| Diagnose migraine and tension headache based on written data provided   |                          |
| Discuss management plans for migraine, tension headache and cluster headache  |                          |

|  |  |
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| <b>4.8 Secondary headaches</b>   |  |
| Discuss differential diagnosis and appropriate diagnostic evaluation for common causes of Secondary headaches                        | Interactive lecture                      |
| 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                          |  |
| <b>4.9 Epilepsy and status epilepticus</b>   |  |
| Define epilepsy & status epilepticus   | Interactive lecture                      |
| Discuss pathophysiology of seizures  |  |
| Classify epilepsy  |  |
| Classify types of seizures clinically  |  |
| List most common causes of seizures  |  |
| Discuss pharmacological treatment of epilepsy  |  |
| Discuss management of status epilepticus   |  |
| <b>4.10 Cerebrovascular Accidents - I (Stroke)</b>   |  |
| Define the terms stroke/ Cerebrovascular Accidents (CVA) & Transient Ischemic Attack(TIA)  | Interactive lecture+ Small group session |
| 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, TIA  |  |
| Identify the signs & symptoms related to TIA   |  |
| <b>4.11 Cerebrovascular Accidents - II (Stroke)</b>  |  |
| Discuss the complications of Cerebrovascular Accidents   | Interactive lecture                      |
| Discuss the management plan of Cerebrovascular Accidents   |  |
| <b>4.12 Acute CNS infections</b>   |  |
| Differentiate b/w acute and chronic CNS infections based on data provided  | Interactive lecture                      |
| Describe the clinical features & investigations of acute CNS infections  |  |
| Summarize the characteristics of the 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  |  |
| <b>4.13 Chronic CNS infections</b>   |  |
| List the common chronic CNS infections   | Interactive lecture                      |
| 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 CNS infection   |  |
| <b>4.14 Approaches to movement disorders</b>   |  |
| Describe the presentation of a patient with movement disorders   | Interactive lecture                      |
| Discuss the pathogenesis and clinical features of Parkinson's disease (PD)   |  |

|   |                     |
|---|---------------------|
| Discuss approach to a patient with PD                               | Interactive lecture |
| 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 |                     |

| <b>5. NEUROSURGERY</b>  |                          |
|---|--------------------------|
| <i>TOPICS &amp; OBJECTIVES</i>  | <i>TEACHING STRATEGY</i> |
| <b>5.1 Introduction of Neuro critical care</b>  |                          |
| Define Neuro critical care  | Small group session      |
| Classify Neuro critical care  |                          |
| Discuss investigations related to Neuro critical care   |                          |
| <b>5.2 Congenital disorders of CNS: Neural tube defects</b>   |                          |
| Define Neural tube defects  | Interactive lecture      |
| 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   |                          |
| <b>5.3 Hydrocephalus &amp; its Management</b>   |                          |
| Define Hydrocephalus  | Interactive lecture      |
| 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 differences in the treatments  |                          |
| <b>5.4 Traumatic spinal cord injury</b>   |                          |
| Describe the initial assessment of a patient with head injury                                       | Interactive lecture      |
| <b>5.5 Raised Intra Cranial Pressure(ICP)</b>   |                          |
| 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) |                          |
| <b>5.6 Brain tumors</b>   |                          |
| Define brain tumors   | Interactive lecture      |
| Classify brain tumors   |                          |
| List the causes & clinical features of brain tumors   |                          |
| Name the investigations related to brain tumors   |                          |
| Discuss the management plan & complication of brain tumors  |                          |

| <b>5.7 Spinal tumors</b>                                    |                     |
|---|---------------------|
| Define spinal tumors  | Interactive lecture |
| Classify spinal tumors                                      |                     |
| List the causes & clinical features of spinal tumors        |                     |
| List the investigations related to spinal tumors            |                     |
| Discuss the management plan & complication of spinal tumors |                     |

| <b>6. RADIOLOGY</b>   |                          |
|---|--------------------------|
| <i>TOPICS &amp; OBJECTIVES</i>  | <i>TEACHING STRATEGY</i> |
| <b>6.1 CT Scan Brain</b>  |                          |
| Describe the role of radiographic imaging studies in diagnosis and management of stroke patients  | Small Group Session      |
| Identify the following:   |                          |
| i. normal cranial and neurological anatomy  |                          |
| ii. skull fracture,   |                          |
| iii. extra-cerebral blood on CT   |                          |
| iv. intracranial blood on CT.   |                          |
| v. appearance of both hemorrhagic and ischemic strokes on MRI Brain   |                          |
| <b>6.2 MRI Brain</b>  |                          |
| Identify the radiological features of normal and diseased spine and vertebral column  |                          |
| <b>6.3 Neuro radiology of brain tumor, head injury and hydrocephalus</b>  |                          |
| Describe the role of the diagnostic radiological modalities in the evaluation of patients with brain tumor, head injury and hydrocephalus | Small Group Session      |
| List the advantages and limitations of the following diagnostic tools used in the evaluation of brain tumors:                             |                          |
| ✓ plain skull radiographs   |                          |
| ✓ plain spine radiographs   |                          |
| ✓ CT scan of head or spine  |                          |

| <b>7. PSYCHIATRY</b>   |                          |
|--|--------------------------|
| <i>TOPICS &amp; OBJECTIVES</i>   | <i>TEACHING STRATEGY</i> |
| <b>7.1 Introduction to Mental Health</b>   |                          |
| Define the Concept of Health, and Mental health  | Interactive<br>Lecture   |
| Describe Positive Mental Health  |                          |
| Differentiate between Psychiatry and Psychology  |                          |
| <b>7.2 Biopsychic social model &amp; non-pharmacological intervention</b>  |                          |
| Define Role of biological, physiological and social factors in custom continuation and healing of illness  | Interactive<br>Lecture   |
| Discuss the management of illness  |                          |
| List the role of personality, attitudes, attributes, impact of family society, social factors and cultures on the etiology presentation and the management of illness  |                          |
| <b>7.3 Counseling &amp; Psychotherapy</b>  |                          |
| Define counseling  | Small Group<br>Session   |
| Discuss the 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   |                          |
| Discuss the setting, rules and boundaries of counseling  |                          |
| List some basics do's and don'ts of counseling   |                          |
| <b>7.4 Breaking bad news</b>   |                          |
| List the Importance application of biopsyo-social model in communications in the patient and family  | Small Group<br>Session   |
| Discuss the addressing and dealing the concerns and emotional reactions of patients  |                          |
| Discuss different disclosure models of breaking bad news and management of the related issues  |                          |
| <b>7.5 Anxiety disorder-I: Introduction, types, etiology.</b>  |                          |
| Define Normal and abnormal anxiety.  | Interactive<br>Lecture   |
| Describe the Presentation of anxiety disorders   |                          |
| Discuss the Different 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, Acute stress reaction and post traumatic stress disorder. |                          |

|   |  |
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| <b>7.6 Anxiety disorders-II: Differentiating points, diagnosis and management</b>   |  |
| Discuss the clinical features and etiology of PTSD and Acute stress reaction  | Interactive Lecture                          |
| Explain the causes of PTSD and Acute Stress Disorder  |  |
| Obsessive Compulsive Disorder   |  |
| Describe the management of these disorders  |  |
| <b>7.7 Depressive disorder</b>  |  |
| Describe the diagnostic criteria for mood disorders (including depression and bipolar disorders)                              | Small Group Session +<br>Interactive lecture |
| Identify common risk factors for mood disorders.  |  |
| Discuss the effective management of mood disorders  |  |
| Discuss about Self-harm, Suicide and its risk factors   |  |
| <b>7.8 Bipolar effective disorders</b>  |  |
| Describe the diagnostic criteria, types of bipolar affective disorder   | Interactive lecture                          |
| Identify common risk factors, co-morbidities for bipolar affective disorder   |  |
| Discuss the effective management of bipolar affective disorder  |  |
| <b>7.9 Somatic and Medically Unexplained Symptoms</b>   |  |
| Discuss the assessment of medically unexplained symptoms according to their severity  | Small Group Session                          |
| Describe how to make a diagnosis when it is appropriate   |  |
| Manage these conditions appropriately including a stepped approach  |  |
| Diagnosing patients with fits / attack (Epilepsy vs Conversion disorder)  |  |
| <b>7.10 Schizophrenia and related disorders</b>   |  |
| Describe the Concept of Psychosis, its presentation and prevalence of various psychotic disorders.                            | Interactive lecture                          |
| 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   |  |
| <b>7.11 Disorders of Addictive Behaviour / Alcohol &amp; Other Substance Use Disorders</b>                                    |  |
| Define Addiction,   | Small Group Session                          |
| Discuss the behavioral issues with addiction  |  |
| Differentiate among tolerance, use/ excessive use, abuse/misuse, dependence, excessive withdrawal and intoxication            |  |
| List different drugs according to the classification.   |  |
| 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 on humans                                    |  |
| Describe delirium tremens   |  |
| Describe the impact of suddenly stopping the use of addictive drugs   |  |
| Discuss the difference of harm minimization and drug eradication  |  |

|   |                     |
|---|---------------------|
| <b>7.12 Psycho-sexual Disorders</b>   |                     |
| Discuss different types of psychosexual disorder  | Interactive lecture |
| Discuss the characteristic features of various psychosexual disorders   |                     |
| Describe the etiology and prevalence of various psychosexual disorders  |                     |
| Explain principles of management of these conditions  |                     |
| <b>7.13 Violence and Child Abuse</b>  |                     |
| Describe different kinds of child abuse   |                     |
| Discuss the implications of child abuse   |                     |
| Explain the risk and etiological factors for child abuse  |                     |
| Discuss 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 apart from the management of the any associated disorder  |                     |
| <b>7.14 Introduction to Childhood Psychiatric Disorders</b>   |                     |
| Discuss the Presentation of various childhood psychiatric disorders, i.e. Attention deficit hyperactive disorder, Autism Spectrum Disorder, Depressive disorder and Mental Retardation. | Interactive lecture |
| Categorize mental health disorders such as emotional disorders, behavior disorders in children and adolescents  |                     |
| Discuss the factors impacting child hood mental and emotional health.   |                     |
| Describe the use of multimodal treatment  |                     |

| <b>8. PEDIATRICS</b>   |                          |
|--|--------------------------|
| <b>TOPICS &amp; OBJECTIVES</b>   | <b>TEACHING STRATEGY</b> |
| <b>8.1 Cerebral Palsy and mental retardation in children</b>   |                          |
| Define of cerebral palsy   | interactive lecture      |
| List the causes of cerebral Palsy in children  |                          |
| Describe the topographic classification of cerebral palsy.   |                          |
| Discuss the associated conditions in cerebral palsy.   |                          |
| Explain the management of Children with cerebral palsy   |                          |
| <b>8.2 Common CNS Infections in Children</b>   |                          |
| Identify common pathogens of CNS infections in various ages.   | Interactive lecture      |
| Identify common signs and symptoms of CNS infections.  |                          |
| Interpret the CSF reports of cases with CNS infections   |                          |
| Describe management of CNS infections and their complications  |                          |
| <b>8.3 Upper versus lower motor neuron lesions</b>   |                          |
| Differentiate between the symptoms and signs of upper and lower motor neuronlesions.                       | Case-Based Discussion    |
| Identify the common conditions associated with 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  |                          |



| 8.4 Seizures in Children                              |                     |
|---|---------------------|
| Identify various types of fits based on data provided | Interactive lecture |
| List causes of seizures in children                   |                     |
| Define the febrile Seizures & Childhood Epilepsy      |                     |
| Discuss management of acute seizures                  |                     |

**Apart from attending daily scheduled sessions, students too should engage in self-study to ensure that all the objectives are covered**



**LEARNING RESOURCES**

| <b>Discipline</b>         | <b>Resources</b>  |
|---------------------------|---|
| <b>COMMUNITY MEDICINE</b> | <p><b><u>TEXTBOOKS</u></b></p> <ol style="list-style-type: none"> <li>1. Preventive and Social Medicine by K Park</li> <li>2. Community Medicine by M. Ilyas</li> <li>3. Basic <i>Statistics</i> for the Health Sciences by Jan W Kuzma</li> <li>4. Textbook of Community Medicine and Public Health, 2018. Saira Afzal, Sabeena Jalal</li> </ol> |
| <b>NEUROLOGY</b>          | <p><b><u>TEXTBOOKS</u></b></p> <ol style="list-style-type: none"> <li>1. Davidson's Principles and Practice of Medicine</li> <li>2. Kumar and Clark's Clinical Medicine, Edited by Parveen Kumar, 9th Edition</li> </ol>  |
| <b>NEUROSURGERY</b>       | <p><b><u>TEXTBOOK</u></b></p> <ol style="list-style-type: none"> <li>1. Bailey &amp; Love's Short Practice of Surgery , 26<sup>th</sup> Edition</li> </ol>  |
| <b>PATHOLOGY</b>          | <p><b><u>TEXTBOOKS</u></b></p> <ol style="list-style-type: none"> <li>1. Robbins &amp; Cotran, Pathologic Basis of Disease, 9<sup>th</sup> edition.</li> <li>2. Rapid Review Pathology, 4<sup>th</sup> edition by Edward F. Goljan MD</li> </ol>  |
|                           | <p><b><u>WEBSITES:</u></b></p> <p><a href="http://library.med.utah.edu/WebPath/webpath.html">http://library.med.utah.edu/WebPath/webpath.html</a><br/> <a href="http://www.pathologyatlas.ro/">http://www.pathologyatlas.ro/</a></p>  |
| <b>PEDIATRICS</b>         | <p><b><u>TEXTBOOKS</u></b></p> <ol style="list-style-type: none"> <li>1. Nelson Textbook of Pediatrics, 19<sup>th</sup> Edition</li> <li>2. Textbook of Pediatrics by PPA, preface written by S. M. Haneef</li> <li>3. Clinical Pediatrics by Lakshmanaswamy Aruchamy, 3<sup>rd</sup> Edition</li> </ol>  |
| <b>PHARMACOLOGY</b>       | <p><b><u>TEXT BOOKS</u></b></p> <ol style="list-style-type: none"> <li>1. Lippincot Illustrated Pharmacology</li> <li>2. Basic and Clinical Pharmacology by Katzung</li> </ol>  |
| <b>PSYCHIATRY</b>         | <p><b><u>TEXT BOOK</u></b></p> <ol style="list-style-type: none"> <li>1. Oxford textbook of psychiatry by Michael G. Gelder, 2<sup>nd</sup> Edition</li> </ol>  |
| <b>PLASTIC SURGERY</b>    | <p><b><u>TEXTBOOK</u></b></p> <ol style="list-style-type: none"> <li>1. Bailey &amp; Love's Short Practice of Surgery , 26<sup>th</sup> Edition</li> </ol>  |

**ADDITIONAL LEARNING RESOURCES**

|  |   |
|--|---|
| <b><u>Hands-on Activities/ Practical</u></b> | Students will be involved in Practical sessions and hands-on activities that link with the Neurosciences-II and Psychiatry Module to enhance learning.  |
| <b><u>Museum</u></b>                         | Models available in the museum are a rich learning resource for quick review of anatomy and related educational activities  |
| <b><u>Skills Lab</u></b>                     | Skills acquisition in a simulated environment in the skills lab involving experiential learning will ensure patient safety and will also help to build confidence in approaching the patients |
| <b><u>Videos/Podcasts</u></b>                | Videos and podcasts will familiarize the student with the procedures and protocol which they can watch and listen to at any time and wherever they are, as part of task oriented learning     |
| <b><u>Internet Resources</u></b>             | Students will use easily accessible internet resources with added time flexibility to enrich and update their knowledge and its application   |

**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.

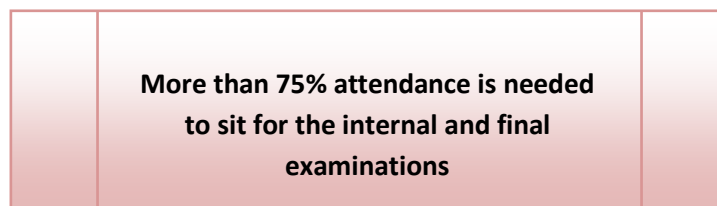
**Internal Evaluation**

- 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!**



**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      | 4 <sup>th</sup> Year                 | MONTH                       |
|------------|--------------------------------------|-----------------------------|
| WEEKS 1 -9 | REPRODUCTIVE SYSTEM II MODULE        | 16 <sup>th</sup> March 2020 |
|            |                                      | 4 <sup>th</sup> June 2020   |
|            |                                      | 9 <sup>th</sup> June 2020   |
| WEEKS 1 -7 | NEUROSCIENCES II & PSYCHIATRY MODULE | 23 <sup>rd</sup> July 2020  |
|            |                                      | 2020*                       |
|            | Revision Classes (Earlier Modules)   |                             |

\*Final dates will be announced later