

MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE MIRPUR

DEPARTMENT OF MEDICAL EDUCATION



NEUROSCIENCES-1B MODULE

2ND YEAR MBBS (BATCH-17)

BLOCK: E

DURATION: 4-WEEKS

MODULE CODE: MB2-E-NS-IB-09

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Disclaimer:

The development of study guides and the associated curriculum is an iterative process of quality enhancement, informed by stakeholder feedback. All elements—including content, delivery modes, scheduled hours, and assessment—are subject to periodic review and potential revision. Students are advised that the provided topics and learning outcomes represent the essential foundation for approximately 70% of examinations. The remainder will be derived from lecture content and directives issued by course instructors.

1. Instructions:

1. Maintain a minimum attendance of 85% in all scheduled academic activities otherwise will not be allowed to sit in annual exam.
2. Adhere strictly to the prescribed college uniform and professional dress code at all times.
3. Demonstrate professionalism and respect toward peers, faculty, staff, and patients.
4. Uphold academic integrity and ethical conduct in all learning and assessment activities.
5. Comply with all institutional policies regarding conduct, use of facilities, and digital etiquette.

2. Module Committee:

s.no	Name	Department	Role
1.	Prof..Dr.Col Shafqat Ali	Anatomy	HOD
2.	Prof. Dr. M. Naqib	Biochemistry	HOD
3.	Prof. Dr. Ayyaz Ahmed	Physiology	HOD
4.	Dr. M Junaid Khan	DME	HOD

OUR VISION STATEMENT

To be a renewed nationwide and world class academia maintaining a prominent role in medical education, innovative research and delivery of best health care services of international standards.

OUR MISSION STATEMENT

To take this medical college to the international ranking by providing healthcare professional's excellent knowledge, extraordinary skill sets, leadership in research and empathy with Islamic Sprit.

3. Module Mapping of MBBS Program

Module Mapping (MBBS Program) Tentative

Year	Blocks	Modules			Horizontal Module			
1 st year	A	Foundation-I (5-weeks)	Blood & Immunology -I (5-weeks)		Quran Kareem	Pak_Study/Islamite		
	B	Locomotor/MSK-I (8-weeks)						
	C	CVS – I (4-weeks)	RES – I (4-weeks)					
2 nd year	D	Gastrointestinal, Hepatobiliary and Metabolism Module -I (9-weeks)	Renal-I (3-weeks)			Arts & Humanities		
	E	Neurosciences 1A (6-weeks)	Neurosciences 1B (5-weeks)					
	F	Endocrine – I (4-weeks)	Repro – I (3-weeks)					
3 rd year	G	Foundation - II	Infection & Inflammation-II				M1=ENT M2=EYE	English Expository Writing
	H	Multisystem-I	Blood & Immunology-II	Locomotor/MSK-II				
	I	CVS - II	RES – II					
4 th year	J	Neurosciences-II			Clerkship, Electives, /Capstone/Observer ship			Arts & Humanities
	K	GIT & Hepatobiliary - II						
	L	Renal-II	Endo & Repro- II					
PRIME Year	N	Foundation-III	Blood & Immunology-III	Locomotor/MSK-III				
	O	Cardiorespiratory-III						
	P	Renal-III	Endo & Repro-III					
	Q	Neurosciences-III	GIT & Hepatobiliary-III	Multisystem-III				

- 1st Year MBBS: 3 blocks, 5 Modules-27 weeks (945 Hours/AY)
 - 2nd Year MBBS: 3 blocks 6 Modules – 30 weeks (1050 Hours/AY)
- Per week teaching hours=35
Total weeks/hours are tentative
PRIME Year: Year of Professionals Ready for Innovative Medical Excellence
PRIME: Professionalism, Research, Identity formation, Management & leadership, Ethics.

4. What Is A Study Guide?

The Purpose and Structure of a Study Guide

A study guide serves as the central contract and roadmap between the educational program and the student. Its primary purpose is to demystify the learning process by clearly communicating how a module is organized, managed, and assessed. It empowers students to take ownership of their learning by providing all necessary information to plan their studies, identify appropriate resources and support, and understand precisely how their performance will be evaluated.

Core Components of an Effective Study Guide:

Module Administration & Overview

This section provides the essential framework for the module. It includes:

- **Module Identification:** Code, title, teaching hours, and placement within the curriculum.
- **Personnel & Coordination:** Clear points of contact (Module Coordinator, teaching faculty) with roles and responsibilities defined, enabling students to seek the right help efficiently.
- **Timetable & Schedule:** A structured overview of the teaching sequence, including dates, topics, and formats (e.g., lectures, practicals).
- **Learning Objectives & Instructional Strategy**
This is the academic core of the guide, aligning intent with action.
- **Module & Theme Objectives:** A precise list of what students are expected to know, understand, and be able to do by the module's end, directly mapped to program and PMDC competencies.
- **Teaching-Learning Methods:** A description of the instructional strategies employed (e.g., interactive lectures, small group discussions, lab sessions, case-based learning) and their role in achieving the objectives.
- **Learning Resources & Support**
This component directs students to the tools for successful learning.
- **Curated Resource List:** A categorized list of essential and recommended resources, including core textbooks, key journal articles, vetted online links, and specific software or simulation tools.
- **Assessment Strategy:** A detailed breakdown of all formative (continuous) and summative assessments, including their format, weighting, schedule, and how they contribute to the final grade.
- **Rules and Policies:** Clear statements on examination rules, grading criteria, policy on late submissions, academic integrity, and the appeals process.

In summary, a well-constructed study guide transforms a module from a series of disjointed events into a coherent, transparent, and manageable learning journey. It is a fundamental tool for achieving constructive alignment and enhancing the student learning experience.



5. Recommended List Of Icons



Introduction To Case



For Objectives



Critical Questions



Assessment

6. Organization of Module

Introduction:

The Neurosciences Module-IB is 6-weeks Module consisting of introduction to the Nervous system which includes structural and functional features of peripheral nerves, brain & spinal cord. It also includes basic anatomical and physiological concepts about the human nervous system and its development. Clinical, PRIME and behavioral sciences are also included in this module. The contents of the module will be taught in LGF-Lectures, DSL and SGF-Practicals, SGDs, SDL.

Rationale:

This module will help the learner better understand the Anatomy, Physiology, Bio chemistry, as well as related clinical aspects of Pathology, Pharmacology, community medicine, General, Medicine Prime and surgery. The central and peripheral nervous system constitute an important mean to control all voluntary and in voluntary body activities. In addition, it also differentiates Human beings from other living worlds in term of higher mental facilities.

Organization of the Study guide:

The module consists of 6 themes. Each theme has clear learning objectives. Major emphasis will be on real Patient Examination, Discussion, Laboratory and Imaging investigation and Interpretation, Case analysis, diagnosis and management plan will be made by student under the guidance of faculty supervisors. The Theme one real life scenarios, and will give a fair idea to the student that how patients present in day-to-day clinical practices. Your daily activities would be divided into different states. Please refer to time table for more details regarding organization of learning objectives.

7. Teaching and learning strategies

How You Will Learn: A Message from Your Study Guide

This guide outlines the diverse learning methods you will experience, each carefully chosen to help you grow from a student of science into a capable, independent future clinician. Think of this as your map to not only *what* you will learn, but *how* you will learn most effectively.

Part 1: Learning Together – Facilitated Sessions

These sessions provide the foundation, context, and interactive space to build knowledge with your peers and faculty.

- a. **Interactive Lectures:** These are not passive events. In lecture hall, your teacher will introduce core concepts and clinical principles using slides, animations, and real patient stories. We encourage you to engage—ask questions, respond to polls, and connect the dots live. This is where the roadmap for each topic is drawn.
- b. **Small-Group Sessions:** This is where knowledge becomes skill. In smaller classrooms, you will roll up your sleeves with a facilitator and a group of peers.
 - In **Tutorials**, you'll dissect clinical cases, clarify challenging concepts from lectures, and learn through discussion and debate.
 - In **Problem-Based Learning (PBL)**, your group will encounter a complex, real-world patient problem from the very first day. Your mission is to identify what you need to learn, research it, and come together to solve it—mirroring the very essence of clinical reasoning.
 - **Practical Demonstrations** in labs will bring the textbook to life, allowing you to see, touch, and understand the human body and its functions.
 - **Journal Club** sessions will train you to critically evaluate new medical research, a skill vital for a lifetime of evidence-based practice.

Part 2: Learning on Your Own – The Engine of Mastery

True expertise in medicine requires you to become the director of your own learning. These are your key tools.

- **Directed Self-Learning (DSL):** Consider this structured, independent practice. For specific modules, you will be given clear tasks, objectives, and a list of resources. Your job is to work through them independently. This builds the disciplined study habits and foundational understanding you need. Faculty are there to guide you if you hit a roadblock.
- **Self-Directed Learning (SDL):** This is the ultimate goal of your professional development in which you take full responsibility. You will identify your own learning gaps (“I don’t understand heart murmurs well enough”), set your own goals, seek out your own resources, and assess your progress. The college provides the support—the library, online databases, and faculty office hours—but you drive the process. This is the skill that will sustain your clinical competence for decades.

How It All Fits Together

The lectures give you the map and highlight the landmarks. The small-group sessions are the guided practice tours where you learn to use the compass and navigate terrain with a team. **DSL and SDL are the journeys you take on your own to truly know the land.** One method prepares you for the next, building your confidence and capability step-by-step.

We are here to guide you in this transition from learning what we teach, to learning what you need to know. Embrace each method—the collaborative and the independent—as essential parts of your growth into a physician.



8. Learning Objectives

General Learning Outcomes

By the end of this module the students would be able to;

Knowledge

At the end of this module, the 2nd year students will be able to:

1. Describe the structure of vertebrae, skull bones palate, pharynx, larynx, facial bones and base of the skull
2. Describe the contents walls and boundaries of anterior and posterior triangles of the neck
3. Describe the structure, relation, blood supply and venous drainage of thyroid
4. Describe the arteries, veins and nerves of the neck including cervical plexuses
5. Describe the nuclei, course, relations, and structures supplied by all cranial nerves
6. Describe the origin, course, relations and structures supplied by the arteries, veins and lymphatics of head and neck
7. Describe the anatomy of all the muscles of facial expression and head and neck
8. Describe the structure and functions of eye, ears, nose and paranasal sinuses
9. Describe the development of different structures of organs of the head and neck
10. Identify the microscopic structure of salivary glands and tongue
11. Examine a standardized patient's cranial nerves
12. Demonstrate Perimetry and Audiometry

Skills

1. Identify the slide of submandibular, sublingual, salivary & thyroid glands under the microscope
2. Identify the slide of tongue under the microscope
3. Identify the histological layers of parotid gland under the microscope
4. Examine the cranial nerves V, VII, XI, XII, I, IX, X on a standardized patient
5. Examine a standardized patient for visual acuity and errors of refraction
6. Examine a standardized patient for visual field function
7. Examine a standardized patient for oculomotor, Abducent and Trochlear nerves with an ophthalmoscope
8. Examine a standardized patient for hearing loss with tuning fork (Weber and Rinne's test)
9. Examine a standardized patient for functions of inner ear
10. Follow the basic laboratory protocols.

Attitude

1. Follow the basic laboratory protocols.
2. Participate in class and practical work efficiently.
3. Maintain discipline of the college.
4. Follow the norms of the college properly.
5. Communicate effectively in a team with colleagues and teachers.
6. Demonstrate professionalism and ethical values in dealing with patients, cadavers, colleagues and teachers.
7. Communicate effectively in a team with colleagues and teachers.

9. Specific learning objectives

THEME-I: (Facial Palsy)

This theme is one & half week long mostly emphasizing on the anatomical aspects of skull bones. It also includes the study of scalp and facial muscles with their blood and nerve supply, temporomandibular joint, development of face and a brief account of seventh nerve abnormalities. This theme will throw light on advanced biochemical tools such as polymerase chain reaction (PCR). This module consists of LGF-lectures, DSL and SGF-Practicals, SGD, SDL.

THEME-1 (Facial Palsy)					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY					
1.	Osteology of Mandible	Describe the gross features of adult mandible. Describe the bony features of mandible Name the joints formed by mandible Name the attachment of muscles and ligaments on mandible	Demonstration-1	1	MCQs/ SAQs/ VIVA/ OSPE
2.	Skull	Describe the bony features of frontal view of skull Name the bones forming the base of skull Name the bony features of lateral aspect of skull Identify the different foramina and name the structures passing through these foramina Describe the attachment and relation of base of skull Describe the clinical importance.	Demonstration-2	1	MCQs/ SAQs/ VIVA/ OSPE
3.	Scalp & muscles of facial expression	Name the layers of scalp Describe the muscles of scalp Name the neurovascular supply of scalp Describe the lymphatic drainage of scalp Name the fascial muscles along with attachments, nerve supply and actions	LGIS-3	1	MCQs/ SAQs/ VIVA/ OSPE
4.	Temporal, Infratemporal fossa & muscles of mastication	Name the boundaries of temporal fossa Enumerate the contents of	LGIS-4	1	MCQs/ SAQs/ VIVA/ OSPE

		temporal fossa Describe the relations of temporal fossa Name the boundaries of infratemporal fossa Enlist the contents of fossa Describe the relations of Infratemporal fossa Enumerate the muscles of mastication along with their attachments, nerve supply and actions			
5.	Face: Nerve supply, Blood supply & lymphatic drainage	Describe the nerve supply, blood supply and lymphatic drainage of face portion	LGIS-5	1	MCQs/ SAQs/ VIVA/ OSPE
6.	Temporomandibular joint	Name the type of TMJ Name the ligaments related with TMJ Describe the relations of TMJ Name the muscles causing movements of TMJ Name the neurovascular supply of TMJ	LGIS-6	1	MCQs/ SAQs/ VIVA/ OSPE
7.	Extra cranial course of facial nerve	Describe the extra cranial course of CN VII along with its clinical importance	LGIS-7	1	MCQs/ SAQs/ VIVA/ OSPE
EMBRYOLOGY					
8.	Development of Face	Discuss the five facial primordia Describe the inter-maxillary segment Describe the embryological defects of face	LGIS-8	1	MCQs/ SAQs/ VIVA/ OSPE
HISTOLOGY					
9.	Submandibular Glands	Identify the variety of gland according to nature of its acinus. Discuss the capsular structure and its extensions in the gland Differentiate between the stroma and parenchyma of submandibular gland Describe the ductal system of the gland and its differences with parotid gland Describe the detailed structure of serous and mucous acinus	LGIS-9	1	MCQs/ SAQs/ VIVA/ OSPE

		Discuss the formation of serous Demilune Discuss the opening of Wharton's duct Discuss different pathological conditions of the gland			
BIOCHEMISTRY					
10.	Purine Nucleotide synthesis & degradation	Describe the process of nucleotide synthesis and degradation	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE
11.	Hyperuricemia-Gout	Describe the normal levels of serum Uric acid in the blood Describe the mechanism of synthesis of Uric acid from Purines Describe the etiology, pathogenesis and clinical features of Gout	LGIS-2	1	MCQs/ SAQs/ VIVA/ OSPE
12.	Pyrimidine Nucleotide synthesis and degradation	Describe the mechanisms of Pyrimidines synthesis and degradation	LGIS-3	1	MCQs/ SAQs/ VIVA/ OSPE
13.	Salvage pathway of nucleotide synthesis	Explain the salvage pathway of Nucleotide synthesis	LGIS-4	1	MCQs/ SAQs/ VIVA/ OSPE
14.	Overview of structural basis of DNA & RNA-I	Describe the basic components of nucleic acids	LGIS-5	1	MCQs/ SAQs/ VIVA/ OSPE
15.	Overview of structural basis of DNA & RNA-II	Describe the double helical structure of DNA & RNA Explain complimentary base pairing	LGIS-6	1	MCQs/ SAQs/ VIVA/ OSPE
16.	DNA Replication-I	Describe DNA Replication prokaryotes along with assembly of DNA into chromosomes Enumerate DNA Polymerases in prokaryotes with their functions Describe the process of initiation, elongation and termination of replication	LGIS-7	1	MCQs/ SAQs/ VIVA/ OSPE
17.	DNA Replication-II	Describe DNA Replication in Eukaryotes along with assembly of DNA into chromosomes Enumerate DNA polymerases in eukaryotes along with their functions Describe the process of initiation,	LGIS-8	1	MCQs/ SAQs/ VIVA/ OSPE

		elongation and termination of replication			
18.	DNA Repair	Describe different DNA repair mechanisms Define mutation What are the causes of mutation Explain following DNA repairs with examples a) Mismatch repair b) Nucleotide excision repair c) Base excision repair d) Double strand excision repair	LGIS-9	1	MCQs/ SAQs/ VIVA/ OSPE
19.	Genetic Code and Mutation	Define genetic code and give its characteristics Explain consequences of altering the nucleotide sequence with examples a) Point mutation b) Splice site mutation c) Frame shift mutation	LGIS-10	1	MCQs/ SAQs/ VIVA/ OSPE
GENERAL MEDICINE					
20.	Bell's palsy	Describe the clinical features and management of Bell's palsy	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE

DIRECTED SELF LEARNING					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	Blood supply and lymphatic drainage of face	Describe the blood supply and lymphatic drainage of face portion.	DSL	1	MCQs/ SAQs
PHYSIOLOGY					
2.	Sense of taste	Discuss primary sensations of taste Explain threshold for taste Describe the taste bud and its function Describe mechanism of stimulation of taste buds Describe transmission of taste signals into the central nervous system	DSL	1	MCQs/ SAQs
BIOCHEMISTRY					
3.	PCR	Describe the indications and procedure of Polymerase Chain Reaction.	DSL	1	MCQs/ SAQs

LAB WORK					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
PHYSIOLOGY					
1.	Examination of Cranial nerves V, VII	Examine the cranial nerves V & VII on a standardized patient	Demonstration / Practical	1.5	OSPE

Theme-2 (Neck Swelling)

Introduction:

This one & half week long theme consists of anatomical description of cervical vertebrae, hyoid bone and larynx with embryological features of pharyngeal apparatus and histological features of thyroid gland. It also describes anterior and posterior triangles of the neck with emphasis on their contents and boundaries, blood supply of the neck and cervical plexus. This module consists of LGF-lectures and SGF-Practical's, SGD's, SDL.

THEME-2 (Neck Swelling)					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY					
1.	Cervical vertebrae.	Describe the bony features of typical cervical vertebrae Name the joints formed by typical vertebrae Describe the attachments Describe the bony features of atypical cervical vertebrae Name the joints formed by atypical vertebrae Describe the attachments	LGIS-10	1	MCQs/ SAQs/ VIVA/ OSPE
2.	Hyoid bone	Describe the bony features of hyoid bone Describe the attachments of muscles and ligaments with hyoid bone	Demonstration-11	1	MCQs/ SAQs/ VIVA/ OSPE
3.	Pterygopalatine fossa	Name the boundaries of pterygopalatine fossa Enumerate the contents of pterygopalatine fossa Describe the relations of pterygopalatine fossa	Demonstration-12	1	MCQs/ SAQs/ VIVA/ OSPE
4.	Deep Fascia of Neck	Enumerate the layers of deep cervical fascia Draw and labelled diagram of transverse section of neck showing	LGIS-13	1	MCQs/ SAQs/ VIVA/ OSPE

		deep cervical fascia Describe the layers of deep cervical fascia along with its clinical importance Describe the pyriform fossa			
5.	Larynx	Name the paired and unpaired cartilages of larynx Enumerate the ligaments and membrane of larynx Describe the sensory and blood supply of larynx Enumerate the intrinsic and extrinsic muscle of larynx along with its actions and nerve supply	LGIS-14	1	MCQs/ SAQs/ VIVA/ OSPE
6.	Triangles of Neck, Blood vessels and Nerves	Enlist the subdivisions of anterior triangle of neck Describe the boundaries and contents of submental triangle Describe the boundaries and contents of carotid triangle Describe the boundaries and contents of digastric triangle Describe the boundaries and contents of muscular triangle Enlist the subdivisions of posterior triangle of neck Describe the boundaries and contents of occipital triangle Describe the boundaries and contents of supraclavicular triangle Describe the course, Distribution and branches of main arteries of neck Describe the course, Draining and tributaries of main veins of neck Describe the cervical plexus along with its branches and distribution	LGIS-15	1	MCQs/ SAQs/ VIVA/ OSPE
EMBRYOLOGY					
7.	Thyroid Gland	Describe developmental anatomy of thyroid Discuss congenital anomalies associated with its development	LGIS-16	1	MCQs/ SAQs/ VIVA/ OSPE
8.	Pharyngeal apparatus	Describe the components of pharyngeal apparatus. Describe the development of pharyngeal apparatus Enlist the derivatives of the first pharyngeal arch Define the terms pharyngeal arch,	LGIS-17	1	MCQs/ SAQs/ VIVA/ OSPE

		pouch, cleft and membrane Enumerate the derivatives of the second pharyngeal arch Enumerate the derivatives of the 3rd pharyngeal arch Enumerate the derivatives of the 4th pharyngeal arch Enlist the derivatives of 1st, 2nd, 3rd and 4th pharyngeal pouches Describe the derivatives of pharyngeal, grooves, and membranes Discuss the arterial supply and innervation of the pharyngeal arches Describe the pharyngeal membranes Discuss the branchial cyst, sinuses, and fistula Describe the 1st arch developmental defects			
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BIOCHEMISTRY

9.	PCR	Define PCR and explain its purpose in amplifying specific DNA sequences Describe the essential components of PCR, including template DNA, primers, nucleotides, Taq polymerases, and buffer Explain the three major steps of PCR- denaturation, annealing, and extension List major applications of PCR, such as disease diagnosis, forensic analysis, genetic testing, and research	LGIS-11	1	MCQs/ SAQs/ VIVA/ OSPE
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ENT

10.	Lump in neck	Approach to a patient with lump in the neck	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE
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DIRECTED SELF LEARNING

S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	Deep fascia of neck	Enumerate the layers of deep cervical fascia Draw and labelled diagram of transverse section of neck showing deep cervical fascia	DSL	1	MCQs/ SAQs

		Describe the layers of deep cervical fascia along with its clinical importance			
PHYSIOLOGY					
2.	Fluid system of the eye	Describe the formation of aqueous humor by the ciliary body Describe the outflow of aqueous humor from the eye Describe Regulation of Intraocular Pressure and Glaucoma	DSL	1	MCQs/SAQs
BIOCHEMISTRY					
3.	Salvage Pathway	Explain the salvage pathway of Nucleotide synthesis	DSL	1	MCQs/SAQs

LAB WORK					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	Thyroid gland	Identify the slide of thyroid gland under the microscope	Demonstration / Practical	1.5	OSPE
PHYSIOLOGY					
2.	Examination of Cranial Nerves III, IV and VI	Examine a standardized patient for oculomotor, Abducens and Trochlear nerves with an ophthalmoscope	Demonstration / Practical	1.5	OSPE
	Examination of Cranial nerves XI, XII	Examine a standardized patient for Cranial nerves XI, XII			
BIOCHEMISTRY					
3.	PCR	Identify key components required for PCR Demonstrate the three main steps of PCR Explain the role of temperature cycling in controlling each step of the reaction	Demonstration / Practical	1.5	OSPE

Theme-3 & 4 (Anosmia/Cleft Palate)

Introduction:

This is one-week module which consists of two themes.

Anosmia

This module consists of the anatomical and embryological study of nose and paranasal sinuses. It also includes the physiology of smell signal transmission and olfactory pathways into the central nervous system. There is a lecture of ENT discussing acute and chronic sinusitis. This module consists of lectures, Practical's, SGDs, DSL and SDL.

Cleft Palate

This module consists of the anatomical, embryological and histological study of tongue, salivary glands, palate and pharynx. It also includes the physiology of taste buds and taste signal transmission into the central nervous system. There is a lecture of pediatric surgery discussing cleft palate/lip. This module consists of lectures, Practical's, SGDs, DSL and SDL.

THEME-3 (Anosmia)					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY					
1.	Nose and paranasal sinuses	Describe the external features of nose Describe the relations of nose with other structures Describe the nasal septum Describe the lateral wall of nose Name the neurovascular supply of nose Describe the olfactory nerve Describe the paranasal sinuses along with its clinical importance	LGIS-18	1	MCQs/ SAQs/ VIVA/ OSPE
EMBRYOLOGY					
2.	Development of nose	Describe the development of nasal cavities and paranasal air sinuses. Describe the development of nasolacrimal groove, duct, and sac Enlist developmental defects of nose	LGIS-19	1	MCQs/ SAQs/ VIVA/ OSPE
PHYSIOLOGY					
3.	Sense of Smell	Describe olfactory membrane Explain mechanism of excitation of the olfactory cells. Discuss Rapid Adaptation of Olfactory Sensations. Define threshold for smell Describe transmission of smell signals into the central nervous system Describe primitive and newer olfactory pathways into the central nervous system Describe centrifugal control of activity in the olfactory bulb by the central nervous system.	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE
ENT					
4.	Sinusitis	Describe the causes and clinical features of acute and chronic	LGIS-2	1	MCQs/ SAQs/

		sinusitis			VIVA/ OSPE
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THEME-4 (Cleft Palate)					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY					
1.	Pharynx	Enumerate the division of pharynx Describe the nasopharynx with its clinical significance Describe the oropharynx with its clinical Significance Describe the laryngopharynx with its clinical significance Enlist the muscles of pharynx with its nerve supply and actions	LGIS-20	1	MCQs/ SAQs/ VIVA/ OSPE
2.	Extra-cranial course of CN IX,X, XI, XII	Describe the extra cranial course of CN IX,X, XI and XII	LGIS-21	1	MCQs/ SAQs/ VIVA/ OSPE
3.	Tongue	Describe the mucosa and muscles of tongue along with its attachments, nerve supply and actions	Demonstration-22	1	MCQs/ SAQs/ VIVA/ OSPE
4.	Palate	Name the bones forming the hard palate Describe the soft palate along with its muscles, attachments and nerve supply Describe the relations of palate Name the neurovascular supply of palate	Demonstration-23	1	MCQs/ SAQs/ VIVA/ OSPE
EMBRYOLOGY					
5.	Development of Tongue & Palate	Describe the development of anterior 2/3 of the tongue Discuss the role of the third pharyngeal arch in tongue development. Discuss the innervation, blood vessels, and muscles of tongue. Describe the development of papillae, taste buds and salivary glands. Describe the developmental anomalies of tongue. Describe the development of	LGIS-24	1	MCQs/ SAQs/ VIVA/ OSPE

		primary and secondary palate. Discuss the developmental defects of lip and primary, secondary palate			
BIOCHEMISTRY					
6.	Blotting Techniques DNA microarray	Define blotting and explain why it is used to detect specific biomolecules Differentiate between Southern, Northern, and Western blotting based on the molecule detected (DNA, RNA, or protein) Describe the basic steps common to all blotting techniques, including separation, transfer, and detection Define a DNA microarray and explain the basic concept of analysing gene expression State major applications of microarray technology, including disease diagnosis, cancer profiling, drug discovery, and research Explain the advantages and limitations of microarray technology	LGIS-12	1	MCQs/ SAQs/ VIVA/ OSPE
PHYSIOLOGY					
7.	Sense of Taste	Discuss primary sensations of taste Explain threshold for taste Describe the taste bud and its function Describe mechanism of stimulation of taste buds Describe transmission of taste signals into the central nervous system	LGIS-2	1	MCQs/ SAQs/ VIVA/ OSPE
PEDIATRIC SURGERY					
8.	Cleft palate	Describe the pathogenesis, clinical features and management of a patient with cleft palate	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE

DIRECTED SELF LEARNING					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	Nose and Paranasal Sinuses	Describe the external features of nose Describe the relations of nose with other structures	DSL	1	MCQs/ SAQs

		Describe the nasal septum Describe the lateral wall of nose Name the neurovascular supply of nose Describe the olfactory nerve Describe the paranasal sinuses along with its clinical importance			
PHYSIOLOGY					
2.	Sense of Taste	Discuss primary sensations of taste Explain the threshold for taste Describe the taste bud and its function Describe mechanism of stimulation of taste buds Describe transmission of taste signals into the central nervous system	DSL	1	MCQs/ SAQs

LAB WORK					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
PHYSIOLOGY					
1.	Examination of Cranial nerves I, IX, X	Examine a standardized patient for cranial nerve I, IX, X examination (sense of smell, taste, gag reflex)	Demonstration / Practical	1.5	OSPE
	Visual acuity & colour vision	Examine a standardized patient for visual acuity , errors of refraction & colour vision			
BIOCHEMISTRY					
2.	ELISA	Understand the principle of ELISA- Explain how antigen-antibody interactions are detected and quantified using enzyme-linked antibodies	Demonstration / Practical	1.5	OSPE

Theme-5 (Diplopia)

Introduction:

This one-week module consists of anatomical features of bony orbit, eye ball and extra cranial course of cranial nerves III, IV & VI with emphasis on the embryological and histological features of the eye. It includes the physiological aspects of principles of optics, intraocular fluid, retinal function & structure, photochemistry of vision, pupillary reflexes and autonomic control of accommodation and pupillary aperture. This module has a lecture on ocular nerve palsies III, IV, VI by the department of medicine, prevention of blindness by the department of community medicine and examination of abnormalities of eye movements and blindness by the department of ophthalmology. This module consists of lectures, practical's, SGD's, DSL and SDLs.

THEME-5 (Diplopia)					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY					
1.	Bony orbit	Name the bones forming the bony orbit Identify the foramina, fissures, and fossae associated with the orbit and what are the structures transmitted through these openings. Name the contents of orbit	LGIS-25	1	MCQs/ SAQs/ VIVA/ OSPE
2.	Eye ball	Name the layers of eyeball Describe the fibrous layer of eyeball Describe the pigmented layers of eyeball Describe the inner nervous layer of eyeball Describe the chambers and of eyeball Describe the secretion and drainage of aqueous humor and vitreous humor Describe the neurovascular supply of eye Describe the intra and extraocular muscles with their attachment, actions and nervesupply	Demonstration-26	1	MCQs/ SAQs/ VIVA/ OSPE
3.	Extra cranial course of CN I, III, IV, VI	Describe the course of CN I, III, IV, VI in orbit and their applied aspects.	LGIS-27	1	MCQs/ SAQs/ VIVA/ OSPE
EMBRYOLOGY					
4.	Development of Eye	Define lens placode and formation and optic cup. Describe the development of ciliary body, iris, lens and choroid. Discuss the formation of sclera, cornea, sphincter and dilator pupillae Discuss the development of vitreous body and optic nerve Describe developmental anomalies of eye	LGIS-28	1	MCQs/ SAQs/ VIVA/ OSPE
PHYSIOLOGY					
5.	Optics	Describe refraction at interface between two media.	LGIS-3	1	MCQs/ SAQs/

		Describe the physical principles of optics. Apply refractive principles to lenses Describe Focal Length of a Lens Explain formation of image by convex lenses Explain how to measure refractive power of a lens			VIVA/ OSPE
6.	Optics of The Eye	Explain lens system of the eye. Describe the concept of “Reduced” Eye. Explain accommodation reflex. Explain presbyopia Describe that “depth of focus” of the lens system increases with decreasing pupillary diameter Define visual acuity. Explain the determination of distance of an object from the eye- “DEPTH PERCEPTION” Describe errors of refraction	LGIS-4	1	MCQs/ SAQs/ VIVA/ OSPE
7.	Fluid System of the Eye	Describe the formation of aqueous humor by the ciliary body Describe the outflow of aqueous humor from the eye Describe Regulation of Intraocular Pressure and Glaucoma	LGIS-5	1	MCQs/ SAQs/ VIVA/ OSPE
8.	The Retina -I	Describe foveal region of the retina and its importance in acute vision. Discuss the functional parts of the Rods and Cones. Describe blood supply of the retina the central retinal artery and the choroid	LGIS-6	1	MCQs/ SAQs/ VIVA/ OSPE
9.	Photochemistry - I	Explain rhodopsin-retinal visual cycle and excitation of the rods Explain the role of vitamin A for formation of rhodopsin. Describe excitation of the rod when rhodopsin is activated by light Describe receptor potential, and logarithmic relation of the receptor	LGIS-7	1	MCQs/ SAQs/ VIVA/ OSPE

		potential to light intensity Describe mechanism by which rhodopsin decomposition decreases membrane sodium conductance—the excitation “cascade.” Explain dark and light adaptation.			
10.	Photochemistry - II	Describe photochemistry of color vision by the cones Explain tricolor mechanism of color detection Explain Young-Helmholtz theory of color vision. Explain color blindness.	LGIS-8	1	MCQs/ SAQs/ VIVA/ OSPE
11.	The Retina -II	Describe different neuronal cell types and their functions Describe the visual pathway from the cones to the ganglion cells Discuss the retinal neurotransmitters. Discuss retinal ganglion cells and their respective fields Describe lateral inhibition. Explain excitation of ganglion cells. Discuss on and off response of ganglion cells.	LGIS-9	1	MCQs/ SAQs/ VIVA/ OSPE
12.	Visual Pathways	Discuss the function of the dorsal lateral geniculate nucleus of the thalamus. Describe organization and function of the visual cortex Describe primary visual cortex. Describe secondary visual areas of the cortex. Describe two major pathways for analysis of visual information: (1) the fast “position” and “motion” pathway and (2) the accurate color pathway Describe neuronal patterns of stimulation during analysis of the visual image Discuss detection of color	LGIS-10	1	MCQs/ SAQs/ VIVA/ OSPE
13.	Eye Movements and Their Control	Describe muscular control of eye movements. Describe neural pathways for control of eye movements.	LGIS-11	1	MCQs/ SAQs/ VIVA/ OSPE

		Describe fixation movements of the eyes Explain mechanism of involuntary locking fixation—role of the superior colliculi. Explain “Fusion” of the visual images from the two eyes Describe neural mechanism of stereopsis for judging distances of visual objects			
14.	Accommodation Reflex	Describe autonomic nerves to the eyes Describe control of accommodation Describe control of pupillary diameter Discuss Pupillary reflexes or reactions in central nervous system disease.	LGIS-12	1	MCQs/ SAQs/ VIVA/ OSPE
BIOCHEMISTRY					
15.	DNA Cloning	Define DNA Cloning and describe its basic purpose in molecular biology List the essential components of cloning, including vector, insert DNA, restriction enzymes, and ligase Explain the steps of DNA cloning, including cutting DNA, inserting into vector, and transformation into host cells	LGIS-13	1	MCQs/ SAQs/ VIVA/ OSPE
	DNA Library	Define a DNA library and explain the concept of storing a collection of DNA fragments Differentiate between genomic DNA library and cDNA library Describe the basic steps involved in constructing a DNA library, including isolation, fragmentation, cloning, and storage			
COMMUNITY MEDICINE					
16.	Prevention of Blindness	Describe the causative agents and prevention of community blindness	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE
GENERAL MEDICINE					
17.	Ocular nerves Palsies	Describe the clinical features and etiology of 3, 4 and 6 th nerve palsies	LGIS-2	1	MCQs/ SAQs/ VIVA/

					OSPE
EYE					
18.	Blindness	Approach a patient with unilateral and bilateral blindness	LGIS-1	1	MCQs/ SAQs/ VIVA/ OSPE

DIRECTED SELF LEARNING					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	Eye ball and different chambers	Name the layers of eyeball Describe the fibrous layer of eyeball Describe the pigmented layers of eyeball Describe the inner nervous layer of eyeball Describe the chambers and of eyeball Describe the secretion and drainage of aqueous humor and vitreous humor Describe the neurovascular supply of eye Describe the intra and extraocular muscles with their attachment, actions and nerve supply	DSL	1	MCQs/ SAQs
PHYSIOLOGY					
2.	Visual Pathways	Discuss the function of the dorsal lateral geniculate nucleus of the thalamus. Describe organization and function of the visual cortex Describe primary visual cortex. Describe secondary visual areas of the cortex. Describe two major pathways for analysis of visual information: (1) the fast “position” and “motion” pathway and (2) the accurate color pathway Describe neuronal patterns of stimulation during analysis of the visual image Discuss detection of color	DSL	1	MCQs/ SAQs
BIOCHEMISTRY					
3.	Mutation, DNA, damage and repairs	Define mutation. Explain the mechanisms of DNA damage and repair	DSL	1	MCQs/ SAQs

LAB WORK					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	Eye	Enlist different histological layers of the eye Discuss retinal pigment epithelium (RPE) in detail Describe the structural details of rods and cones and the supporting cells Discuss structure of macula densa Describe the histological layers of cornea and retina	Demonstration / Practical	1.5	OSPE
PHYSIOLOGY					
2.	Perimetry & Fundoscopy	Examine a standardized patient for visual field function	Demonstration / Practical	1.5	OSPE
BIOCHEMISTRY					
3.	Electrophoresis	Understand the principle of separation of molecules based on charge and size	Demonstration / Practical	1.5	OSPE

Theme-6 (Deafness)

Introduction:

This is one-week module consists of anatomy and embryology of ear. It includes physiology of tympanic membrane, cochlear function, auditory pathways and vestibular function. It also includes clinical topics like hearing loss. This module consists of lectures, Practical's, SGDs, DSL and SDLs.

THEME-6 (Deafness)					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY					
1.	External Ear	Describe the auricle Describe the external auditory meatus with clinical importance Name the neurovascular supply of external ear	Demonstration-29	1	MCQs/ SAQs/ VIVA/ OSPE
2.	Middle & Internal ear	Name the boundaries of middle ear Describe the contents of middle ear Describe the auditory tube along with its clinical importance Describe the bony labyrinth Describe the membranous labyrinth	LGIS-30	1	MCQs/ SAQs/ VIVA/ OSPE

		Describe the course of CN VIII along with its clinical importance			
EMBRYOLOGY					
3.	Development of ears	Describe the development of external and middle ear Explain the origin of internal ear along the relationship of saccule, utricle, semi-circular canals Describe the development of cochlear duct and organ of corti Enlist the developmental anomalies of external middle and internal ear	LGIS-31	1	MCQs/ SAQs/ VIVA/ OSPE
PHYSIOLOGY					
4.	Function of Middle Ear	Explain conduction of sound from the tympanic membrane to the cochlea. Describe “Impedance Matching” by the Ossicular System. Describe attenuation of sound by contraction of the tensor tympani and stapedius muscles. Describe transmission of sound through bone.	LGIS-13	1	MCQs/ SAQs/ VIVA/ OSPE
5.	Cochlea	Describe functional anatomy of the cochlea Describe basilar membrane and resonance in the cochlea. Describe transmission of sound waves in the cochlea— “traveling wave” Describe pattern of vibration of the basilar membrane for different sound frequencies. Describe amplitude pattern of vibration of the basilar membrane. Describe function of the organ of corti Describe Excitation of the Hair Cells Discuss the “place” principle Describe detection of changes in loudness—the power law. Describe threshold for hearing sound at different frequencies.	LGIS-14	1	MCQs/ SAQs/ VIVA/ OSPE
6.	Auditory Nervous Pathways	Describe auditory pathway. Explain the function of the cerebral cortex in hearing. Describe how to determine the direction from which sounds come. Describe transmission of centrifugal signals from CNS to lower auditory	LGIS-15	1	MCQs/ SAQs/ VIVA/ OSPE

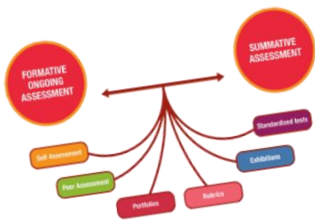
		centers Describe different types of deafness.			
7.	Vestibular Sensations and Maintenance of Equilibrium	Describe the physiologic anatomy of vestibular apparatus Describe function of the utricle and saccule in the maintenance of static equilibrium Describe function of semi-circular ducts Describe Neuronal Connections of the Vestibular Apparatus Describe Vestibular mechanism for stabilizing the eyes	LGIS-16	1	MCQs/ SAQs/ VIVA/ OSPE
ENT					
8.	Hearing loss	Describe different clinical tests for hearing loss Describe the etiology and management of conduction and sensorineural hearing loss	LGIS-3	1	MCQs/ SAQs/ VIVA/ OSPE

DIRECTED SELF LEARNING					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
ANATOMY					
1.	External and middle ear	Describe the auricle Describe the external auditory meatus with clinical importance Name the neurovascular supply of external ear Name the boundaries of middle ear Describe the contents of middle ear Describe the auditory tube along with its clinical importance	DSL	1	MCQs/ SAQs
PHYSIOLOGY					
2.	Auditory Nervous Pathways	Describe auditory pathway. Explain the function of the cerebral cortex in hearing. Describe how to determine the direction from which sounds come. Describe transmission of centrifugal signals from CNS to lower auditory centers Describe different types of deafness.	DSL	1	MCQs/ SAQs
BIOCHEMISTRY					
3.	Gene Therapy	Define Gene therapy and explain its basic purpose in treating genetic diseases	DSL	1	MCQs/ SAQs

		Explain the CRISPR-Cas9 system as a genome-editing tool derived from bacterial defense mechanisms List steps involved in CRISPR-based gene editing, from designing gRNA to repairing DNA breaks. Identify diseases where gene therapy/CRISPR is being used, such as sickle cell anemia, thalassemia, and certain cancers			
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LAB WORK					
S.No	Topic	Learning objectives	Teaching strategies	Hours	Assessment
PHYSIOLOGY					
1.	Tuning fork test	Examine a standardized patient for hearing loss with tuning fork (Weber and Rinne's test)	Demonstration / Practical	1.5	OSPE

Subject	LGIS	Practical	SGD	DSL	Demonstration	Total Hours
ANATOMY (Histology, Embryology)	23	3	-	5	8	39
PHYSIOLOGY	16	7.5	-	5	-	28.5
BIOCHEMISTRY	13	4.5	-	4	-	21.5
GENERAL MEDICINE	2	-	-	-	-	2
COMMUNITY MEDICINE	1	-	-	-	-	1
ENT	3	-	-	-	-	3
EYE	1	-	-	-	-	1
Pediatric Surgery	1	-	-	-	-	1
PRIME (Leadership)	3	-	-	-	-	3
PRIME (Professionalism)	1	-	-	-	-	1
PRIME (Research)	3	-	-	-	-	3
Pak Studies	4	-	-	-	-	4
MEDICAL EDUCATION	1	-	-	-	-	1
TOTAL	72	15	-	14	8	109



10. Examination and Methods of Assessment:

Assessments within the MBBS program at the MIMC consist of both formative and summative evaluations. These assessments are crucial for monitoring student progress and academic performance.

Formative Assessment:

Formative assessments, accounting for 20% of the total marks assigned to each block, serve as ongoing evaluations designed to provide feedback and promote learning. Formative assessments are conducted after the completion of each module, ensuring students receive timely feedback to enhance their understanding and performance.

Summative Assessment:

Summative assessments, comprising 80% of the total assessment weighting, are conducted and overseen by constitute university as part of the annual examination process. This summative assessment evaluates students' comprehensive understanding of the curriculum and constitutes a significant portion of their final scores.

Assessment Tools:

Various assessment tools are employed to measure students' knowledge and competencies. These tools include:

1. **Written Examinations:** These include Multiple Choice Questions (MCQs) and Short Answer Questions (SAQs) that assess students' theoretical knowledge.
2. **Performance Assessments:** Objective Structured Practical Examinations (OSPE) and Objective Structured Clinical Examinations (OSCE) are used to evaluate practical skills and clinical competence.



11. Learning Opportunities and Resources

1. Anatomy

Books:

- *Clinical Anatomy by Regions* by Richard S. Snell (Latest Edition)
- *Gray's Anatomy for Students* (Latest Edition)
- *Clinically Oriented Anatomy* by K.L. Moore (Latest Edition)
- *Netter's Atlas of Human Anatomy* (Latest Edition)
- *Last's Anatomy* (Latest Edition)

Online Resources:

- [TeachMeAnatomy](#) – Comprehensive anatomy resource with diagrams and explanations.
- [AnatomyZone YouTube Channel](#) – 3D anatomy tutorials.

2. Histology

Books:

- *Textbook of Histology* by Junqueira (Latest Edition)
- *diFiore's Atlas of Histology with Functional Correlations* (Latest Edition)
- *Atlas of Human Histology* by Wheater's (Latest Edition)
- *Textbook of Histology* by Laiq Hussain (Latest Edition)

Online Resources:

- [Histology Guide](#) – A virtual histology lab with slides and explanations.
- [Armando Hasudungan YouTube Channel](#) – Educational videos on histology and related topics.

3. Embryology

Books:

- *Langman's Medical Embryology* (Latest Edition)
- *The Developing Human* by Keith L. Moore (Latest Edition)

Online Resources:

- Embryology at UNSW – Detailed embryology resource from the University of New South Wales.
- [Dr. Najeeb Lectures YouTube Channel](#) – In-depth video lectures on embryology and other basic medical sciences.

4. Physiology

Books:

- *Textbook of Medical Physiology* by Guyton and Hall (Latest Edition)
- *Ganong's Review of Medical Physiology* (Latest Edition)

Online Resources:

- Vivo Interactive Physiology – Interactive tutorials on physiology topics.
- [PhysioPathoPharmaco YouTube Channel](#) – Physiology explanations and tutorials.

5. Biochemistry

Books:

- *Harper's Illustrated Biochemistry* (Latest Edition)
- *Lippincott's Illustrated Review: Biochemistry* (Latest Edition)

Online Resources:

- MedlinePlus Biochemistry – Basic biochemistry concepts with clinical correlations.
- [Osmosis YouTube Channel](#) – Visual and concise videos on biochemistry and other medical topics.

6. Pharmacology**Books:**

- *Katzung's Basic and Clinical Pharmacology* (Latest Edition)

Online Resources:

- [Pharmacology YouTube Channel by Ninja Nerd](#) – Detailed pharmacology lectures and notes.
- [GoodRx Pharmacology Resources](#) – Practical applications of pharmacology in medicine.

7. Pathology**Books:**

- *Robbins Basic Pathology* (Latest Edition)

Online Resources:

- [PathologyOutlines.com](#) – An online pathology resource with a focus on differential diagnosis.
- [Dr. John Minarcik YouTube Channel](#) – Free pathology lectures and tutorials.

8. Community Medicine**Books:**

- *Essential Community Medicine* (Latest Edition)
- *K. Park's Textbook of Preventive and Social Medicine* (Latest Edition)

Online Resources:

- [CDC Public Health](#) – Extensive resources on public health and community medicine.
- [Public Health England YouTube Channel](#) – Videos on various community health topics.

9. Forensic Medicine**Books:**

- *Parikh's Textbook of Medical Jurisprudence, Forensic Medicine, and Toxicology* (Latest Edition)

Online Resources:

- [Forensic Medicine Online](#) – Detailed forensic medicine resources for students.
- [Forensic Pathology Lectures YouTube Channel](#) – Educational videos on forensic pathology.

10. General Medicine**Books:**

- *Davidson's Principles and Practice of Medicine* (Latest Edition)

Online Resources:

- [Medscape](#) – Comprehensive resource for clinical medicine and continuing medical education.
- [Geeky Medics YouTube Channel](#) – Clinical skills and general medicine tutorials.

12. For inquiry and troubleshooting



13. Course Feedback Form

Course Title: _____

Semester/Module _____ Dates: _____

Please fill the short questionnaire to make the course better.

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

THE DESIGN OF THE MODLUE

- | | | |
|--|---|--------------------------|
| A. Were objectives of the course clear to you? | Y ☐ N ☐ | |
| B. The course contents met with your expectations | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| C. The lecture sequence was well-planned | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| D. The contents were illustrated with | | ☐ |
| 1. Too few examples | 5. Adequate examples | |
| E. The level of the course was | | ☐ |
| 1. Too low | 5. Too high | |
| F. The course contents compared with your expectations | | ☐ |
| 1. Too theoretical | 5. Too empirical | |
| G. The course exposed you to new knowledge and practices | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| H. Will you recommend this course to your colleagues? | | ☐ |
| 1. Not at all | 5. Very strongly | |

THE CONDUCT OF THE MODLUE

- | | | |
|--|---|--------------------------|
| A. The lectures were clear and easy to understand | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| B. The teaching aids were effectively used | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| C. The course material handed out was adequate | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| D. The instructors encouraged interaction and were helpful | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| E. Were objectives of the course realized? | Y ☐ N ☐ | |

F. Please give overall rating of the course

90% - 100%	()	60% - 70%	()
80% - 90%	()	50% - 60%	()
70% - 80%	()	below 50%	()

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

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

Please give suggestions for the improvement of the course.

Optional - Your name and contact address:

Thank you!!

14. Students Diary/Notes

[illegible]

PROGRESS: _____

ACHIEVMENT: _____