



Jinnah Medical & Dental College

Head & Neck Module I and Special Senses Module, Head & Neck Module and Special Senses II & III

Study Guide



**MBBS
2022-23**

Natural forces within us are
the true healers of diseases

Hippocrates

VISION

To set local and global standards for quality patient outcomes – creating a culture of excellence to promote a transformative experience for the 21st century clinicians, educators and researchers to benefit all humanity.

MISSION

To develop well-rounded academicians, thinkers, clinicians and researchers by strengthening a global view, broadening intellectual foundations and teach effective communication. It is our aspiration to cultivate creative and critical thinking skills for problem solving, sensitive to cultural and ethical values and responsibilities. Our graduates will be role models and society leaders.

**Team Members of Head & Neck and Special Senses
Module I, II &111
2022-23**

Name	Committee	Department
Professor Dr. Muhammad Baqir Soomro	Member	Anatomy
Professor Dr. Shahid Ahsan	Member	Biochemistry
Professor Dr. Sadaf Fatima	Member	Physiology
Professor Dr. Sanower Ali	Member	Community Medicine
Professor Dr. Mahdev Harani	Member	Pathology & Microbiology
Dr. Amir Hussain	Member	Eye
Professor Salman Matiullah	Member	ENT
Dr. Zeelaf Shahid Associate Director	Member	Medical Education

Introduction

Asalam - u-Alaikum and a very warm welcome to medical students in the Head & Neck and Special senses module. This module has been developed to impart integrated teaching as a part of modular curriculum in Jinnah Medical & Dental College, Karachi. Head & Neck module 1 and Special Senses module (2nd year) covered in 5 weeks and 3 weeks, Head & Neck and Special Senses module II -Eye (4th year) covered in 4 weeks and Head & Neck and Special Senses module II- ENT (4th year) covered in 4 weeks. The modules had been planned to study the vital organs for special senses head and skull, various organs of special senses i.e. eyes, ears, nose, tongue, cranial nerves, great vessels and the thyroid gland. Trauma to the face & neck is associated with high mortality & morbidity. Injuries or pressure on the neck can threaten life by causing damage to the great vessels or the airways. Undergraduate students need to have basic knowledge about the structures and functions and abnormalities leading to various diseases of this region which play a very essential role in the life of a human being. This will enable them to understand more advanced and complex issues when they go to the clinics, in the latter years.

Rationale

It is designed to provide students with not only knowledge about basics of Head & Neck and Special Senses, but also develop their ability to apply information to solve problems



JMDC CURRICULUM SEQUENCE: MBBS 1-5 YEARS

Year	Module 1	E O M	Module 2	E O M	Module 3	E O M	Module 4	E O M	Module 5	EOM* Exam of Module								
1	Foundation-1 8 weeks		Blood-1 4 weeks		Locomotor-1 8 weeks		Respiratory-1 4 weeks		CVS-1 4 weeks									
PAKISTAN STUDIES & ISLAMIAT																		
2	Module 6	E O M	Module 7	E O M	Module 8	E O M	Module 9	E O M	Module 10	E O M	Module 11	E O M	Module 12	EOM				
	GIT-1 4 weeks		Head & Neck-1 5 weeks		Neurosciences-1 7 weeks		Special Senses 3 weeks		Endocrine-1 5 weeks		Reproductive-1 4 weeks		Urinary-1 5 weeks					
Communication Skills Patient Safety & Infection Control Professionalism & Ethics																		
3	Module 13	E O M	Module 14	E O M	Module 15	E O M	Module 16	E O M	Module 17	E O M	Module 18	EOM						
	Foundation 2 10 weeks		Blood-2 5 weeks		Locomotor-2 4 weeks		Respiratory-2 4 weeks		CVS-2 5 weeks		GIT-2 7 weeks							
Clinical Rotations (Each Batch) WT* = Ward test																		
Communication Skills Patient Safety & Infection Control Professionalism & Ethics																		
R1	Medicine 2 weeks		Psychiatry 2 weeks		Surgery 2 weeks		Ortho pedics 2 weeks		OBS/ GYN 2 weeks		Pediatrics 2 weeks		Eye 2 weeks		Ent 3 weeks			
R2	Medicine 2 weeks		Psychiatry 2 weeks		Surgery 2 weeks		Ortho pedics 2 weeks		OBS/ GYN 2 weeks		Pediatrics 2 weeks		Eye 2 weeks		Ent 3 weeks			
4	Module 19	E O M	Module 20	E O M	Module 21	E O M	Module 22	E O M	Module 23	E O M	Module 24	E O M	Module 25	E O M	Module 26	E O M	Module 27	EOM
	Nervous Sys & Psychiatry 2 8 weeks		H & N & SP Senses 2 (Eye) 4 weeks		H & N & SP Senses 3 (Eye) 4 weeks		Endocrinology 2 4 weeks		Repro 2 6 weeks		Urinary 2 4 weeks		Derma 2 weeks		Orthopedics 2 weeks		Rehab 2 weeks	
Lectures ENT																		
Clinical Rotations (Each Batch)																		
Communication Skills Patient Safety & Infection Control Professionalism & Ethics																		
R1	Medicine 3 weeks		Psychiatry 3 weeks		Surgery 3 weeks		Ortho pedics 3 weeks		OBS/ GYN 3 weeks		Pediatrics 3 weeks		Eye 3 weeks		Ent 3 weeks			
R2	Medicine 3 weeks		Psychiatry 3 weeks		Surgery 3 weeks		Ortho pedics 3 weeks		OBS/ GYN 3 weeks		Pediatrics 3 weeks		Eye 3 weeks		Ent 3 weeks			
LECTURES																		
R***= Rotation																		
5	Medicine				Surgery				OBS/Gynae				Pediatrics					
Clinical Rotations																		
Communication Skills Patient Safety & Infection Control																		
R1	Medicine 4 weeks				Surgery 4 weeks				OBS/ GYN 4 weeks				Pediatrics 4 weeks					
R2	Medicine 5 weeks				Surgery 5 weeks				OBS/ GYN 5 weeks				Pediatrics 5 weeks					

Students Assessment

There will be an end of rotation ward test after completion of clinical posting which will comprise the following components: -

i. Written Assessment

The theory paper will have components of one – best type multiple – choice questions (MCQs).

ii. Practical / lab examination:

This will comprise Objective Structured Clinical Examination (OSCE) The OSCE will have both observed and non-observed stations. The end of clinical posting will be of 2 hours duration. This will comprise the following components:

The OSPE/ OSCE will be conducted in batches. The students will be having different patterns of OSPE/OSCE in the subjects of Basic and clinical sciences.

Summary of marks of each module exam

Theory (BCQs) = 100 marks

OSPE (10 stations) = 100 marks

Total = 200 marks

Internal Assessment:

- Continuous monitoring of attendance and practical assessment in short groups By Mini CEX and logbooks.
- It may be in the form of MCQs (BCQs), Ward tests, and OSCE.
- Internal assessment carries 20% weightage

Course Evaluation:

Course evaluation will be obtained through a feedback form which will be posted on the JMC website

Mandatory Policy:

Eligibility for sitting in Professional Examinations is as follows:

- 75% overall Class Attendance
- 75% Attendance all Clinical Wards with passing marks in all Clinical Ward Tests.
- Minimum 40% aggregate marks on all Internal Examinations (Module Tests, Midterm, Pre-Professional Examinations)
- MBBS 1stYear: Complete all Professional Communication assignments with passing marks
- MBBS 1st& 2ndYear: Obtain passing marks in Behavioral Sciences & Research Module assessments
- MBBS 2ndYear: Presentation in Journal club at least twice in a year
- MBBS 4th& Final Year: CPC Presentation at least once in a year
- Skills Labs: Must be completed with passing marks
- Research Paper must be completed before MBBS 4 Professional Examination

Failure to Meet the Eligibility Requirements:

- A Student failing to meet the above listed eligibility for sitting in the professional examination will NOT be allowed to sit in 1st attempt of the Professional Examination.
The college has the right to withhold all students who however, not met the eligibility requirements from sitting in the 1st attempt.
- Such students who have been withheld from sitting in the 1st attempt of the Professional exam because of failure to meet the eligibility requirements will be allowed only to sit in the retake of that examination.

It is expected that deficiency in requirements of Professional communication assignments, Behavioral Sciences & Research Module assessments, journal Club presentations, CPC, Skills Labs must be made up and fulfilled before a student will allowed to sit in the retake exam.

DETAILS OF ATTENDANCE POLICY

The CR is responsible to bring attendance sheets from Student Affairs Office to each class. At the end of class, the attendance sheet must be signed and returned by the faculty member to the Student Affairs Office. No attendance sheets from students will be accepted.

These attendances will be compiled together as follows:

LECTURE ATTENDANCE = # Lectures Attended / Total # of Lectures

PRACTICAL ATTENDANCE = # Practicals Attended / Total # of Practicals

TUTORIAL ATTENDANCE = # Tutorials Attended / Total # of Tutorials

NOTE: All tutorials will be conducted by a Senior Faculty Member (AP or above), assisted by a Junior Faculty Member (Lecturer)

FINAL CLASS ATTENDANCE =

%Lecture Attendance + %Tutorial Attendance + %Practical Attendance

Teaching / Learning Methods

The teaching learning sessions of this module will be of diverse types:

- a. Large group interactive sessions (LGIS)
- b. Small group teaching will include tutorials and, case – based learning session.
- c. Problem – based learning sessions.
- d. Practical session will comprise sessions on early exposure to clinical methods and practical laboratory demonstrations.
- e. Seminars: on different topics, in which students will make oral presentations on different aspects of the allocated topic.
- f. Self-directed learning sessions: This is the time during which students are expected to revise what they have learnt in the class, clear their concepts by consulting different textbooks, reference material and prepare their assignments and projects.

MAIN CONTENT AREAS

Head & Neck Module 1 and Special S

Anatomy

- Bones of skull
- Norma Frontalis, verticalis, fontanelles with their clinical correlation
- Pharyngeal apparatus & its anomalies
- Scalp & its layers
- Norma Lateralis & occipitalis
- Development of face & its anomalies
- Face (Muscles, Nerves: Extra Cranial Part of V & VII)
- Norma Basalis (anterior and middle part)
- Arteries, veins & lymphatic of face
- Norma Occipitalis & posterior part of Basalis
- Orbital cavity and its contents
- Eyelid & Lacrimal Apparatus
- Eyeball and Extraocular Muscles
- Development of eye
- Cranial Nerves I - VI & their clinical correlation
- Gross anatomy of mandible and hyoid bone
- Temporal Fossa & Temporomandibular Joint
- Infratemporal Fossa & Pterygopalatine Fossa
- Cranial Nerves VII to XII & its clinical correlation
- Gross anatomy & histology of oral cavity
- Gross anatomy of tongue
- Hard and Soft Palate
- Parotid Gland and Parotid Region
- Development of Tongue & salivary glands
- Development of palate
- Gross Anatomy of external nose, boundaries, blood & nerve supply
- Histology of Nasal Cavity, respiratory & olfactory epithelia
- Gross anatomy of Para nasal air sinuses
- Development of nose & para nasal sinuses
- Gross & Histology: External and Middle Ear
- Neck, Deep Cervical Fascia, carotid sheath and Platysma Muscle

- Anterior Triangle of Neck
- Submandibular region & Submandibular gland
- Posterior triangle of neck, Cervical Plexus & Cranial Nerve XI
- Pharynx & Tonsils
- Gross anatomy of thyroid & parathyroid gland
- Gross & histology of larynx
- Development of Thyroid, Parathyroid, Larynx and Thymus
- Blood vessels and Lymphatics drainage of head and neck
- Gross & Histology: Internal Ear
- Development of Ear
- Integrated lecture on auditory pathway

Biochemistry

- Introduction to nutrition
- Nutritional importance of dietary carbohydrates
- Nutritional importance of dietary proteins
- Nutritional importance of dietary lipids
- Vitamin A
- Overview of Dietary Minerals

Physiology

- Optics of eye
- Formation & circulation of aqueous humour
- Visual acuity & errors of refraction
- Photo-transduction
- Visual pathway & its lesions
- Eye movements & its control
- Sense of hearing, mechanism of hearing
- Auditory pathway
- Sense of taste & smell

Head & Neck and Special Senses Module II (Eye)

- Orbit
- Process of vision, optics and the reflexes
- Pathology of diseases involving the EYE and orbit
- Trachoma
- Orbit and Retina
- Normal Vision
- Basal Cell Carcinoma
- Choroidal Melanoma
- Squamous cell Carcinoma
- Retinoblastoma
- Lids
- Cornea
- Conjunctiva
- Sclera
- Lacrimal Apparatus
- Uveal tract
- Lens
- Glaucoma
- Vitreo-Retina
- Retinitis Pigmentosa, Retinoblastoma & Age-related macular degeneration
- Optic Nerve
- Visual pathway
- Eye injuries
- Squint and Amblyopia
- Errors of refraction
- Systemic diseases
- Blindness

Head & Neck and Special Senses Module III (ENT)

THROAT

- Oral cavity ulcers
- Oropharynx
- Hypopharynx
- Oesophagus
- Larynx
- Infective conditions of larynx
- Laryngeal tumours

EAR

- External ear
- Middle ear
- Inner ear

NOSE

- External nose
- Septum
- Rhinitis
- Polyps
- Foreign body in nose
- Sinusitis
- Tumours of nose
- Headache and its ENT causes

GENERAL LEARNING OBJECTIVES:

By the end of this module, the students will be able to:

Head & Neck Module 1

ANATOMY

- Discuss Bones of skull
- Describe Norma Frontalis, vertical is, fontanelles with their clinical correlation
- Explain Pharyngeal apparatus & its anomalies
- Discuss Scalp & its layers
- Explain Norma Lateralis & occipitalis
- Explain Development of face & its anomalies
- Discuss Face (Muscles, Nerves: Extra Cranial Part of V & VII)
- Describe Norma Basalis (anterior and middle part)
- Explain Arteries, veins & lymphatic of face
- Discuss Norma Occipitalis & posterior part of Basalis
- Describe Orbital cavity and its contents
- Discuss Eyelid & Lacrimal Apparatus
- Discuss Eyeball and Extraocular Muscles
- Describe Development of eye
- Explain Cranial Nerves I - VI & their clinical correlation
- Discuss Gross anatomy of mandible and hyoid bone
- Describe Temporal Fossa & Temporomandibular Joint
- Explain Infratemporal Fossa & Pterygopalatine Fossa
- Discuss Cranial Nerves VII to XII & its clinical correlation
- Describe Gross anatomy & histology of oral cavity
- Describe Gross anatomy of tongue
- Discuss Hard and Soft Palate
- Explain Parotid Gland and Parotid Region
- Development of Tongue & salivary glands
- Explain Development of palate
- Gross Anatomy of external nose, boundaries, blood & nerve supply
- Discuss Histology of Nasal Cavity, respiratory & olfactory epithelia
- Explain Gross anatomy of Para nasal air sinuses
- Describe Development of nose & para nasal sinuses
- Explain Gross & Histology: External and Middle Ear

- Discuss Neck, Deep Cervical Fascia, carotid sheath and Platysma Muscle
- Discuss Anterior Triangle of Neck
- Describe Submandibular region & Submandibular gland
- Explain Posterior triangle of neck, Cervical Plexus & Cranial Nerve XI
- Discuss Pharynx & Tonsils
- Describe Gross anatomy of thyroid & parathyroid gland
- Explain Gross & histology of larynx
- Discuss Development of Thyroid, Parathyroid, Larynx and Thymus
- Explain Gross & histology of larynx
- Development of Thyroid, Parathyroid, Larynx and Thymus
- Discuss Blood vessels and Lymphatics drainage of head and neck
- Describe Gross & Histology: Internal Ear
- Explain Development of Ear
- Discuss integrated auditory pathway

PHYSIOLOGY

- Discuss Optics of eye
- Explain Formation & circulation of aqueous humour
- Describe Visual acuity & errors of refraction
- Discuss Photo-transduction
- Describe Visual pathway & its lesions
- Explain Eye movements & its control
- Discuss Sense of hearing, mechanism of hearing
- Discuss Auditory pathway
- Explain Sense of taste & smell

BIOCHEMISTRY

- Introduce Nutrition
- Discuss Nutritional importance of dietary carbohydrates
- Explain Nutritional importance of dietary proteins
- Describe Nutritional importance of dietary lipids
- Discuss Vitamin A
- Portray Overview of Dietary Minerals

Head & Neck and Special Senses Module II

- Describe the functional anatomy of Orbit and the globe along with relevant nerve and blood
- Describe the Process of vision, optics and the reflexes seen in normal eye
- Discuss the Pathology of diseases involving the EYE and orbit
- Explain Trachoma
- Discuss Orbit and Retina
- Discuss Normal Vision
- Explain Basal Cell Carcinoma, Squamous cell Carcinoma, Choroidal Melanoma and Retinoblastoma
- Explain Lids
- Explain the common Corneal pathologies
- Diagnose and pathologies related to Conjunctiva
- Discuss Episcleritis and Scleritis on the basis of clinical findings
- Describe Epiphora, Acute and Chronic Dacryo cystitis
- Diagnose Uveitis on the basis of clinical
- Describe Lens
- Explain Glaucoma
- Describe Vitreo-Retina
- Explain Retinitis Pigmentosa, Retinoblastoma & Age-related macular degeneration
- Diagnose Optic Nerve
- Explain Visual pathway
- Describe Eye injuries
- Diagnose Squint and Amblyopia
- Discuss Errors of refraction
- Describe Systemic diseases
- Diagnose Blindness

Head & Neck and Special Senses Module III

THROAT

- Discuss Oral cavity ulcers
- Discuss the Diagnosis, investigations, differential diagnosis and treatment plan for diseases of Oropharynx
- Discuss the Diagnosis, investigations, differential diagnosis and treatment plan for diseases of Hypopharynx

- Discuss the Diagnosis, investigations, differential diagnosis and treatment plan for diseases of Oesophagus
- Discuss the Diagnosis, investigations, differential diagnosis and treatment plan for diseases of Larynx
- Describe Infective conditions of larynx
- Discuss the Diagnosis, investigations, differential diagnosis and treatment plan for diseases of Laryngeal tumours

EAR

- Discuss the etiology, investigations, treatment and complications regarding diseases of External ear
- Discuss the etiology, investigations, treatment and complications regarding diseases of Middle ear
- Discuss the etiology, investigations, treatment and complications regarding diseases of Inner ear

NOSE

- Diagnose fractures and congenital lesions based on history, clinical findings, investigations findings of External nose
- Discuss Epistaxis, Deviated Nasal septum, Hematoma, Septal perforation.
- Describe the etiology, pathophysiology, clinical investigations of Rhinitis
- Explain Polyps
- Diagnose Foreign body in nose
- Discuss the etiology, pathophysiology, clinical presentations, examination of Sinusitis
- Discuss Tumours of nose
- Explain Headache and its ENT causes

Recommended Reading Material

Anatomy

A. GROSS ANATOMY

1. K.L. Moore, Clinically Oriented Anatomy
2. Richard L. Drake, Gray's anatomy for students

B. HISTOLOGY

1. B. Young J. W. Health Wheather's Functional Histology
2. di Fiore's Atlas of histology and functional correlations

C. EMBRYOLOGY

1. Keith L. Moore. The Developing Human
2. Langman's Medical Embryology

Biochemistry

TEXT BOOKS

1. Harper's Illustrated Biochemistry
2. Lippincott's Illustrated reviews of Biochemistry
3. Lehninger's Principles of Biochemistry
4. Biochemistry by Devlin

Physiology

A. TEXTBOOKS

1. Textbook of Medical Physiology by Guyton And Hall
2. Human Physiology by Lauralee Sherwood
3. Berne & Levy Physiology
4. Best & Taylor Physiological Basis of Medical Practice

B. REFERENCE BOOKS

1. Ganong's Review of Medical Physiology

Community Medicine

- Public Health and Community Medicine by Shah Ilyas Ansari, 8th Edition
- Park's Textbook of Preventive and Social Medicine by K Park 24th Edition Epidemiology and Biostatistics:
- Epidemiology by Leon Gordis, Fifth Edition
- Basic Statistics for the Health Sciences by Jan W. Kuzma, Fifth Edition.

Forensic Medicine

- Gautam Biswas Book of Forensic Medicine
- Parikh's Book of Forensic Medicine

Pathology

- Basis of Pathology by Robbins & Cotran
- Review of Microbiology by Livingston

Pharmacology

1. Pharmacodynamic
2. Katzung Basic & Clinical Pharmacology- 15th edition
3. Katzung & Trevor (Review) 13th Edition
4. Range and Dales Pharmacology- 6th Edition

Organization

Head & Neck Module 1 and Special Senses Module

Time requirements: Basic Medical Sciences

- Anatomy 31.5 Hours
- Biochemistry 9.0 Hours

40 Hours

Head & Neck and Special Senses Module II

Time requirements:

- Anatomy 01 Hours
- Physiology 01 Hours
- Pathology & Microbiology 01 Hours
- Community Medicine 01 Hours
- Eye 280 Hours

284 Hours

Head & Neck and Special Senses Module III

Time requirements:

- Anatomy 01 Hours
- Physiology 01 Hours
- Pathology & Microbiology 01 Hours
- Community Medicine 01 Hours
- ENT 176 Hours

180 Hours

Total = 504 Hours

Head & Neck Module -1
and
Special Senses Module

ANATOMY

Lectures

S. N O.	LEARNING OBJECTIVES By the end, the student should be able to	Content	TEACHING Activity Duration	ASSESSMENT
1	<ul style="list-style-type: none"> <input type="checkbox"/> List the parts of skeleton (axial and appendicular) <input type="checkbox"/> Describe different bones and sutures of skull (K) 	Bones of skull	LGIS 50 Mins	MCQs
2	<ul style="list-style-type: none"> <input type="checkbox"/> Identify the views/normas of skull. <input type="checkbox"/> List the bones contributing to norma Frontalis & Verticalis <input type="checkbox"/> Describe features related to bones of both normas <input type="checkbox"/> Relate the contents with the respective foramina <input type="checkbox"/> Identify the sutures and fontanelles on Norma verticalis <input type="checkbox"/> Discuss the clinical importance of fontanelles (K) 	Norma Frontalis, verticalis, fontanelles with their clinical correlation	LGIS 50 Mins	MCQs
3	<ul style="list-style-type: none"> <input type="checkbox"/> Define pharyngeal arches, pouches, clefts and membranes <input type="checkbox"/> Describe the derivatives of each arch (Muscle, bones, cartilage) <input type="checkbox"/> Describe the fate of pouches, clefts and membranes <input type="checkbox"/> Describe the common anomalies of pharyngeal apparatus (K) 	Pharyngeal apparatus & its anomalies	LGIS 50 Mins	MCQs
4	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the extent/boundaries and five layers of scalp <input type="checkbox"/> Describe the nerves and vessels of scalp and their clinical correlates (K) 	Scalp & its layers	LGIS 50 Mins	MCQs
5	<ul style="list-style-type: none"> <input type="checkbox"/> Identify the bones contributing to Norma Lateralis and Occipitalis <input type="checkbox"/> Recognize different bony landmarks of Norma lateralis & occipitalis <input type="checkbox"/> Identify the sutures <input type="checkbox"/> Relate the foramina with their respective contents (K) 	Norma Lateralis & occipitalis	LGIS 50 Mins	MCQs
6	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the formation of facial prominences <input type="checkbox"/> Discuss the formation of different parts of face from the prominences <input type="checkbox"/> Define nasal placode and nasal pit & nasolacrimal groove <input type="checkbox"/> Discuss most common anomalies of face (cleft lip) (K) 	Development of face & its anomalies	LGIS 50 Mins	MCQs
7	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries of face <input type="checkbox"/> Enumerate the muscles and innervation of face <input type="checkbox"/> Discuss the action of muscles of face <input type="checkbox"/> Discuss the course and distribution of CN-V and extra cranial part of CN- VII <input type="checkbox"/> Describe the applied anatomy of face (Bell's palsy) (K) 	Face (Muscles, Nerves: Extra Cranial Part of V & VII)	LGIS 50 Mins	MCQs

8	<ul style="list-style-type: none"> <input type="checkbox"/> List the bones forming the base of skull <input type="checkbox"/> Describe anterior and middle part of base of skull <input type="checkbox"/> Identify different foramina present at the base of skull <input type="checkbox"/> Name the structures passing through these foramina (K) 	Norma Basalis (anterior and middle part)	LGIS 50 Mins	MCQs
9	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the arterial supply of face, the major veins of face and formation and fate of retromandibular vein <input type="checkbox"/> Explain the lymphatic drainage of face <input type="checkbox"/> Discuss the clinical correlation (Danger area of face) (K) 	Arteries, veins & lymphatic of face	LGIS 50 Mins	MCQs
10	<ul style="list-style-type: none"> <input type="checkbox"/> List the bones forming the posterior aspect & base of skull <input type="checkbox"/> State the details of posterior part of base of skull <input type="checkbox"/> Describe different foramina & structures passing through them (K) 	Norma Occipitalis & posterior part of Basalis (Demonstration)	LGIS 50 Mins	MCQs
11	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries& content of orbital cavity <input type="checkbox"/> Enumerate the relations of orbital cavity <input type="checkbox"/> Describe location, relations and connections of ciliary ganglion <input type="checkbox"/> Define the disorders associated with ciliary ganglion (K) 	Orbital cavity and its contents	LGIS 50 Mins	MCQs
12	<ul style="list-style-type: none"> <input type="checkbox"/> Describe Eyelid and its parts <input type="checkbox"/> Explain the Innervation and blood supply of eyelids <input type="checkbox"/> Describe parts of lacrimal apparatus <input type="checkbox"/> Define the diseases of lacrimal Apparatus (K) 	Eyelid & Lacrimal Apparatus	LGIS 50 Mins	MCQs
13	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the gross anatomical features of eyeball <input type="checkbox"/> Discuss different coats and compartment of the eyeball <input type="checkbox"/> Explain the neurovascular supply and lymphatic drainage of the eyeball <input type="checkbox"/> Enumerate the extra-ocular muscles <input type="checkbox"/> Discuss the attachments and nerve supply of these muscles <input type="checkbox"/> Explain the actions of Extraocular muscles along with related clinical anatomy (K) 	Eyeball and Extraocular Muscles	LGIS 50 Mins	MCQs
14	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the development of eye from neural and non-neural components <input type="checkbox"/> Tabulate the structures which develop from optic cup, neural crest cells and surface ectoderm <input type="checkbox"/> Explain the development of iris, ciliary bodies, lens, cornea, eyelid and lacrimal gland <input type="checkbox"/> Discuss the common congenital anomalies of eye (K) 	Development of eye	LGIS 50 Mins	MCQs
15	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the functional component and nuclei of these nerves <input type="checkbox"/> Describe the intra and extra cranial pathway <input type="checkbox"/> Describe the innervation by these nerves <input type="checkbox"/> Explain the cranial nerve lesions with their presentation <input type="checkbox"/> Discuss cranial nerve testing (K) 	Cranial Nerves I - VI & their clinical correlation	LGIS 50 Mins	MCQs
16.	<ul style="list-style-type: none"> <input type="checkbox"/> Describe parts of mandible <input type="checkbox"/> List attachments on each part of the mandible <input type="checkbox"/> Describe the foramen on the mandible and the structures passing through these foramina <input type="checkbox"/> Enumerate the joints formed by mandible 	Gross anatomy of mandible and hyoid bone	LGIS 50 Mins	MCQs

	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the ossification of mandible <input type="checkbox"/> Discuss the applied anatomy of mandible <input type="checkbox"/> Describe the location and vertebral level of hyoid bone <input type="checkbox"/> Describe the parts of hyoid bone <input type="checkbox"/> Explain the attachments on the hyoid bone <p>(K)</p>			
17	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries of temporal fossa <input type="checkbox"/> List the contents of temporal fossa <input type="checkbox"/> Describe the temporalis muscle, its innervation and action <input type="checkbox"/> Describe the Temporomandibular joint, its type and its articular surfaces <input type="checkbox"/> Describe the ligaments attached and movements performed at Temporomandibular joint <p>(K)</p>	Temporal Fossa & Temporomandibular Joint	LGIS 50 Mins	MCQs
18.	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries of Infratemporal fossa <input type="checkbox"/> List the contents of Infratemporal fossa <input type="checkbox"/> List the communications of Infratemporal fossa <input type="checkbox"/> Describe the contents and boundaries of Pterygopalatine fossa <input type="checkbox"/> Discuss Pterygopalatine ganglion and its connections <input type="checkbox"/> List the communications of Pterygopalatine fossa <p>(K)</p>	Infratemporal Fossa & Pterygopalatine Fossa	LGIS 50 Mins	MCQs
19.	<ul style="list-style-type: none"> <input type="checkbox"/> List the functional components of these nerves <input type="checkbox"/> Describe their intra and extra cranial course <input type="checkbox"/> Discuss their innervation <input type="checkbox"/> Discuss the common lesions and its clinical presentation <input type="checkbox"/> Demonstrate the clinical testing of these nerves <p>(K)</p>	Cranial Nerves VII to XII & its clinical correlation	LGIS 50 Mins	MCQs
20	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the boundaries and divisions of the oral cavity <input type="checkbox"/> Describe the vestibule and oral cavity proper with their contents <input type="checkbox"/> Discuss the oropharyngeal isthmus <input type="checkbox"/> Describe the general features, classification, organization of oral mucosa <input type="checkbox"/> Discuss the type and components of oral epithelium <input type="checkbox"/> Discuss the histology of lips, cheek, gums and palate <p>(K)</p>	Gross anatomy & histology of oral cavity	LGIS 50 Mins	MCQs
21	<ul style="list-style-type: none"> <input type="checkbox"/> Identify the gross anatomical features of the tongue <input type="checkbox"/> Describe the intrinsic muscles and extrinsic musculature of tongue and their movements <input type="checkbox"/> Discuss the blood supply, innervation and lymphatic drainage of tongue and the clinical conditions associated with it <p>(K)</p>	Gross anatomy of tongue	LGIS 50 Mins	MCQs
22	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the boundaries, muscle attachments and mucosal coverings of hard and soft palate <input type="checkbox"/> Discuss the function of hard and soft palate during process of mastication and deglutition <input type="checkbox"/> Discuss the blood supply and nerve supply of hard and soft palate <input type="checkbox"/> Discuss gag reflex and its complications after stroke <p>(K)</p>	Hard and Soft Palate	LGIS 50 Mins	MCQs
23	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries and contents of the parotid region <input type="checkbox"/> Describe the borders, surfaces and relations of parotid gland <input type="checkbox"/> List the structures passing through it <input type="checkbox"/> Describe the facial nerve and its branches 	Parotid Gland and Parotid Region	LGIS 50 Mins	MCQs

	<p>in the mass of parotid gland</p> <ul style="list-style-type: none"> <input type="checkbox"/> Describe the origin, course and size of parotid duct. <input type="checkbox"/> Discuss the clinical conditions (stone formation and parotitis) related to gland and duct <p>(K)</p>			
24	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the development of the tongue <input type="checkbox"/> Discuss the congenital anomalies associated with the development of tongue <input type="checkbox"/> Explain the beginning of development of the 3 salivary glands <input type="checkbox"/> Discuss the embryonic development of secretory part, duct system and stroma <p>(K)</p>	Development of Tongue & salivary glands	LGIS 50 Mins	MCQs
25	<ul style="list-style-type: none"> <input type="checkbox"/> Describe palatal development during the seventh to ninth weeks of gestation <input type="checkbox"/> Explain the embryonic basis of cleft palate <input type="checkbox"/> Discuss the types of cleft lip and palate <p>(K)</p>	Development of palate	LGIS 50 Mins	MCQs
26	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the features of external nose <input type="checkbox"/> Describe the boundaries of nasal cavity <input type="checkbox"/> Describe the blood & nerve supply of nose <input type="checkbox"/> Discuss the formation of anastomoses at little's area and its clinical importance <p>(K)</p>	Gross Anatomy of external nose, boundaries, blood & nerve supply	LGIS 50 Mins	MCQs
27	<ul style="list-style-type: none"> <input type="checkbox"/> List the para nasal air sinuses <input type="checkbox"/> Describe their location, important relations, drainage and nerve supply <input type="checkbox"/> Discuss the clinical significance of para nasal air sinuses <p>(K)</p>	Gross anatomy of Para nasal air sinuses	LGIS 50 Mins	MCQs
28	<ul style="list-style-type: none"> <input type="checkbox"/> Describe development of different parts of nose and of para nasal sinuses <input type="checkbox"/> Describe congenital anomalies associated with their development <p>(K)</p>	Development of nose & para nasal sinuses	LGIS 50 Mins	MCQs
29	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the division of ear into external, middle and internal ear <input type="checkbox"/> Describe the parts of external ear, and the boundaries & content of middle ear cavity <input type="checkbox"/> Explain the histological features of parts of external and middle ear <input type="checkbox"/> Discuss the functions of external and middle ear as an organ for hearing <input type="checkbox"/> List the vascular supply and innervation of external and middle ear. <input type="checkbox"/> Define the clinical conditions associated with external and middle ear <p>(K)</p>	Gross & Histology: External and Middle Ear	LGIS 50 Mins	MCQs
30	<ul style="list-style-type: none"> <input type="checkbox"/> Define the layers of neck; skin superficial fascia and deep fascia <input type="checkbox"/> Describe the cutaneous supply of skin of neck <input type="checkbox"/> List the different modifications of deep fascia <input type="checkbox"/> Describe prevertebral and pre-tracheal, investing layers of deep fascia <input type="checkbox"/> Describe the carotid sheath <input type="checkbox"/> List the contents of carotid sheath at different levels & its important relations <input type="checkbox"/> Describe the platysma muscle, its innervation and action <p>(K)</p>	Neck, Deep Cervical Fascia, carotid sheath and Platysma Muscle	LGIS 50 Mins	MCQs

31	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the division of triangles of neck <input type="checkbox"/> List the subdivisions of anterior triangle <input type="checkbox"/> Describe the boundaries and contents of sub divisions of anterior triangle i.e. Sub mental, Sub-mandibular, Muscular & Carotid <p>(K)</p>	Anterior Triangle of Neck	LGIS 50 Mins	MCQs
32	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries of Sub- mandibular triangle <input type="checkbox"/> List the contents of Sub-mandibular triangle <input type="checkbox"/> Describe the anatomy of Sub- mandibular salivary gland <input type="checkbox"/> Describe emergence and course of Wharton's duct and its relation with lingual nerve. <input type="checkbox"/> Describe the location & connections of Sub-mandibular ganglion <input type="checkbox"/> Describe the location and area of drainage of Sub-mandibular lymph nodes <p>(K)</p>	Submandibular region & Submandibular gland	LGIS 50 Mins	MCQs
	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the boundaries of posterior triangle of neck <input type="checkbox"/> List the contents of posterior triangle of neck <input type="checkbox"/> Discuss the formation, branches and functions of cervical plexus <input type="checkbox"/> Discuss the origin, course, branches and functions of cranial nerve XI <input type="checkbox"/> Discuss the clinical conditions associated with posterior triangle of neck, cervical plexus and cranial nerve XI <p>(K)</p>	Posterior triangle of neck, Cervical Plexus & Cranial Nerve XI	LGIS 50 Mins	MCQs
	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the morphology, location and extent of pharynx <input type="checkbox"/> Explain the division of pharynx into Nasopharynx, Oropharynx & Laryngopharynx <input type="checkbox"/> Describe the pharyngeal and palatine tonsils <input type="checkbox"/> Discuss the origin, insertion and actions of pharyngeal muscles <input type="checkbox"/> Discuss the significance of Pharyngeal and Oropharyngeal isthmus. <input type="checkbox"/> Discuss the innervation and blood supply of pharynx along with the associated clinical conditions <p>(K)</p>	Pharynx & Tonsils	LGIS 50 Mins	MCQs
	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the gross anatomy of the thyroid & parathyroid gland <input type="checkbox"/> Discuss the blood supply and nerve supply of thyroid and parathyroid gland <input type="checkbox"/> Relate the clinical anatomy of thyroid and parathyroid gland with the relevant conditions <p>(K)</p>	Gross anatomy of thyroid & parathyroid gland	LGIS 50 Mins	MCQs
	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the gross anatomy of larynx <input type="checkbox"/> Discuss the blood supply, nerve supply, and clinical anatomy of larynx <input type="checkbox"/> Describe the histological features of larynx <p>(K)</p>	Gross & histology of larynx	LGIS 50 Mins	MCQs
	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the developmental anatomy of thyroid, parathyroid, larynx and thymus <input type="checkbox"/> Discuss congenital anomalies associated with their development <p>(K)</p>	Development of Thyroid, Parathyroid, Larynx and Thymus	LGIS 50 Mins	MCQs

<ul style="list-style-type: none"> <input type="checkbox"/> Describe the major vessels of head & neck <input type="checkbox"/> Describe the Superficial and deep cervical lymph nodes <input type="checkbox"/> Explain their relation with jugular veins <input type="checkbox"/> Summarize their area of drainage <input type="checkbox"/> Discuss their clinical significance (K) 	Blood vessels and Lymphatics drainage of head and neck	LGIS 50 Mins	MCQs
<ul style="list-style-type: none"> <input type="checkbox"/> Describe the parts of internal ear <input type="checkbox"/> Describe the histological features of the parts of internal ear <input type="checkbox"/> Discuss the functions of internal ear as an organ for hearing and balance <input type="checkbox"/> Discuss the clinical conditions associated with internal ear (K) 	Gross & Histology: Internal Ear	LGIS 50 Mins	MCQs
<ul style="list-style-type: none"> <input type="checkbox"/> Explain the development of external, middle and internal ear <input type="checkbox"/> Discuss congenital deafness and other anomalies of the ear (K) 	Development of Ear	LGIS 50 Mins	MCQs
<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the components of auditory pathway <input type="checkbox"/> Describe the function of different parts of auditory pathway <input type="checkbox"/> Describe the clinical conditions associated with auditory pathway. (K) 	Integrated lecture on auditory pathway	LGIS 50 Mins	MCQs

ANATOMY**Tutorial / Demonstrations**

S. N O.	LEARNING OBJECTIVES By the end of module, the students should be able to	Content	TEACHING Activities (Duration)	ASSESSMENT
1.	<input type="checkbox"/> Trace the course of facial artery in the face <input type="checkbox"/> Palpate the facial artery <input type="checkbox"/> Identify the landmarks of borders and surfaces of parotid gland <input type="checkbox"/> Palpate the Parotid gland <input type="checkbox"/> Trace the course and opening of parotid duct (K) (S)	Surface anatomy of head and neck (Facial Artery and Parotid Gland)	Tutorial 90 mins + Practical 90 mins	MCQ's OSPE

HISTOLOGY**Practical**

S. N O.	LEARNING OBJECTIVES By the end of module, the students should be able to	Content	TEACHING Activities (Duration)	ASSESSMENT
1.	<input type="checkbox"/> Identify the microscopic slide of tongue based on histology <input type="checkbox"/> Describe the different layers of tongue <input type="checkbox"/> Describe different types of lingual papillae <input type="checkbox"/> Describe different glands of tongue (S)	Histology of Tongue	Practical 90 mins	OSPE
2.	<input type="checkbox"/> Identify the histological slide of salivary gland <input type="checkbox"/> Describe the histological appearance of salivary gland <input type="checkbox"/> Describe the different types of acini (S)	Histology of salivary gland	Practical 90 mins	OSPE
3.	<input type="checkbox"/> Identify the histological features of eyeball <input type="checkbox"/> Describe the histological feature of each coat of eye ball <input type="checkbox"/> Describe the histology of cornea and lens <input type="checkbox"/> Discuss the arrangement and composition of the layers of Retina (S)	Histology of Eye Ball	Practical 90 mins	OSPE

4.	<input type="checkbox"/> Identify various parts on slides <input type="checkbox"/> Describe histological characteristics of each part (S)	Histology of Nasal Cavity, respiratory & olfactory epithelia	Practical 90 mins	OSPE
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COMMUNITY MEDICINE

Lectures

S. N. O.	LEARNING OBJECTIVES By the end of module, the students should be able to	Content	TEACHING Activities (Duration)	ASSESSMENT
1.	1. Identify the problems related to health in the community 2. Write a research question and hypothesis 3. Perform literature search by following a scientific method 4. Write the background which should lead to the rationale for the study 5. Explain the basic study designs used in research (K)	RESEARCH METHODOLOGY 1	LGIS 50 Mins	MCQ's

BIOCHEMISTRY

Lectures

S. N. O.	LEARNING OBJECTIVES By the end of module, the students should be able to	Content	TEACHING Activities (Duration)	ASSESSMENT
1.	<input type="checkbox"/> Discuss nutrition, nutrients, BMI, RDA and RMR <input type="checkbox"/> Discuss the biochemical importance of Balanced diet <input type="checkbox"/> Discuss the basic food groups <input type="checkbox"/> List the essential nutrients and their importance in the diet <input type="checkbox"/> Discuss the dietary sources and recommendations of micronutrients <input type="checkbox"/> Describe the importance and benefits of water <input type="checkbox"/> Discuss the importance of dietary fibres <input type="checkbox"/> Discuss the daily caloric requirements <input type="checkbox"/> Discuss the Dietary Reference Intakes (EAR, RDA, AI, UL) <input type="checkbox"/> Discuss the clinical disorders of nutrition (K)	Introduction to nutrition	LGIS 50 Mins	MCQ's
2.	<input type="checkbox"/> Explain the biochemical importance of dietary carbohydrate <input type="checkbox"/> Discuss Balanced diet <input type="checkbox"/> Classify the types of dietary carbohydrates <input type="checkbox"/> Discuss the significance of simple and	Nutritional importance of dietary carbohydrates	LGIS 50 Mins	MCQ's

	<p>complex dietary carbohydrates</p> <ul style="list-style-type: none"> <input type="checkbox"/> Explain the Glycaemic index and glycaemic load <input type="checkbox"/> Describe the biochemical complications of Obesity <input type="checkbox"/> Discuss metabolic syndrome and its complications <p>(K)</p>			
3.	<ul style="list-style-type: none"> <input type="checkbox"/> Classify Proteins according to their nutritional importance and give examples <input type="checkbox"/> List the biochemical functions of proteins in the body <input type="checkbox"/> Explain recommended dietary requirements of protein in 3 different age groups <input type="checkbox"/> Describe the Amino acid pool & Nitrogen balance <input type="checkbox"/> Describe Protein energy malnutrition (Marasmus & Kwashiorkor) <p>(K)</p>	Nutritional importance of dietary proteins	LGIS 50 Mins	MCQ's
4	<ul style="list-style-type: none"> <input type="checkbox"/> Classify Lipids according to their nutritional importance and give examples <input type="checkbox"/> Explain the biochemical functions of dietary lipids <input type="checkbox"/> Discuss the sources and recommended daily allowance of dietary lipids <input type="checkbox"/> Discuss the biochemical mechanism of development of atherosclerosis <input type="checkbox"/> Discuss the clinical significance of dietary lipids (Metabolic syndrome, Atherosclerosis) <p>(K)</p>	Nutritional importance of dietary lipids	LGIS 50 Mins	MCQ's
5	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the chemical structure of Vitamin A <input type="checkbox"/> Classify the different types of Vitamin A <input type="checkbox"/> Explain the biochemical functions of Vitamin A <input type="checkbox"/> Discuss the role of vitamin A in visual cycle <input type="checkbox"/> List the sources and daily requirement of Vitamin A <input type="checkbox"/> Discuss the clinical significance of Vitamin A deficiency and toxicity <p>(K)</p>	Vitamin A	LGIS 50 Mins	MCQ's
6	<ul style="list-style-type: none"> <input type="checkbox"/> List and classify the dietary minerals with their biochemical importance <input type="checkbox"/> Describe their sources and daily recommended allowances <input type="checkbox"/> Explain their biochemical functions <input type="checkbox"/> Discuss the clinical significance of mineral deficiency and toxicity <p>(K)</p>	Overview of Dietary Minerals	LGIS 50 Mins	MCQ's

BIOCHEMISTRY

Tutorials & Demonstrations

S. NO.	LEARNING OBJECTIVES By the end of module, the students should be able to	Content	TEACHING Activities (Duration)	ASSESSMENT
1.	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss the clinical importance of balanced diet <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions <p>(K)(S)</p>	Balanced diet	Tutorial 90 mins + Practical	MCQ's OSPE

			90 mins	
2	<input type="checkbox"/> Discuss the clinical importance of vitamin A <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions (K) (S)	Vitamin A	Tutorial 90 mins + Practical 90 mins	MCQ's OSPE
3	<input type="checkbox"/> Discuss the clinical importance of minerals (e.g. Iron, Calcium) <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions (K)(S)	Deficiencies of minerals	Tutorial 90 mins + Practical 90 mins	MCQ's OSPE
4	<input type="checkbox"/> Discuss the clinical importance of Obesity <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions (K) (S)	Obesity	Tutorial 90 mins + Practical 90 mins	MCQ's OSPE
	<input type="checkbox"/> Discuss the clinical importance of PCM, Marasmus and Kwashiorkor <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions (K)(S)	Protein Calorie Malnutrition (PCM), Marasmus and Kwashiorkor	Tutorial 90 mins + Practical 90 mins	MCQ's OSPE
5	<input type="checkbox"/> Discuss the clinical importance of Metabolic syndrome & Atherosclerosis <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions (K)(S)	Metabolic syndrome, Atherosclerosis	Tutorial 90 mins + Practical 90 mins	MCQ's OSPE

BIOCHEMISTRY

PRACTICALS

S. NO.	LEARNING OBJECTIVES	Content	TEACHING Activities (Duration)	ASSESSMENT
	By the end of module, the students should be able to			

1.	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the significance of calculation of Body Mass Index <input type="checkbox"/> Explain the method to calculate BMI <input type="checkbox"/> Calculate the BMI <input type="checkbox"/> Interpret the significance of the calculated BMI <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions <p>(S)</p>	Calculation of Body Mass Index (BMI)	Demonstration 90 mins	OSPE
2.	<ul style="list-style-type: none"> <input type="checkbox"/> Define Glycemic Index and Glycemic Load <input type="checkbox"/> Compare the Glycemic index of different carbohydrates <input type="checkbox"/> Interpret the significance of GI & GL <input type="checkbox"/> Outline the method for calculation of GI of various food items <input type="checkbox"/> Correlate the interpretation of laboratory investigations with relevant clinical conditions <p>(S)</p>	Interpretation of glycaemic index	Demonstration 90 mins	OSPE

PHYSIOLOGY

S. NO.	LEARNING OBJECTIVES By the end of module, the students should be able to	Contents	LEARNING Activities (Duration)	ASSESSMENT
1.	<ul style="list-style-type: none"> <input type="checkbox"/> Explain the basic physiology of eye & its refractive surfaces <input type="checkbox"/> Discuss the physical principles of optics <input type="checkbox"/> Describe the mechanism of accommodation & its control <p>(K)</p>	Optics of eye	LGIS 50 MINS	MCQs
2.	<ul style="list-style-type: none"> <input type="checkbox"/> Describe the formation and circulation of aqueous humor <input type="checkbox"/> Explain the mechanism of regulation of intraocular pressure <input type="checkbox"/> Define glaucoma & its types <p>(K)</p>	Formation & circulation of aqueous humor	LGIS 50 MINS	MCQs
3.	<ul style="list-style-type: none"> <input type="checkbox"/> Define visual acuity <input type="checkbox"/> Describe the errors of refraction (Myopia, hyperopia, astigmatism & their correction by using different lens systems) <p>(K)</p>	Visual acuity & errors of refraction	LGIS 50 MINS	MCQs

4.	<input type="checkbox"/> List the pulmonary volumes & capacity with their normal values & significance in pulmonary function test <input type="checkbox"/> Determine functional residual capacity, residual vol. & total lung capacity (helium dilution method) (K)	Photo-transduction	LGIS 50 MINS + CBL 90 MINS (Tutorial)	MCQs
5.	<input type="checkbox"/> Describe pressure in pulmonary circulation & blood flow zones of lung (1,2,3) <input type="checkbox"/> Explain pulmonary capillary dynamics <input type="checkbox"/> Explain mechanism of development of pulmonary oedema <input type="checkbox"/> State the importance of ventilation/perfusion ratio (K)	Visual pathway & its lesions	LGIS 50 MINS + SGD 90 MINS (Tutorial)	MCQs
6.	<input type="checkbox"/> Define respiration unit & respiration membrane <input type="checkbox"/> Describe mechanics of diffusion across respiration membrane & factors effecting diffusion <input type="checkbox"/> List partial pressure of respiratory gases in atmosphere, humidified, alveolar & expired air <input type="checkbox"/> Briefly describe the diffusing capacity of O ₂ and CO ₂ (K)	Eye movements & its control	LGIS 50 MINS + SGD 90 MINS (Tutorial)	MCQs
7.	<input type="checkbox"/> Describe the physiology of hearing & function of tympanic membrane & ossicular system <input type="checkbox"/> Define impedance matching & attenuation reflex <input type="checkbox"/> Explain the conduction of sound waves in the cochlea <input type="checkbox"/> Describe the function of the organ of Corti (K)	Sense of hearing, mechanism of hearing	LGIS 50 MINS + SGD 90 MINS (Tutorial)	MCQs
8.	<input type="checkbox"/> Explain the auditory nervous pathway & abnormalities associated with it <input type="checkbox"/> Describe the function of cerebral cortex in hearing (K)	Auditory pathway	LGIS 50 MINS + SGD 90 MINS (Tutorial)	MCQs
9.	<input type="checkbox"/> List the primary sensations of taste <input type="checkbox"/> Explain the mechanism of taste perception and its transmission into central nervous system <input type="checkbox"/> List the primary sensations of smell <input type="checkbox"/> Describe the stimulation of olfactory cells & its transmission into central nervous system (K)	Sense of taste & smell	LGIS 50 MINS + SGD 90 MINS (Tutorial)	MCQs

PHYSIOLOGY

PRACTICALS

S. NO.	LEARNING OBJECTIVES By the end of module, the students should be able to	Content	TEACHING Activities (Duration)	ASSESSMENT
1.	<ul style="list-style-type: none"> <input type="checkbox"/> Define visual acuity <input type="checkbox"/> Determine the near and far visual acuity <input type="checkbox"/> List the refractive errors and their correction <input type="checkbox"/> Examine the colour vision of a subject using Ishihara eye chart <input type="checkbox"/> Discuss the errors in colour vision <p>(S)</p>	Visual acuity & colour vision	Demonstration 90 mins	OSPE
2.	<ul style="list-style-type: none"> <input type="checkbox"/> Describe various parts of Perimeter and their uses <input type="checkbox"/> Define physiological blind spot <input type="checkbox"/> Interpret perimeter chart of a patient and tell if any abnormality is present <input type="checkbox"/> Identify lesions of the visual pathway by performing Perimetry <p>(S)</p>	Perimetry	Demonstration 90 mins	OSPE
3.	<ul style="list-style-type: none"> <input type="checkbox"/> Elaborate bone conduction and air conduction <input type="checkbox"/> Describe the principle of various tuning fork tests <input type="checkbox"/> Identify conductive and sensorineural deafness based on interpretation of tuning fork tests <p>(S)</p>	Hearing test	Demonstration 90 mins	OSPE
4.	<ul style="list-style-type: none"> <input type="checkbox"/> List the basic sensation of smell <input type="checkbox"/> Identify the abnormalities associated with perception of smell <input type="checkbox"/> Map the pathway of sense of smell <input type="checkbox"/> List the basic modalities of taste <input type="checkbox"/> Identify the abnormalities associated with sense of taste <p>(S)</p>	Smell and taste	Demonstration 90 mins	OSPE

Week 5

End of Head & Neck Module

Head & Neck Module 1 Test Theory

Head & Neck Module 1 Test OSCE

Week 3

End of Special Senses Module

Special Senses Test Theory

Special Senses Test OSCE

**Head & Neck and Special
Senses-II Module
(Eye)**

Clinical Sciences

Anatomy

Lectures

S. No.	LEARNING OBJECTIVES	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
	By the end of Ophthalmology module students should be able to			
1.	<input type="checkbox"/> Describe the functional anatomy of the orbit and the three layers of the eyeball along with relevant nerve and blood supplies (K)	Orbit	LGIS 50 mins	MCQs

Physiology

Lectures

S. No.	LEARNING OBJECTIVES	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
	By the end of module students should be able to			
1.	<input type="checkbox"/> Describe the process of vision, optics and the reflexes seen in normal eye (K)	Process of vision, optics and the reflexes	LGIS 50 mins	MCQs

PATHOLOGY

Lectures

S. No.	LEARNING OBJECTIVES	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
	By the end of module students should be able to			

1.	<input type="checkbox"/> Explain the pathology of the diseases involving the EYE and ORBIT (K)	Pathology of diseases involving the EYE and ORBIT	LGIS 50 mins	MCQs
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COMMUNITY MEDICINE

Lectures

S. No.	LEARNING OBJECTIVES	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
1.	By the end of module students should be able to <input type="checkbox"/> Describe Trachoma <input type="checkbox"/> Identify risk factors of Trachoma <input type="checkbox"/> Classify WHO trachoma grading System <input type="checkbox"/> Explain the control & prevention of Trachoma (K)	Trachoma	LGIS 50 mins	MCQs

CLINICAL SCIENCES

EYE

Lectures

Sr. No.	LEARNING OBJECTIVES	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
	By the end of module students should be able to:			

1.	<input type="checkbox"/> Describe the functional anatomy of the orbit and the globe along with relevant nerve and blood; <input type="checkbox"/> Discuss the embryology and histology of Retina (K)	ORBIT & RETINA	LGIS 50 mins	MCQs
2.	<input type="checkbox"/> Describe the process of normal vision, optics and the reflexes seen in normal eye (K)	NORMAL VISION	LGIS 50 mins	MCQs
3.	<input type="checkbox"/> Explain the pathology of the tumors involving eye including Basal Cell Carcinoma, Choroidal Melanoma, Squamous Cell Carcinoma and Retinoblastoma (K)	BASAL CELL CARCINOMA, CHOROIDAL MELANOMA, SQUAMOUS CELL CARCINOMA & RETINIBLASTOMA	LGIS 50 mins	MCQs
4.	<input type="checkbox"/> Diagnose Orbital cellulitis and Proptosis based on clinical features, pathophysiology and relevant investigations <input type="checkbox"/> Develop treatment plans for Cellulitis and Proptosis (K)	ORBIT	SGD (PBL) 50 mins	MCQs

5.	<input type="checkbox"/> Diagnose the following on the basis clinical findings, pathology and their investigations: <ul style="list-style-type: none"> o Blepharitis o Sty o Chalazion o Trichiasis o Entropion o Ectropion o Ptosis <input type="checkbox"/> Explain the differential diagnosis and treatment plans for the above-mentioned conditions Develop treatment plans for Basal cell, Squamous cell, Sebaceous carcinoma and Melanoma <input type="checkbox"/> Describe clinical features for diagnosis of Nevus and Papilloma (K)	LIDS	SGD (P B L) + Presentation 50 mins	MCQs
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6.	<input type="checkbox"/> Explain common corneal pathologies <input type="checkbox"/> Diagnose the corneal trauma, infections, vitamin A deficiency and Keratoconus on the basis of clinical findings, pathophysiology and relevant investigations <input type="checkbox"/> Explain the differential diagnosis and treatment plans for the corneal trauma, infections, vitamin A deficiency and Keratoconus (K)	CORNEA	LGIS 50 mins	MCQs
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7.	<input type="checkbox"/> Diagnose Infective conjunctivitis, Allergic conjunctivitis and Pterygium on the basis clinical sign and symptoms and pathology <input type="checkbox"/> Select the relevant investigations for the above-mentioned conditions <input type="checkbox"/> Discuss the differential diagnosis and treatment plans for infective conjunctivitis, allergic conjunctivitis and Pterygium (K)	CONJUNCTIVA	LGIS 50 mins	MCQs
8.	<input type="checkbox"/> Diagnose Episcleritis and Scleritis on the basis of clinical findings <input type="checkbox"/> Discuss the relevant investigations, differential diagnosis, pathophysiology and treatment plans for Episcleritis and Scleritis (K)	SCLERA	SGD 50 mins	MCQs
9.	<input type="checkbox"/> Diagnose Epiphora, Acute and Chronic Dacryo cystitis on the basis of clinical features along with its relevant investigations and pathology <input type="checkbox"/> Discuss the differential diagnosis and treatment plans for the Epiphora, Acute and Chronic Dacryo cystitis (K)	LACRIMAL APPARATUS	SGD (PBL) + Presentation 50 mins	MCQs

10.	<ul style="list-style-type: none"> <input type="checkbox"/> Discuss differential diagnosis for red eye along with their etiology, pathology, investigations and treatment plans. <input type="checkbox"/> Diagnose Uveitis on the basis of clinical features and relevant investigations. <input type="checkbox"/> Discuss the differential diagnosis and treatment plans for Uveitis. <p style="text-align: center;">(K)</p>	UVEAL TRACT	LGIS 50 mins + SGD 50 mins	MCQs
11.	<ul style="list-style-type: none"> <input type="checkbox"/> Classify cataract <input type="checkbox"/> Describe cataract due to systemic diseases <input type="checkbox"/> Explain the symptoms, signs, investigations and management plan for congenital cataract <input type="checkbox"/> Diagnose acquired cataract based on symptoms, signs, pathophysiology and investigation findings <input type="checkbox"/> Justify selection of treatment options for acquired cataract <input type="checkbox"/> Explain congenital cataract secondary to rubella <p style="text-align: center;">(K) (S) (A)</p>	LENS	LGIS 50 mins + Demonstration 90 min	MCQs + OSCE

12.	<ul style="list-style-type: none"> <input type="checkbox"/> Define glaucoma <input type="checkbox"/> classify glaucoma <input type="checkbox"/> Discuss the anatomy related to glaucoma <input type="checkbox"/> Discuss the etiology, pathophysiology, differential diagnosis and investigations for Glaucoma <input type="checkbox"/> Diagnose angle closure Glaucoma based on clinical findings <input type="checkbox"/> Discuss the treatment plans for angle closure glaucoma <input type="checkbox"/> Discuss the treatment plans for Glaucoma other than angle closure <p style="text-align: center;">(K)</p>	GLAUCOMA	LGIS 50 mins	MCQs
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13.	<input type="checkbox"/> Examine the fundus with the help of ophthalmoscope <input type="checkbox"/> Explain the signs, symptoms investigations and principles of management for posterior vitreous hemorrhage and hematogenous Retinal Detachment (RRD) <input type="checkbox"/> Discuss the retinal vascular diseases including central retinal vein occlusion (CRVO) and Central retinal artery occlusion (CRVA) <input type="checkbox"/> Discuss the differential diagnosis, complications and treatment plans for CRVO/CRVA (K)	VITREO-RETINA	LGIS 50 mins + SGD (SKILL LAB + CBL) Presentation	MCQs
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14.	<input type="checkbox"/> Discuss the clinical presentations, investigations and treatment options for Retinitis Pigmentosa, Retinoblastoma and Age Related Macular Degeneration (ARMD) <input type="checkbox"/> Discuss the pathology and clinical sign and symptoms of retinopathy of prematurity (ROP) along with the relevant investigation <input type="checkbox"/> Discuss the complications and treatment plans for the ROP (K) (S) (A)	RETINITIS PIGMENTOSA, RETINOBLASTOMA AND AGE-RELATED MACULAR Degeneration	LGIS 50 mins + SGD 50 mins	MCQs
15.	<input type="checkbox"/> Discuss the differential diagnosis, pathology, provisional diagnosis, and investigations for Papilledema, Optic Neuritis and Optic Atrophy <input type="checkbox"/> Formulate the treatment plans for Papilledema, Optic Neuritis and Optic Atrophy (K)	OPTIC NERVE	LGIS 50 mins	MCQs MCQs
16.	<input type="checkbox"/> Discuss the effects of lesions in the optic chiasma and visual pathway on visual field (K)	VISUAL PATHWAY	Short Group Problem Based Discussion	MCQs

17.	<input type="checkbox"/> Classify injuries to the eye based on etiology <input type="checkbox"/> Describe management plan for extra-ocular corneal and conjunctival foreign bodies <input type="checkbox"/> Discuss the management plans for ocular burns and chemical injuries <input type="checkbox"/> Develop management plans for all other types of injuries to the eye (K)	INJURIES	LGIS 50 mins	MCQs
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18.	<input type="checkbox"/> Define Squint and Amblyopia <input type="checkbox"/> Discuss the relationship between squint and amblyopia <input type="checkbox"/> Discuss the clinical presentation of squint and amblyopia along with their differential diagnosis and relevant investigations <input type="checkbox"/> Discuss principles of management for these two conditions (K)	SQUINT AND AMBLYOPIA	SGD 50mins + Presentation 50 mins	MCQs
19.	<input type="checkbox"/> Define Emmetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia, Pseudophakia and Anisometropia <input type="checkbox"/> Discuss the etiology and corrective measures for each type of error of refraction including the principals involved, use and procedure of pin hole test (K) (S) (A)	ERRORS OF REFRACTION	LGIS 50 mins + Demonstrations 90 mins	MCQs + OSCE

20.	<input type="checkbox"/> Discuss the effects of diabetes mellitus and hypertension eye and vision Based on data provided, diagnose diabetic and hypertensive retinopathy <input type="checkbox"/> Discuss the pathophysiology of diabetic and hypertensive retinopathy <input type="checkbox"/> Describe principles of management for the two above mentioned conditions Based on data provided, justify diagnosis, investigations and treatment plan for ocular conditions due to vitamin A deficiency <input type="checkbox"/> Discuss the effects of abnormal thyroid hormone levels on eye and vision <input type="checkbox"/> Diagnosis, investigations and treatment plan for conditions due to abnormal thyroid hormone levels (e.g. Grave's disease, Thyroid Ophthalmopathy) (K) (S) (A)	SYSTEMIC DISEASES	LGIS 50 mins	MCQs + OSCE
21.	<input type="checkbox"/> Discuss etiology, preventive measures and principles of management for blindness <input type="checkbox"/> Discuss the six most common causes of blindness worldwide according to WHIO criteria (K)	BLINDNESS	LGIS 50 mins	MCQs

EYE**Clinical Rotations**

Sr. No.	LEARNING OBJECTIVES	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
	By the end of module students should be able to:			
1.	<input type="checkbox"/> Describe the functional anatomy of the orbit and the globe along with relevant nerve and blood; <input type="checkbox"/> Discuss the embryology and histology of Retina (K)	ORBIT & RETINA	LGIS 50 mins	MCQs
2.	<input type="checkbox"/> Describe the process of normal vision, optics and the reflexes seen in normal eye (K)	NORMAL VISION	LGIS 50 mins	MCQs
3.	<input type="checkbox"/> Explain the pathology of the tumors involving eye including Basal Cell Carcinoma, Choroidal Melanoma, Squamous Cell Carcinoma and Retinoblastoma (K)	BASAL CELL CARCINOMA, CHOROIDAL MELANOMA, SQUAMOUS CELL CARCINOMA & RETINIBLASTOMA	LGIS 50 mins	MCQs
4.	<input type="checkbox"/> Diagnose Orbital cellulitis and Proptosis based on clinical features, pathophysiology and relevant investigations <input type="checkbox"/> Develop treatment plans for Cellulitis and Proptosis (K)	ORBIT	SGD (PBL) 50 mins	MCQs

<p>5. <input type="checkbox"/> Diagnose the following on the basis clinical findings, pathology and their investigations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Blepharitis <input type="checkbox"/> Sty <input type="checkbox"/> Chalazion <input type="checkbox"/> Trichiasis <input type="checkbox"/> Entropion <input type="checkbox"/> Ectropion <input type="checkbox"/> Ptosis <p><input type="checkbox"/> Explain the differential diagnosis and treatment plans for the above-mentioned conditions Develop treatment plans for Basal cell, Squamous cell, Sebaceous carcinoma and Melanoma</p> <p><input type="checkbox"/> Describe clinical features for diagnosis of Nevus and Papilloma (K)</p>	LIDS	SGD (P B L) + Presentation 50 mins	MCQs
<p>6. <input type="checkbox"/> Explain common corneal pathologies</p> <p><input type="checkbox"/> Diagnose the corneal trauma, infections, vitamin A deficiency and Keratoconus on the basis of clinical findings, pathophysiology and relevant investigations</p> <p><input type="checkbox"/> Explain the differential diagnosis and treatment plans for the corneal trauma, infections, vitamin A deficiency and Keratoconus (K)</p>	CORNEA	LGIS 50 mins	MCQs

<p>7. <input type="checkbox"/> Diagnose Infective conjunctivitis, Allergic conjunctivitis and Pterygium on the basis clinical sign and symptoms and pathology</p> <p><input type="checkbox"/> Select the relevant investigations for the above-mentioned conditions</p> <p><input type="checkbox"/> Discuss the differential diagnosis and treatment plans for infective conjunctivitis, allergic conjunctivitis and Pterygium (K)</p>	CONJUNCTIVA	LGIS 50 mins	MCQs
<p>8. <input type="checkbox"/> Diagnose Episcleritis and Scleritis on the basis of clinical findings</p> <p><input type="checkbox"/> Discuss the relevant investigations, differential diagnosis, pathophysiology and treatment plans for Episcleritis and Scleritis (K)</p>	SCLERA	SGD 50 mins	MCQs
<p>9. <input type="checkbox"/> Diagnose Epiphora, Acute and Chronic Dacryo cystitis on the basis of clinical features along with their relevant investigations and pathology</p> <p><input type="checkbox"/> Discuss the differential diagnosis and treatment plans for the Epiphora, Acute and Chronic Dacryo cystitis (K)</p>	LACRIMAL APPARATUS	SGD (PBL) + Presentation 50 mins	MCQs

10.	<input type="checkbox"/> Discuss differential diagnosis for red eye along with their etiology, pathology, investigations and treatment plans. <input type="checkbox"/> Diagnose Uveitis on the basis of clinical features and relevant investigations. <input type="checkbox"/> Discuss the differential diagnosis and treatment plans for Uveitis. (K)	UVEAL TRACT	LGIS 50 mins + SGD 50 mins	MCQs
11.	<input type="checkbox"/> Classify Cataract <input type="checkbox"/> Describe cataract due to systemic diseases <input type="checkbox"/> Explain the symptoms, signs, investigations and management plan for congenital cataract <input type="checkbox"/> Diagnose acquired cataract based on symptoms, signs, pathophysiology and investigation findings <input type="checkbox"/> Justify selection of treatment options for acquired cataract <input type="checkbox"/> Explain congenital cataract secondary to rubella (K) (S) (A)	LENS	LGIS 50 mins + Demonstration 90 min	MCQs + OSCE

12.	<input type="checkbox"/> Define Glaucoma <input type="checkbox"/> Classify glaucoma <input type="checkbox"/> Discuss the anatomy related to glaucoma <input type="checkbox"/> Discuss the etiology, pathophysiology, differential diagnosis and investigations for Glaucoma <input type="checkbox"/> Diagnose angle closure Glaucoma based on clinical findings <input type="checkbox"/> Discuss the treatment plans for angle closure glaucoma <input type="checkbox"/> Discuss the treatment plans for Glaucoma other than angle closure (K)	GLAUCOMA	LGIS 50 mins	MCQs
13.	<input type="checkbox"/> Examine the fundus with the help of ophthalmoscope <input type="checkbox"/> Explain the signs, symptoms investigations and principles of management for posterior vitreous hemorrhage and Rhegmatogenous Retinal Detachment (RRD) <input type="checkbox"/> Discuss the retinal vascular diseases including central retinal vein occlusion (CRVO) and Central retinal artery occlusion (CRVA) <input type="checkbox"/> Discuss the differential diagnosis, complications and treatment plans for CRVO/CRVA (K)	VITREO-RETINA	LGIS 50 mins + SGD (SKILL LAB + CBL) Presentation	MCQs

14.	<input type="checkbox"/> Discuss the clinical presentations, investigations and treatment options for Retinitis Pigmentosa, Retinoblastoma and Age-Related Macular Degeneration (ARMD) <input type="checkbox"/> Discuss the pathology and clinical sign and symptoms of retinopathy of prematurity (ROP) along with the relevant investigation <input type="checkbox"/> Discuss the complications and treatment plans for the ROP (K) (S) (A)	RETINITIS PIGMENTOSA, RETINOBLASTOMA AND AGE RELATED MACULAR	LGIS 50 mins + SGD 50 mins	MCQs MCQs + OSCE
15.	<input type="checkbox"/> Discuss the differential diagnosis, pathology, provisional diagnosis, and investigations for Papilledema, Optic Neuritis and Optic Atrophy <input type="checkbox"/> Formulate the treatment plans for Papilledema, Optic Neuritis and Optic Atrophy (K)	OPTIC NERVE	LGIS 50 mins	MCQs
16.	<input type="checkbox"/> Discuss the effects of lesions in the optic chiasma and visual pathway on visual field (K)	VISUAL PATHWAY	Short Group Problem Based Discussion 50 mins	MCQs

17.	<input type="checkbox"/> Classify injuries to the eye based on etiology <input type="checkbox"/> Describe management plan for extra-ocular corneal and conjunctival foreign bodies <input type="checkbox"/> Discuss the management plans for ocular burns and chemical injuries <input type="checkbox"/> Develop management plans for all other types of injuries to the eye (K)	INJURIES	LGIS 50 mins	MCQs
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18.	<input type="checkbox"/> Define Squint and Amblyopia <input type="checkbox"/> Discuss the relationship between squint and amblyopia <input type="checkbox"/> Discuss the clinical presentation of squint and amblyopia along with their differential diagnosis and relevant investigations <input type="checkbox"/> Discuss principles of management for these two conditions (K)	SQUINT AND AMBLYOPIA	SGD 50mins + Presentation 50 mins	MCQs
19.	<input type="checkbox"/> Define Emmetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia, Pseudophakia and Anisometropia <input type="checkbox"/> Discuss the etiology and corrective measures for each type of error of refraction including the principals involved, use and procedure of pin hole test (K) (S) (A)	ERRORS OF REFRACTION	LGIS 50 mins + Demonstrations 90 mins	MCQs + OSCE

19.	<input type="checkbox"/> Discuss the effects of diabetes mellitus and hypertension eye and vision Based on data provided, diagnose diabetic and hypertensive retinopathy <input type="checkbox"/> Discuss the pathophysiology of diabetic and hypertensive retinopathy <input type="checkbox"/> Describe principles of management for the two above mentioned conditions Based on data provided, justify diagnosis, investigations and treatment plan for ocular conditions due to vitamin A deficiency <input type="checkbox"/> Discuss the effects of abnormal thyroid hormone levels on eye and vision <input type="checkbox"/> Diagnosis, investigations and treatment plan for conditions due to abnormal thyroid hormone levels (e.g. Grave's disease, Thyroid Ophthalmopathy) (K) (S) (A)	SYSTEMIC DISEASES	LGIS 50 mins	MCQs + OSCE
20.	<input type="checkbox"/> Discuss etiology, preventive measures and principles of management for blindness <input type="checkbox"/> Discuss the six most common causes of blindness worldwide according to WHIO criteria (K)	BLINDNESS	LGIS 50 mins	MCQs

Week 4

End of Head & Neck and Special Senses Module II

Head & Neck Module and Special Senses 2 Test Theory

Head & Neck Module and Special Senses 2 Test OSCE

**Head & Neck and Special
Senses-III Module
(ENT)**

S No	Learning Objectives By the end of the session, students will be able to:	Content Areas	Learning Activity (Duration)	Assessment
1.	EXTERNAL YEAR <ul style="list-style-type: none"> • Discuss the etiology, investigations, treatment and complications for- Acute otitis externa • Describe management of impacted wax and foreign body plans for benign tumors of external ear (K) 	<ul style="list-style-type: none"> • Etiology, investigations, treatment and complications for- Acute otitis externa • Management of impacted wax and foreign body plans for benign tumors of external ear 	LGIS 50 mins	-
2.	<ul style="list-style-type: none"> • Describe management plan for dealing with trauma to pinna and traumatic rupture of tympanic membrane • Discuss the etiology, investigations, treatment and complications for Malignant otitis externa • Discuss the clinical presentations, examination findings, Investigations, and treatment (K) 	<ul style="list-style-type: none"> • Etiology, investigations, treatment and complications for- Acute otitis externa • Management of impacted wax and foreign body plans for benign tumors of external ear 	LGIS 50 mins + Demonstrations 90 mins	OSCE MCQs
3.	<ul style="list-style-type: none"> • Discuss the etiology, investigations, treatment, and complications for Myringitis bullosa, Perichondritis and Fungal infections • Discuss the clinical presentations, examination findings, investigations, and treatment plans for malignant tumors of external ear (K) 	<ul style="list-style-type: none"> • Etiology, investigations, treatment, and complications for Myringitis bullosa, Perichondritis and Fungal infections • Discuss the clinical presentations, examination findings, investigations, and treatment plans for malignant tumors of external ear 	LGIS 50 mins + Demonstrations 90 mins	OSCE MCQs
4.	MIDDLE EAR Discuss the etiology, pathophysiology, clinical presentations, examination findings, investigations and treatment plans for acute otitis media, Serous otitis media, and Chronic otitis media <ul style="list-style-type: none"> • Describe the diagnosis and management for complications of otitis media and mastoiditis (K) 	<ul style="list-style-type: none"> • Etiology, pathophysiology, clinical presentations, examination findings, investigations and treatment plans for acute otitis media, Serous otitis media, and Chronic otitis media • Diagnosis and management for complications of otitis media and mastoiditis 	LGIS 50 mins	MCQs

5.	<ul style="list-style-type: none"> Discuss the etiology, pathophysiology, clinical presentations, examination findings, investigations, and treatment plans for Acute necrotizing otitis media Discuss the clinical presentations, examination findings, investigations and treatment plans or benign and malignant tumors of middle ear (K) 	<ul style="list-style-type: none"> Etiology, pathophysiology, clinical presentations, examination findings, investigations, and treatment plans for Acute necrotizing otitis media Clinical presentations, examination findings, investigations and treatment plans or benign and malignant 	LGIS 50 mins	MCQs
6.	<ul style="list-style-type: none"> Define deafness List causes of deafness • Interpret investigation findings related to deafness (Audiogram, tympanogram) Diagnose deafness and mutism in a child Discuss the differential diagnosis, investigations, and treatment of Tinnitus & Acoustic Neuroma (K) 	<ul style="list-style-type: none"> Causes of deafness Investigation findings related to deafness (Audiogram, tympanogram) Deafness and mutism in a child Differential diagnosis, investigations, and treatment of Tinnitus & Acoustic Neuroma 	LGIS 50 mins	MCQs
7.	<ul style="list-style-type: none"> Discuss the clinical presentations and treatment options for vestibula neuritis, benign paroxysmal positional vertigo, Meniere's Disease, and migraine-associated vertigo (K) 	<ul style="list-style-type: none"> Clinical presentations and treatment options for vestibula neuritis, benign paroxysmal positional vertigo, Meniere's Disease, and migraine-associated vertigo 	LGIS 50 mins	MCQs

NOSE

Lectures

S No	Learning Objectives By the end of the session, students will be able to:	Content Areas	Learning Activity (Duration)	Assessment
1.	<p>EXTERNAL NOSE</p> <ul style="list-style-type: none"> Diagnose fractures of the external nose based on history, clinical findings, and investigation findings Discuss management plan for dealing with trauma to external nose <p>(K)</p>	<ul style="list-style-type: none"> Fractures of the external nose based on history, clinical findings, and investigation findings Management plan for dealing with trauma to external nose 	LGIS 50 mins	MCQs
2.	<ul style="list-style-type: none"> Diagnose congenital lesions of external nose (choanal atresia) based on clinical and investigation findings Based on data provided, discuss management plans for External nose deformities <p>(K)</p>	<ul style="list-style-type: none"> Congenital lesions of external nose (choanal atresia) based on clinical and investigation findings Management plans for External nose deformities 	LGIS 50 mins	MCQs
3.	<p>SEPTUM</p> <ul style="list-style-type: none"> Diagnose epistaxis, Deviated nasal septum, Hematoma, septal abscess, and perforation Discuss management plans for epistaxis, Deviated nasal septum, Hematoma, septal abscess, and perforation <p>(K)</p>	<ul style="list-style-type: none"> Epistaxis, Deviated nasal septum, Hematoma, septal abscess, and perforation Management plans for epistaxis, Deviated nasal septum, Hematoma, septal abscess, and perforation 	LGIS 50 mins	MCQs
4.	<p>RHINITIS</p> <ul style="list-style-type: none"> Describe the etiology, pathophysiology, clinical presentations, investigations and treatment plans for Allergic Rhinitis and rhinitis due to foreign bodies Describe the etiology, pathophysiology, clinical presentations investigations and treatment plans for common types of Atrophic Rhinitis, Hyper-Trophic Rhinitis and VMR <p>(K)</p>	<ul style="list-style-type: none"> Etiology, pathophysiology, clinical presentations, investigations and treatment plans for Allergic Rhinitis and rhinitis due to foreign bodies Etiology, pathophysiology, clinical presentations investigations and treatment plans for common types of Atrophic Rhinitis, 	LGIS 50 mins	MCQs

		Hyper-Trophic Rhinitis and VMR		
5.	<p>POLYPS</p> <ul style="list-style-type: none"> Define Polyps Diagnose Ethmoidal and Antro choanal Polypus Discuss management plans for Ethmoidal and Antro choanal Polypus (K) 	<ul style="list-style-type: none"> Polyps Ethmoidal and Antro choanal Polypus Management plans for Ethmoidal and Antro choanal Polypus 	<p>LGIS</p> <p>50 mins</p>	<p>MCQs</p>
6.	<ul style="list-style-type: none"> Diagnose Bleeding Polypus Discuss management plans for Bleeding Polypus (K) 	<ul style="list-style-type: none"> Bleeding Polypus Management plans for Bleeding Polypus 		
7.	<p>FOREIGN BODY IN NOSE</p> <ul style="list-style-type: none"> Diagnose foreign bodies in nose (i.e. Rhinoliths) based on examination& investigation findings Discuss management plans for Rhinolith (K) 	<ul style="list-style-type: none"> Foreign bodies in nose (i.e. Rhinoliths) based on examination& investigation findings Management plans for Rhinolith 	<p>LGIS</p> <p>50 mins</p>	<p>MCQs</p>
8.	<ul style="list-style-type: none"> Diagnose foreign bodies in nose (i.e., Maggots) based on examination & investigation findings Discuss management plans for Maggots (K) 	<ul style="list-style-type: none"> Foreign bodies in nose (i.e., Maggots) based on examination & investigation findings Management plans for Maggots 	<p>LGIS</p> <p>50 mins</p>	<p>MCQs</p>
9.	<p>SINUSITIS</p> <ul style="list-style-type: none"> Discuss the etiology, pathophysiology, clinical presentations, examination findings, investigations, differential diagnosis and treatment plans for: Acute Sinusitis and Chronic Sinusitis Based on data provided diagnose complications of the above-mentioned conditions Suggest treatment plan for these conditions diagnose CSF Rhinorrheas based on data provided (K) 	<ul style="list-style-type: none"> Etiology, pathophysiology, clinical presentations, examination findings, investigations, differential diagnosis and treatment plans for: Acute Sinusitis and Chronic Sinusitis Based on data provided diagnose complications of the above-mentioned conditions Suggest treatment plan for these conditions diagnose 	<p>LGIS</p> <p>50 mins</p>	<p>MCQs</p>

		CSF Rhinorrheas based on data provided		
9.	TUMOURS	<ul style="list-style-type: none"> Discuss the etiology, pathophysiology, clinical presentations, examination in findings, investigation, differential diagnosis and treatment plans for Basal & Squamous Cell Carcinoma, Papilloma & Osteoma (K) 	<ul style="list-style-type: none"> Etiology, pathophysiology, clinical presentations, examination in findings, investigation, differential diagnosis and treatment plans for Basal & Squamous Cell Carcinoma, Papilloma & Osteoma 	<p>LGIS 50mins</p> <p>MCQs</p>
10.	HEADACHE AND ITS ENT CAUSES	<ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis, and treatment plans for headaches with emphasis on ENT based (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis, and treatment plans for headaches with emphasis on ENT causes 	<p>LGIS 50 mins</p> <p>MCQs</p>

THROAT

Lectures

S No	Learning Objectives By the end of the session, students will be able to:	Content Areas	Learning Activity (Duration)	Assessment
1.	<ul style="list-style-type: none"> Discuss the differential diagnosis for neck mass based on data provided (symptoms, signs, investigations) Diagnose diseases of salivary gland (neoplastic, non-neoplastic and parotitis), thyroid gland and lymph nodes based on clinical presentations and investigation findings (K) 	<ul style="list-style-type: none"> Differential diagnosis for neck mass Diseases of salivary gland, thyroid gland and lymph nodes 	<p>LGIS 50 mins</p>	<p>MCQs</p>
2.	<ul style="list-style-type: none"> Diagnose Thyroglossal cyst/ sinus, Pre-auricular cyst/sinus, Branchial Cyst and Branchial Fistula (K) 	<ul style="list-style-type: none"> Thyroglossal cyst/ sinus, Pre-auricular cyst/sinus, Branchial Cyst and Branchial Fistula 	<p>LGIS 50 mins</p>	<p>MCQs</p>

3.	<ul style="list-style-type: none"> Justify selection of treatment options for the salivary gland conditions on the basis of data given Diagnose cleft palate and hare lip based on clinical presentation and investigation findings Describe the embryological defects and etiology for these conditions Describe treatment options for the above-mentioned conditions (K) 	<ul style="list-style-type: none"> Selection of treatment options, clinical presentation, investigation, etiology, embryological deficits for the salivary gland, cleft lip, hair lip. 	LGIS 50 mins	MCQs
4.	<p>BUCCAL CAVITY, ORAL CAVITY, OROPHARYNX</p> <p>ORAL CAVITY ULCERS</p> <ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis and treatment plans on the data given for oral cavity ulcers (Aphthous, Thrush &Leukoplakia) (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis and treatment plans for oral cavity ulcers (Aphthous, Thrush &Leukoplakia) 	LGIS 50 mins	MCQs
5.	<ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis and treatment plans on the basis of the data given for oral cavity ulcers (Traumatic, Vincent's Angina, A granulocytic Tuberculous, Bechet's Disease and Ulcerative lesions of Oral Cavity) (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis and treatment plans for oral cavity ulcers (Traumatic, Vincent's Angina, A granulocytic Tuberculous, Bechet's Disease and Ulcerative lesions of Oral Cavity) 	LGIS 50 mins	MCQs
6.	<ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis and treatment plans on the basis of data given for Oral Malignant Ulcers (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis and treatment plans for Oral Malignant Ulcers 		MCQs
7.	<p>OROPHARYNX</p> <ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis and treatment plans on the basis of data given for Tonsillitis, Peri-tonsillitis and abscess (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis and treatment plans for Tonsillitis, Peri-tonsillitis and abscess 	LGIS 50 mins	MCQs

8.	<ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis and treatment plans on the basis of data given for Tumors of tonsils, Sleep apnea syndrome and Ludwig's angina (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis and treatment plans for Tumors of tonsils, Sleep apnea syndrome and Ludwig's angina 	LGIS 50 mins	MCQs
9.	<ul style="list-style-type: none"> Justify diagnosis, investigations, differential diagnosis and treatment plans on the basis of data given for Pharyngeal & Retro-pharyngeal abscesses (K) 	<ul style="list-style-type: none"> Diagnosis, investigations, differential diagnosis and treatment plans for Pharyngeal & Retro-pharyngeal abscesses 	LGIS 50 mins	MCQs
10.	<p>OESOPHAGUS</p> <ul style="list-style-type: none"> Describe etiology, differential diagnosis and investigations for dysphagia (oral, pharyngeal and esophageal) Describe indications, contraindications and complication of esophagoscopy (K) 	<ul style="list-style-type: none"> Etiology, differential diagnosis and investigations for dysphagia (oral, pharyngeal and esophageal) Indications, contraindications and complication of esophagoscopy 	LGIS 50 mins	MCQs
11.	<ul style="list-style-type: none"> Classify Esophageal carcinoma Describe the pathophysiology of Esophageal carcinoma based on symptoms and signs and, investigation findings Develop treatment and follow plans for Esophageal carcinoma (K) 	<ul style="list-style-type: none"> Classification, investigation findings, Pathophysiology, treatment and follow plans for Esophageal carcinoma 	LGIS 50 mins	MCQs
12.	<ul style="list-style-type: none"> Describe etiology, pathophysiology, investigations and principles of treatment for Vocal Nodules and Vocal cord paralysis Diagnose laryngitis based on symptoms and signs and, investigation findings Develop treatment and follow plans for the above-mentioned conditions Describe the etiology and pathophysiology of supraglottitis, laryngitis Classify laryngeal tumors Diagnose Papilloma Larynx, laryngeal Polyps and Laryngeal Carcinoma based on symptoms and signs and, investigation findings Describe indications, contraindications, complications, operation steps and post (K) 	<ul style="list-style-type: none"> Vocal Nodules and Vocal cord paralysis Laryngitis, Supraglottitis, laryngeal tumors Papilloma Larynx, laryngeal Polyps and Laryngeal Carcinoma 	LGIS 50 mins	MCQs

13	<ul style="list-style-type: none"> Describe the etiology and pathophysiology of Diphtheria Diagnose Diphtheria based on symptoms and signs and, investigation findings Develop treatment and follow plans for the above-mentioned condition <p>(K)</p>	<ul style="list-style-type: none"> Diphtheria 	LGIS 50 mins	MCQs
14.	<ul style="list-style-type: none"> Describe etiology, pathophysiology, investigations and principles of treatment for Glottic stenosis/ Laryngocele, Laryngomalacia Describe etiology and pathophysiology for syphilis, leprosy and non-specific Laryngitis Diagnose syphilis, leprosy and non-specific laryngitis based on symptoms and signs and, investigation findings Develop treatment and follow plans for the above-mentioned conditions <p>(K)</p>	<ul style="list-style-type: none"> Glottic stenosis/ Laryngocele, Laryngomalacia Etiology and pathophysiology for syphilis, leprosy and non-specific Laryngitis Sy, leprosy and non-specific laryngitis 	LGIS 50 mins	MCQs

Week 4

End of Head & Neck and Special Senses Module III

Head & Neck Module and Special Senses 3 Test Theory

Head & Neck Module and Special Senses 3 Test OSCE

Medical Education

Lectures / Workshop

S.NO	Learning Objectives (domain) At the end of session, student will be able to:	Content Areas	Teaching Activity (Duration)	Assessment
1.	<ul style="list-style-type: none"> Discuss the journey From School into College (K) 	From School into College <ul style="list-style-type: none"> Plan of medical education in college Organization of undergraduate medical curriculum Modular Curriculum 	LGIS 50 mins	–
2.	<ul style="list-style-type: none"> Explain the Study Guide Session (K) 	Study Guide Session <ul style="list-style-type: none"> Introduction of study guides How to avail maximum benefit from study guides 	LGIS 50 mins	–
3.	<ul style="list-style-type: none"> Describe the methods of different study skills (K) 	Study Skills <ul style="list-style-type: none"> Difference in teaching and learning in school / college and a medical institution Learning knowledge Learning skills 	LGIS 50 mins	–
4.	<ul style="list-style-type: none"> Describe the basis of problem – based learning. (K) Follow the process / steps of problem – based learning session. (S) 	Problem – based Learning <ul style="list-style-type: none"> Basics of problem-based learning Process / steps of problem – based learning Practical demonstration of PBL session 	Workshop (2 hours)	–
5.	<ul style="list-style-type: none"> Describe the basics of medical professionalism and outline the behavioral descriptors of students. (K) 	Medical Professionalism <ul style="list-style-type: none"> History of medical professionalism Principals of medial professionalism Behaviors required from medical students 	LGIS 50 mins	–
6.	<ul style="list-style-type: none"> Discuss Medical and Islamic ethics 	Medical & Islamic Ethics-II <ul style="list-style-type: none"> History of Medical and Islamic ethics Principals of Medical & Islamic ethics 	LGIS 50 mins	–

Learning resource: How to succeed at medical school, Dason Evans & Jo Brown, 2009

TIME TABLES

REVISED April 1, 2022

Jinnah Medical & Dental College
MBBS 2 (Batch 24)
HEAD & NECK MODULE – WEEK 2

Venue: LH102

	8:30–9:20	9:25-10:15	10:45-11:35			
MON April	SINDH GOVERNMENT HOLIDAY					
TUES April 5	8:30-9:20 ANATOMY Face (Muscles, Arteries, Veins & Lymphatics; Platysma)	9:25-10:15 ANATOMY CN VII & Extra Cranial Course	10:30-11:45 ANATOMY DEMONSTRATION Temporal & Infratemporal Fossa, Mandibular Nerve DEF-LH102 ABC-Dissection Hall	12:00-1:30 BIOCHEMISTRY PRACTICAL BMI Calculation ABC-WET LAB D: SL-Airway & Choking E: AM-Anatomy Tutorial 1 F: SR303-Anatomy Tutorial 1	SELF STUDY	
WED April 6	ANATOMY TMJ & Mastication Muscles	ANATOMY Tongue & Salivary Gland Development	10:30-11:20 ANATOMY Face Development & Anomalies	11:30-12:30 JOURNAL CLUB	12:30-1:00 Fire Safety Major (R) Rehan Uddin	SELF STUDY
THURS April 7	8:30-10:00 ANATOMY DEMONSTRATION Oral Cavity, Tongue & Clinical Correlates ABC-LH102 DEF-Dissection Hall		10:15-11:05 ANATOMY Palate Development	11:10-12:00 ANATOMY Parotid Gland & Region	12:00-1:30 BIOCHEMISTRY PRACTICAL BMI Calculation DEF-WET LAB A: AM-Anatomy Tutorial 1 B: SR303-Anatomy Tutorial 1 C: SL-Airway & Choking	SELF STUDY
FRI April 8	8:30-10:00 ANATOMY DEMONSTRATION Hard & Soft Palate ABC-Dissection Hall D: AM-Anatomy Tutorial 1 E: SL-Airway & Choking F: SR303-Biochemistry Tutorial 1		10:15-11:05 BIOCHEMISTRY Nutritional Importance of Dietary Proteins	11:10-12:00 BEHAVIORAL SCIENCES Personality Development II	12:00-1:30 ANATOMY DEMONSTRATION Hard & Soft Palate DEF-Dissection Hall A: SL-Airway & Choking B: SR303-Biochemistry Tutorial 1 C: AM-Anatomy Tutorial 1	10:30-12:00

All the Lectures of Eye and ENT Modules are running parallel throughout the year.

