Competency-Based Dynamic Curriculum for MD/ MS Unani

(PRESCRIBED BY NCISM)

Semester II

Applied Basics of Amraze Uzn Anaf wa Halaq

(Diseases of Ear, Nose and Throat)

(SUBJECT CODE : UNI-AB-UAH)

(Applicable from 2024-25 batch, from the academic year 2024-25 onwards until further notification by NCISM)

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NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE

NEW DELHI-110026

Preface

This is a fact and can't be denied that for a country to reach the pinnacle of success, it is very important for the people to remain completely healthy. As far as our country is concerned are continuously performing positive work for keeping the human body healthy. Among these disciplines the contribution of Unani System of medicine are to be appreciated which has been providing services for the health of people for hundreds of years. Especially health of ENT is an important, like other healthy system of human body. The NCISM New Delhi is determined to produce skilled and high-level scholars of ENT, and Head & Neck subject not only at graduate level but also at Postgraduate standard. Hope this curriculum and syllabus which will produce competent post graduate scholars/Physicians / teachers/Specialist to globalize Unani System of medicine.

The study of Ear, Nose, Throat, Head and Neck as a cornerstone in the field of medical sciences, playing a critical role in the diagnosis and treatment of conditions related to the subject. As one of the most diverse medical specialities, ENT encompasses a broad spectrum of clinical challenges, from routine care to complex surgeries, making it an indispensable field in both general and specialised medical practice.

Competency Based Curriculum and syllabus is designed to guide and educate post graduate scholars through an in-depth exploration of the Udhn, Anf, wa Halaq (ENT), equipping them advance knowledge, clinical skills, and the research acumen necessary to excel in this dynamic and evolving field. The curriculum builds on the foundational knowledge acquired during undergraduate studies and delves deeper into specialised topics, focusing on both theoretical and practical aspects of otorhinolaryngology. The objectives of the syllabus are to foster a comprehensive understanding of advance ENT disorders, their aetiologies, pathophysiology, and management, also to enhance clinical diagnostic skills through exposure to diverse ENT pathologies, with an emphasis on evidence -based treatment and Para surgical interventions. This syllabus will develop proficiency in the use of specialised diagnostic tools and techniques, including audiological tests, endoscopy, and imaging technologies and to cultivate research capabilities, encouraging the exploration of emerging trend and innovations in otorhinolaryngology. The scholars will prepare for independent practice, ensuring they are equipped to handle complex cases and provide high patients care. While preparing this syllabus, special care has been taken to include all the important topics related to subject so that post graduate students can be given high level education so that they can remain updated like, disorder hearing, balance, and the auditory system, cochlear implants, hearing aids, and vestibular disorders. Focused on advance understanding of nasal and sinus diseases, endoscopic sinus surgery and management of allergic and non-allergic rhinitis, also emphasises voice and airway disorders, phono-surgery, and the management of laryngeal cancers. An effective and detailed knowledgeable related to head and neck surgery classical and advance as reconstructive procedure, along with the managements of benign and malignant tumours. Paediatric ENT specially considered, covering congenital anomalies, hearing impairments, and airway disorders in children. Postgraduate programme also emphasizes the development of research skills, encouraging scholars to engage in clinical research, contribute to academic discourse, and stay updated with the latest development in ENT practical training through clinical rotations, surgeries, and case studies from the core of the curriculum, allowing scholars to apply their knowledge in real-world setting under the guidance of experienced mentors. In addition to technical expertise, this syllabus aims to still professionalism, ethical practice, and a compassionate approach to the patient care. By the end of this program, postgraduate scholars will be fully equipped to pursue careers as specialists in otorhinolaryngology, advancing both their clinical practices and contributions to the field of medical science. This syllabus reflects the commitment of the academic and medical community to produce highly skilled, knowledgeable, and compassionate ENT specialists who can meet the demands of the health care sector while contributing to advancements in the field.

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Competency-Based Dynamic Curriculum for MD/ MS Unani
Applied Basics of Amraze Uzn Anaf wa Halaq (UNI-AB-UAH)

Summary & Credit Framework

Semester II

Module Number & Name	Credits	Notional Learning Hours	Maximum Marks of assessment of modules (Formative Assessment)
M 1. Ṭibb-i-Unani me Uzn, Anf-wa-Ḥalq ki Tārīkh aur Akhlāqiyāt -o- Uṣūl -i-Ẓawābiṭ (History of Otorhinolaryngology in Unani System of Medicine.Identify the Unani physician, surgical instruments, different surgeries and make a moral role to the patients, attendant and others. Ethics and moral values) طب یونانی میں امراض اذن،انف وحلق کی تاریخ۔اخلاقیات واصول ضوابط	2	60	50
M 2. Uzn ke Itlāqī Uṣūl (Applied basics of Ear) اذن کے اطلاقی اصول	2	60	50
M 3. Anf aur Jūyūb-al- Anf ke Itlāqī būnyādī Uṣūl (Applied basic principles of Nose and Para nasal Sinuses) انف اور جیوب الانف کے اطلاقی بنیادی اصول	2	60	50
M 4. Jauf-al- Fam ke Itlaqi Buṇyādī Uṣūl (Applied basics principle of Oral Cavity) جوف الفم کے اطلاقی بنیادی اصول	2	60	50
M 5. Bal'ūm aur Mari ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Throat and oesophagus) بلعوم ومری کے اطلاقی بنیادی اصول	2	60	50
M 6. Ḥanjra ke Iṭlaqi Buṇyādī Uṣūl (Applied basics principles of Larynx) حنجرہ کے اطلاقی بنیادی اصول	2	60	50
M 7. 'Aẓm al-Qiḥf ki Tashrīḥ-al-'Aṣabi ke Itlāqi Bunyādī Uṣūl (Applied basics principles of Skull and neuroanatomy) عظم القحف اور تشریح العصبی کے اطلاقی بنیادی اصول	2	60	50
M 8. 'Amal-i-takhdīr (Anaesthetia) عمل تخدیر	2	60	50
	16	480	400

Credit frame work

UNI-AB-UAH consists of 8 modules totaling 16 credits, which correspond to 480 Notional Learning Hours. Each credit comprises 30 hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Important Note: The User Manual MD/MS Unani is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding the curriculum, write to syllabus24uni@ncismindia.org.

Course Code and Name of Course

Course code	Name of Course
UNI-AB-UAH	Applied Basics of Amraze Uzn Anaf wa Halaq (Diseases of Ear, Nose and Throat)

Table 1 : Course learning outcomes and mapped Program learning outcomes

CO No	A1 Course learning Outcomes (CO) UNI-AB-UAH At the end of the course UNI-AB-UAH, the students should be able to	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Practice their specialty proficiently, ethically and adhering to legal guidelines prioritizing the needs of patients	PO1,PO2
CO2	Conduct clinical examinations, establish diagnoses, manage diseases related to Uzn, Anf-o-Ḥalq (Ear, Nose and throat), and Ras wa Raqba (Head & Neck) through both medical and surgical methods under suitable anaesthesia.	PO1,PO2
CO3	Attain comprehensive knowledge and skill of the subject with modern scientific, technological advancement and execute Pure Tone Audiometry, Tympanometry, Biopsy, FNAC, endoscopy and interpret the results of common diagnostic tests, including Pure Tone Audiometry, Tympanometry, BERA, ASSR, X-ray, CT scan, MRI, PET Scan, Biopsy, FNAC, endoscopy and cultures.	PO2,PO5
CO4	Manage medical emergencies associated with Uzn, Anf-o-Ḥalq (Ear, Nose, and Throat), Ras, and Raqba (Head and neck), and adopt a referral mechanism on a need basis.	PO1
CO5	Apply research concepts in clinical practice and projects; engage in interdisciplinary research within Unani medicine.	PO4,PO6,PO7
CO6	Perform as a health care leader and skilled communicator in National health initiatives and proactively engage in the prevention and rehabilitation of diseases related to Uzn, Anf-o-Ḥalq (Ear, Nose and Throat).	PO3
CO7	Exhibit proficiency as an experimenter, educator, instructor, and continuous learner in Unani medicine, capable of translating and interpreting classical Unani texts.	PO8

Table 2 : Course contents (Modules- Credits and Notional Learning Hours)

2A Module Number	2B Module & units	2C Number of Credits	Notional Learning Hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
1	**M-1 Ṭibb-i-Unani me Uzn, Anf-wa-Ḥalq ki Tārīkh aur Akhlāqiyāt -o- Uṣūl -i-Ẓawābiṭ (History of Otorhinolaryngology in Unani System of Medicine.Identify the Unani physician, surgical instruments, different surgeries and make a moral role to the patients, attendant and others. Ethics and moral values)** طب یونانی میں امراض اذن، انف وحلق کی تاریخ۔اخلاقیات واصول ضوابط This module will cover the contribution of all ancient Unani Physicians in the field of Uzn, Anf-wa-Ḥalq, surgical instruments used by ancient Unani Physicians in the field of Amrāḍ -i- uzn, Anf-wa-Ḥalq, surgeries of Ear performed by ancient Unani, Physicians, surgeries of Nose & throat performed by ancient Unani Physicians and ethical & moral Values of ENT. Students will also stand the autonomy of the patients, beneficence, non-maleficence and justice. • **M1.U1** Amrāḍ -i- Uzn, Anf-wa-Ḥalq me tamām qadīm Muʻālijīn ka tʻaūn (Contribution of all ancient Unani Physicians in the field of Uzn, Anf-wa-Ḥalq) امراض اذن، انف وحلق میں تمام قدیم معالجین کا تعاون 1. 1.1. Rāzī, Abū Bakr Mūḥammad Ibn Zakariyya 1.1.2. Majūsī, ʻAli ibn ʻAbbās 1.1.3. Ibn Sīnā 1.1.4. Abu'l Qāsim Zahrāwī 1.1.5. Ibn Zuhr 1.1.6. Ibn al-Quff	2	10	20	30	60

	1.1.7. Jurjani 1.1.8. Rabban Ṭabarī 1.1.9. Al-Qamarī Abū al-Manṣūr al-Ḥasan 1.1.10. Akbar Arzani • **M1.U2** Amrāḍ -i- Uzn, Anf-wa-Ḥalq me qadīm Unani Mu'ālijīn ke dhari'y iste'māl hone wale Jīrāḥi ke Ālāṭ ki tafṣīl (Description of surgical instruments used by ancient Unani Physicians in the field of Amrāḍ -i- Uzn, Anf-wa-Ḥalq) امراض اذن، انف وحلق میں قدیم یونانی معالجین کے ذریعہ استعمال ہونے والے جراحی کے آلات کی تفصیل 1.2.1. Ancient Unani surgical instruments. 1.2.2. Ancient Unani suturing materials • **M1.U3** Qadīm Unani Mu'ālijīn ke dhari'y ki Jāne wālī Uzn ke Jaraḥat ki tafṣīl (Description of surgeries of Ear performed by ancient Unani Physicians) قدیم یونانی معالجین کے ذریعہ کی جانے والی اذن کے جراحت کی تفصیل 1.3.1. Qaṭ'–al- Khashā (Mastoidectomy) 1.3.2. Qadhā-al-Uzn (Foreign body in Ear) 1.3.3. R'āb-al-Ṭablā (Tympanoplasty) • **M1.U4** Qadīm Unani Mu'ālijīn ke dhari'y ki Jāne wālī Anf wa Ḥalq ke Jaraḥat ki tafṣīl (Description of surgeries of Nose & throat performed by ancient Unani Physicians) قدیم یونانی معالجین کے ذریعہ کی جانے والی انف وحلق کے جراحت کی تفصیل 1.4.1. Iste'ṣāl taḥat-al mūkhaṭī (Submucosal resection) 1.4.2. Iste'ṣāl-al-salīlā-al-anf (Nasal Polypectomy)					

	1.4.3. Qadhā-al-anf (Foreign body in Nose) 1.4.4. Iste'ṣāl-al- Lawzatayn (Tonsillectomy) • **M1.U5** Amraze Uzn, Anf wa Halq me Tibbi akhlāqiyāt wa Uṣūl -i-Ẓawābiṭ (Medical ethics & moral values in Amraze Uzn, Anf wa Halq) امراض اذن، انف وحلق میں طبی اخلاقیات واصول ضوابط 1.5.1. Medical ethics and professional conduct in patient care 1.5.2. Counseling the pre and post- operative patients effectively 1.5.3. Etiquettes of Physical Examination of the patients.					
2	**M-2 Uzn ke Itlāqī Uṣūl (Applied basics of Ear) اذن کے اطلاقی اصول** In this module, the students will learn the anatomy of the external auditory canal, tympanic membrane, middle ear, vestibule, cochlea and semi-circular canal. In addition to this, they will also learn radiographic imaging of Schuller's view of ear. The students will learn Ilm-al Janīn wa Ilmul insija. The students will learn mechanism of hearing, auditory pathways, Sound Physics , mechanism of balancing, role of labyrinth in dizzy patients, Dixhallpike test, Epley manoeuvre. • **M2.U1** Uzn ki Itlāqī tashrīh (Applied anatomy of ear) اذن کی اطلاقی تشریح 2.1.1. External ear 2.1.2. Tympanic membrane 2.1.3. Middle ear 2.1.4. Eustachian tube 2.1.5. Labyrinth	2	10	20	30	60

	• **M2.U2** Uzn ke Ilm-al Janīn wa Ilmul insija (Embryology and Histology of Ear) اذن کے علم الجنین اور علم الانسجہ 2.2.1. External ear 2.2.2. Tympanic membrane 2.2.3. Middle ear 2.2.4. Eustachian tube 2.2.5. Labyrinth • **M2.U3** Uzn ka Shū'āiyya Mūṭā'lā (Radiographic study of Ear) اذن کا شعاعیہ مطالعہ 2.3.1. X-rays lateral views of skull 2.3.2. X-rays of mastoid 2.3.3. X-rays head 2.3.4. X rays Schuller's view • **M2.U4** Uzn ke Manāfi' al-A'dā', wa Ṣaut ki Ṭabī 'āṭ (Physiology of Ear and Physics of Sound) اذن کے منافع الاعضاء و صوتی طبیعیات 2.4.1. Mechanism of balancing 2.4.2. Auditory pathways 2.4.3. Sound physics 2.4.4. Mechanism of Hearing • **M2.U5** Tawāzun ke Manāfi' al-A'dā' aur Duwār Ke marīẓ per iska Itlāq (Physiology of equilibrium and its application to the dizzy patient.) توازن کے منافع الاعضاء اور دوار کے مریض پر اسکا اطلاق					

	2.5.1. Role of labyrinth in dizzy patients 2.5.2. Dixhallpike test 2.5.3. Epley manoeuvre 2.5.4. Benign Paroxysmal Positional Vertigo (BPPV)					
3	**M-3 Anf aur Jūyūb-al- Anf ke Itlāqī būnyādī Uṣūl (Applied basic principles of Nose and Para nasal Sinuses) الف اور جیوب الانف کے اطلاقی بنیادی اصول** In this module, the students will learn anatomy, surgical anatomy of nose and Para nasal sinuses, physiology of olfaction, embryology of the nose and paranasal sinuses, histology of the nasal mucous membrane, pressure changes in paranasal sinuses during flight and diving. • **M3.U1** Anf aur Jūyūb-al- anf ki Tashrīḥ (Anatomy of the Nose and Paranasal Sinuses) الف اور جیوب الانف کی تشریح 3.1.1. Anatomy of turbinates 3.1.2. Anatomy of nasal septum 3.1.3. Anatomy of the maxillary sinus 3.1.4. Anatomy of frontal sinus 3.1.5. Anatomy of sphenoidal sinus 3.1.6. Anatomy of ethmoidal sinus • **M3.U2** : Anf aur Jūyūb-al- Anf ka Ilm-al Janīn wa Ilmul insija (Embryology and Histology of nose and paranasal sinuses) الف اور جیوب الانف کا علم الجنین و علم الانسجہ 3.2.1. Histology of nasal mucous membrane 3.2.2. Histology of mucosa of paranasal sinuses	2	10	20	30	60

	3.2.3. Embryology of nose 3.2.4. Embryology of maxillary, frontal, sphenoidal and ethmoidal sinuses • **M3.U3** Shāmmā ke Manāfi‘ al-A‘dā’ (Physiology of olfaction) قوت شامہ کے منافع الاعضاء 3.3.1. Mechanism of the olfaction 3.3.2. Olfactory pathways 3.3.3. Anosmia 3.3.4. Parosmia 3.3.5. Cacosmia • **M3.U4** ‘Utās ke Manāfi‘ al-A‘dā’ (Physiology of sneezing) عطاس کے منافع الاعضاء 3.4.1. Mechanism of Sneezing 3.4.2. Evaluation of Sneezing • **M3.U5** Parwāz wa Ghoṭa Khori me anf wa Jūyūb-al- anf ki Pathophysiology (Pathophysiology of the nose and PNS in flight and diving) پرواز و غوطہ خوری میں انف و جیوب الانف کی پیتھوفزیالوجی 3.5.1. Pathophysiological changes of nose during pressure change 3.5.2. Neurological Consequences of Diving with Chronic Sinusitis					
4	**M-4 Jauf-al- Fam ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Oral Cavity) جوف الفم کے اطلاقی بنیادی اصول**	2	10	20	30	60

	The students will learn anatomy of oral cavity, tongue, salivary gland and mechanism of gustation. They will also learn the histology of the oral mucosa, development of the oral cavity, fascio maxillary structures in relation to trauma, Clinical Appearance to histological structure and age changes in the oral mucosa. • **M4.U1** Jauf-al- Fam wa Jabhi Fakkī ki Itlaqi tashrīḥ (Anatomy of mouth and facio maxillary structure) جوف الفم وجبہی فکی کی اطلاقی تشریح 4.1.1. Anatomy of oral cavity 4.1.2. Anatomy of facial bone (Maxilla, Zygomatic, Mandible and Nasal bone) • **M4.U2** Jauf-al- Fam ke Manāfi‘ al-A‘dā’ (Physiology of oral cavity) جوف الفم کے منافع الاعضاء 4.2.1. The process of mastication 4.2.2. Role of minerals namely calcium and phosphorus for normal growth and development 4.2.3.The importance of saliva in oral cavity • **M4.U3** Lisān ki itlāqi tashrīḥ wa Dhāeqe ka Mīkāniyyah (Applied anatomy of tongue and mechanism of taste) لسان کی اطلاقی تشریح اور ذائقے کا میکانیکیہ 4.3.1. Anatomy of tongue development 4.3.2. Parts of tongue and surfaces 4.3.3. Muscles of the tongue 4.3.4. Blood supply of tongue 4.3.5. Innervation of tongue					

	4.3.6. Lymphatic drainage of tongue 4.3.7. Applied aspects of tongue • **M4.U4** Ghudda Lu'ābiyya ki Tashrīḥ, aur Manāfi' al-A'dā' (Anatomy, Physiology of salivary glands) غدد لعابیہ کی تشریح، ومنافع الاعضاء 4.4.1. Anatomy of parotid gland 4.4.2. Anatomy of sublingual gland 4.4.3. Anatomy of submandibular gland 4.4.4. Facial nerve in relation to parotid gland 4.4.5. Embryology of salivary glands 4.4.6. Mechanism of salivary secretion • **M4.U5** Jauf-al- Fam ka Ilm-al Janīn wa Ilmul insija (Embryology and Histology of oral cavity) جوف الفم کا علم الجنین وعلم الانسجہ 4.5.1. Basic histological features of oral mucosa 4.5.2 . Development of oral cavity 4.5.3 . Clinical appearance of histological structure 4.5.4. Age related changes in oral mucosa					
5	**M-5 Bal'ūm aur Mari ke Itlaqi Buny̆ādī Uṣūl (Applied basics principle of Throat and oesophagus)** بلعوم ومری کے اطلاقی بنیادی اصول The students will learn the anatomy of the nasopharynx, oropharynx and laryngopharynx. They will also learn the role of the pharynx in development of the ear diseases, anatomy of the oesophagus. They will become familiar with mechanism of the deglutition, causes of dysphagia, odynophagia.	2	10	20	30	60

	• **M5.U1** Bal'ūm aur Marī ki Tashrīḥ (Anatomy of pharynx and oesophagus) بلعوم اور مری کی تشریح 5.1.1. Anatomy of nasopharynx, 5.1.2. Anatomy of oropharynx 5.1.3. Anatomy of laryngopharynx. 5.1.4. Anatomy of oesophagus • **M5.U2** Bal'ūm wa mari ke Manāfi' al-A'dā' aur naghnagha ka Mīkāniyyah (Physiology of oesophagus, throat and mechanism of deglutition) بلعوم و مری کے منافع الاعضاء اور نغنغہ کا میکانیکیہ 5.2.1. Role of pharynx in vocal resonance 5.2.2. Role of pharynx in respiration 5.2.3. Function of oesophagus 5.2.4. Sphincter mechanism of oesophagus 5.2.5. Mechanism of deglutition • **M5.U3** Bal'ūm wa Mari ke Ilmul janin wa Ilmul Insija (Embryology, histology of Throat and Oesophagus) بلعوم و مری کے علم الجنین و علم الانسجہ 5.3.1. Development of pharynx 5.3.2. Development of oesophagus 5.3.3. Histology of pharyngeal mucosa 5.3.4. Histology of oesophageal mucosa					

	• **M5.U4** Raqba ki fiḍā-al- Bal‘ūmi (Para pharyngeal spaces of the neck) رقبہ کی فضاءالبلعومی 5.4.1. Anatomical boundaries of Para pharyngeal spaces 5.4.2. Subdivision of Para pharyngeal spaces 5.4.3. Contents of Para pharyngeal spaces 5.4.4. Clinical significance of Para pharyngeal spaces • **M5.U5** Gūdda Daraqīyya ki Itlaqi tashrīḥ wa Manāfi‘ al-A‘ḍā’ (Applied anatomy and physiology of Thyroid gland) غدودرقیہ کی اطلاقی تشر یح اور منافع الاعضاء 5.5.1. Clinical anatomy of thyroid gland 5.5.2. Development of thyroid gland 5.5.3. Histology of thyroid gland 5.5.4. Function of thyroid gland 5.5.5. Evaluation of thyroid swelling					
6	**M-6 Ḥanjra ke Itlaqi Bunyādī Uṣūl (Applied basics principles of Larynx)** حنجرہ کے اطلاقی بنیادی اصول In this module, the student will learn anatomy of the larynx, histology, development of the larynx , tracheobronchial tree, anatomy of the mediastinum, lungs and pleura. • **M6.U1** Ḥanjra ki itlaqi tashrīḥ, (Applied Anatomy of larynx) حنجرہ کی اطلاقی تشریح 6.1.1. Cartilages of larynx 6.1.2. Vocal cords	2	10	20	30	60

	6.1.3. Laryngeal membrane 6.1.4. Muscles of larynx 6.1.5. Innervation of larynx 6.1.6. Subdivision of larynx • **M6.U2** Nūṭq ke Manāfi‘ al-A‘dā’ (Physiology of phonation) نطق کے منافع الاعضاء 6.2.1. Phonation theories 6.2.2. Mechanism of voice production 6.2.3. Properties of phonation 6.2.4. Changes in voice • **M6.U3** Tanaffus ke Manāfi‘ al-A‘dā’ (Physiology of respiration) تنفس کے منافع الاعضاء 6.3.1. Physiological anatomy of respiratory system 6.3.2. Mechanism of respiration 6.3.3. Pulmonary volume, capacity and function test 6.3.4.Transport of gases 6.3.5. Exchange of gases 6.3.6. Regulation of respiration • **M6.U4** Ḥanjra wa Shajarah Qasaba –al-Shu‘ab ke Ilmul janin wa Ilmul Insija (Histology and embryology of larynx and tracheobronchial tree) حنجرہ و شجرہ قصبہ الشعب کے علم الجنین و علم الانسجہ					

	6.4.1. Histology of larynx 6.4.2. Histology of tracheobronchial tree 6.4.3. Development of larynx 6.4.4. Development of tracheobronchial tree • **M6.U5** Ri'a, Dhāt al-Janb, aur Wasṭ-al-ṣadar ki Itlāqi Tashrīḥ wa Su'al ka Mīkāniyah (Applied anatomy of lungs, pleurae ,mediastinum and mechanism of cough) ریہ،ذات الجنب اور وسط الصدر کی اطلاقی تشریح اور سعال کا میکانیہ 6.5.1. Clinical anatomy of lungs and pleura 6.5.2. Anatomy of mediastinum 6.5.3. Mechanism of cough 6.5.4. Cough-inducing agents					
7	**M-7 'Aẓm al-Qiḥf ki Tashrīḥ-al-'Aṣabi ke Itlāqi Buṇyādī Uṣūl (Applied basics principles of Skull and neuroanatomy) عظم القحف اور تشریح العصبی کے اطلاقی بنیادی اصول** This module contains anatomy of the cranial bones, anatomy of the cerebral cortex, mid brain, pons, medulla and spinal cord. It also contains blood supply of the brain, description of the cranial nerves, their nucleus, courses and branches, Fascial spaces of head and neck and distribution of the lymph nodes in the area of the head and neck. • **M7.U1** 'Aẓm al-Qiḥf ki Itlaqi tashrīḥ (Applied anatomy of skull bone) عظم القحف کی اطلاقی تشریح 7.1.1. Norma Verticalis 7.1.2. Norma Occipitalis	2	10	20	30	60

	7.1.3. Norma lateralis 7.1.4. Norma frontalis 7.1.5. Norma basalis 7.1.6. Interior of skull • **M7.U2** Sarīrī Tashrīḥ-al-'Aṣabi (Clinical Neuroanatomy) سریری تشریح العصبی 7.2.1. Anatomy of cerebral cortex 7.2.2. Anatomy of mid brain 7.2.3. Anatomy of pons 7.2.4. Anatomy of medulla 7.2.5. Anatomy of cerebellum 7.2.6. Blood supply of brain 7.2.7. Circle of Willis 7.2.8. Ventricles of brain 7.2.9. Cerebrospinal fluid • **M7.U3** A'ṣāb Dimāghiyya ki Itlāqi Tashrīḥ (Applied anatomy of Cranial Nerves) اعصاب دماغیہ کی اطلاقی تشریح 7.3.1. Anatomy of cranial nerve 7.3.2. Development of cranial nerve 7.3.3. Function of cranial nerve					

	7.3.4. Clinical significance of cranial nerve • **M7.U4** : R'as aur Raqba ki Līfāfī Fīḍa (Fascial spaces of head and neck) راس اور رقبہ کی لیفافی فضاء 7.4.1. Primary fascial spaces 7.4.1. 1. Maxillary 7.4.1. 2. Mandibular 7.4.2. Secondary fascial spaces 7.4.2. 1. Pterygomandibular 7.4.2. 2. Retropharyngeal 7.4.2. 3. Lateral pharyngeal 7.4.2. 4. Prevertebral • **M7.U5** R'as aur Raqba ki 'Uqdah Limphāwiyyah (Lymph nodes of head and neck) راس اور رقبہ کی عقدہ لمفاویہ 7.5.1. Occipital lymph nodes 7.5.2. Mastoid lymph nodes 7.5.3. Preauricular and posterior auricular lymph nodes 7.5.4. Parotid lymph nodes 7.5.5. Submental lymph nodes 7.5.6. Submandibular lymph nodes 7.5.7. Anterior cervical					

	7.5.8. Superficial cervical 7.5.9. Posterior Cervical 7.5.10. Deep Cervical 7.5.11. Supra clavicular					
8	**M-8 'Amal-i-takhdīr (Anaesthetia) عمل تخدیر** This module contain description of various types of anaesthesia, administration of anaesthetic drugs, types of anaesthetic drugs, pre anaesthetic medication, pre-operative assessment, medical uses of anaesthesia, risk and complication of anaesthesia and post-operative procedure. • **M8.U1** Amrāz-i- Uzn Anf wa Halq me takhdīr –al-Khāfiḍ Lilḍaghṭ ka 'Amal (Hypotensive anaesthesia in ENT) امراض اذن، انف وحلق میں تخدیر الخا فض للضغط 8.1.1. Indication of hypotensive anaesthesia 8.1.2. Drugs for hypotensive anaesthesia 8.1.3. Monitoring 8.1.4. Post-operative complication • **M8.U2** Amrāz-i- Uzn Anf wa Halq me Insidād Aqālīm (Regional blocks in ENT) امراض اذن، انف وحلق میں انسداد اقالیم 8.2.1. "Regional Nerve Blocks" Technique 8.2.2. Auriculo temporal nerve block 8.2.3. Post auricular branch of greater auricular nerve block 8.2.4. Great occipital nerve block	2	10	20	30	60

	8.2.5. Lesser occipital nerve block • **M8.U3** Takhdīr ‘Umūmī (General Anaesthesia) تخدیرعمومی 8.3.1. Classification of General Anaesthesia 8.3.2. Pre- anaesthetic medication 8.3.3. Stages of general anaesthesia 8.3.4. Recovery from general anaesthesia 8.3.5. Drugs/ gases used for general anaesthesia • **M8.U4** ‘Amalīyya ̄qabl Jirāḥiyya (Preoperative procedure) عملیہ قبل الجراحیہ 8.4.1. Evaluation of medical records 8.4.2. Patients interviews 8.4.3. Physical examination 8.4.4. Pre-anaesthesia test • **M8.U5** : ‘Amalīyya ̄ba‘d Jirāḥiyya (Postoperative procedure) عملیہ بعد الجراحیہ 8.5.1. Homeostasis 8.5.2. Treatment of pain 8.5.3. Prevention & Early Detection of Complications 8.5.4. Acute pulmonary problems 8.5.5. Cardio-Vascular problems					

	8.5.6. Fluid derangements 8.5.7. Position of bed and mobilization 8.5.8. Monitoring					
		16	80	160	240	480

Table 3 : Modules - Unit - Module Learning Objectives and Session Learning Objective- Notional Learning Hours- Domain-Level- TL Methods

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 1 : Ṭibb-i-Unani me Uzn, Anf-wa-Ḥalq ki Tārīkh aur Akhlāqiyāt -o- Uṣūl -i-Ẓawābiṭ (History of Otorhinolaryngology in Unani System of Medicine.Identify the Unani physician, surgical instruments, different surgeries and make a moral role to the patients, attendant and others. Ethics and moral values) طب یونانی میں امراض اذن، انف و حلق کی تاریخ۔اخلاقیات واصول ضوابط						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the history of otorhinolaryngology in the Unani System of Medicine, ethics, and moral values. Demonstrate the Unani therapies, instruments, and surgical procedures. Identify the role of the Unani physician, recognize surgical instruments and different surgical procedures, and demonstrate ethical conduct towards patients, attendants, and others.						
Unit 1 Amrāḍ -i- Uzn, Anf-wa-Ḥalq me tamām qadīm Mu'ālijīn ka t'aūn (Contribution of all ancient Unani Physicians in the field of Uzn, Anf-wa-Ḥalq) امراض اذن، انف و حلق میں تمام قدیم معالجین کا تعاون 1. 1.1. Rāzī, Abū Bakr Mūḥammad Ibn Zakariyya 1.1.2. Majūsī, 'Ali ibn 'Abbās 1.1.3. Ibn Sīnā 1.1.4. Abu'l Qāsim Zahrāwī 1.1.5. Ibn Zuhr 1.1.6. Ibn al-Quff						

1.1.7. Jurjani

1.1.8. RabbanṬabarī

1.1.9. Al-Qamarī Abū al-Manṣūr al-Ḥasan

1.1.10. Akbar Arzani

References: 1,2,3,4,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the contribution of Rāzī, Abū Bakr Mūḥammad Ibn Zakariyya ; Majūsī, 'Ali ibn 'Abbās; IbnSīnā; Abu'l Qāsim Zahrāwī; Ibn Zuhr; Ibn al-Quff; Jurjani; RabbanṬabarī; Al-Qamarī, Abū al-Manṣūr al-Ḥasan, Akbar Arzani in Uzn, Anf wa Ḥalq	2	Lecture	CC	Knows-how	L&PPT
CO1	Demonstrate the historical development of Rāzī, Abū Bakr Mūḥammad Ibn Zakariyya; Majūsī, 'Ali ibn 'Abbās; IbnSīnā; Abu'l Qāsim Zahrāwī; Ibn Zuhr; Ibn al-Quff; Jurjani; RabbanṬabarī; Al-Qamarī, Abū al-Manṣūr al-Ḥasan, Akbar Arzani in Amraze Uzn, Anf-wa-Ḥalq	4	Practical1.1	PSY-GUD	Shows-how	D,DIS,PER
CO1	Identify the Unani therapies used by Unani physician Rāzī, Abū Bakr Mūḥammad Ibn Zakariyya; Majūsī, 'Ali ibn 'Abbās; Ibn Sīnā; Abu'l Qāsim Zahrāwī; IbnZuhr; Ibn al-Quff; Jurjani; RabbanṬabarī; Al-Qamarī, Abū al-Manṣūr al-Ḥasanin in Uzn, Anf wa Ḥalq	4	Experiential-Learning1.1	PSY-SET	Shows-how	CD,D,DIS,PER,W

Unit 2 Amrāḍ -i- Uzn, Anf-wa-Ḥalq me qadīm Unani Mu'ālijīn ke dhari'y iste'māl hone wale Jīrāḥi ke Ālāṭ ki tafṣīl (Description of surgical instruments used by ancient Unani Physicians in the field of Amrāḍ -i- Uzn, Anf-wa-Ḥalq) امراض اذن،انف وحلق میں قدیم یونانی معالجین کے ذریعہ استعمال ہونے والے جراحی کے آلات کی تفصیل

1.2.1. Ancient Unani surgical instruments.

1.2.2. Ancient Unani suturing materials

References: 1,2,3,4,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the types of different Unani surgical instruments in Amrāḍ -i-Uzn, Anf-wa-Ḥalq	2	Lecture	CC	Knows-how	L&PPT
CO1	Demonstrate the Unani surgical instruments used in Amrāḍ -i-Uzn, Anf-wa-Ḥalq	4	Practical1.2	PSY-GUD	Shows-how	D,D-M,DIS,PER

CO1	Identify the Unani surgical instruments used in Amrāḍ -i-Uzn, Anf-wa-Ḥalq	6	Experiential-Learning1.2	PSY-SET	Does	D,D-M,DIS,PER,PBL,SIM

Unit 3 Qadīm Unani Mu'ālijīn ke dhari'y ki Jāne wālī Uzn ke Jaraḥat ki tafṣīl (Description of surgeries of Ear performed by ancient Unani Physicians) قدیم یونانی معالجین کے ذریعہ کی جانے والی اذن کے جراحت کی تفصیل

1.3.1. Qaṭ'–al- Khashā (Mastoidectomy)

1.3.2. Qadhā-al-Uzn (Foreign body in Ear)

1.3.3. R'āb-al-Ṭablā (Tympanoplasty)

References: 1,2,3,4,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO1	Describe briefly the history of the surgical procedure used by ancient Unani Physicians related to ear diseases	2	Lecture	CC	Knows-how	L
CO1	Demonstrate the methods of surgeries in the ear used by ancient Unani physicians.	4	Practical1.3	PSY-GUD	Shows-how	D,D-M,DIS
CO1	Identify the types and methods of surgeries in the ear used by ancient Unani Physicians..	6	Experiential-Learning1.3	PSY-ADT	Shows-how	CBL,D,DIS

Unit 4 Qadīm Unani Mu'ālijīn ke dhari'y ki Jāne wālī Anf wa Ḥalq ke Jaraḥat ki tafṣīl (Description of surgeries of Nose & throat performed by ancient Unani Physicians) قدیم یونانی معالجین کے ذریعہ کی جانے والی انف و حلق کے جراحت کی تفصیل

1.4.1. Iste'ṣāl taḥat-al mūkhaṭī (Submucosal resection)

1.4.2. Iste'ṣāl-al-salīlā-al-anf (Nasal Polypectomy)

1.4.3. Qadhā-al-anf (Foreign body in Nose)

1.4.4. Iste'ṣāl-al- Lawzatayn (Tonsillectomy)

References: 1,2,3,4,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the types of surgeries in the nose and throat used by ancient Unani Physicians.	2	Lecture	CC	Know	L&PPT

CO1	Demonstrate the methods of surgeries in the nose and throat used by ancient Unani physicians.	4	Practical1.4	PSY-GUD	Shows-how	CBL,D,D-BED,D-M,DIS
CO1	Identify the types and methods of surgeries in the nose and throat used by ancient Unani Physicians..	4	Experiential-Learning1.4	PSY-SET	Does	CBL,D-BED,DIS,RLE

Unit 5 Amraze Uzn, Anf wa Halq me Tibbi akhlāqiyāt wa Uṣūl -i-Ẓawābiṭ (Medical ethics & moral values in Amraze Uzn, Anf wa Halq) امراض اذن، انف وحلق میں طبی اخلاقیات واصول ضوابط

1.5.1. Medical ethics and professional conduct in patient care

1.5.2. Counseling the pre and post- operative patients effectively

1.5.3. Etiquettes of Physical Examination of the patients.

References: 1,2,3,4,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the ethics & moral values of patients and his/ her relatives and the concerned hospital medical and paramedical staff.	2	Lecture	CC	Knows-how	L&PPT
CO1	Counsel the pre- and post-operative patients effectively and demonstrate Medical ethics & Moral values in Amraze Uzn, Anf wa Halq	4	Practical1.5	AFT-RES	Shows-how	CBL,D,DIS,PT,PrBL
CO1	Identify the etiquette of physical examination of the patients in Amraze Uzn, Anf wa Halq.	6	Experiential-Learning1.5	AFT-RES	Does	CBL,D,D-BED,RP,SIM,TBL

Practical Training Activity

Practical 1.1 : Contribution of ancient Unani Physicians

Total Learning Hours: 4 Hours

1. **Demonstration by the Teacher (1 Hour)**
   The teacher will briefly describe the role of ancient Unani physicians in the field of ENT.
2. **Group Discussion (45 Minutes)**
   Students will be divided into small groups. Each group will discuss the role of ancient Unani physicians in ENT.
3. **Group Presentations (2 Hours)**
   Each group will present their discussion findings on the contributions of ancient Unani physicians.
4. **Summary by the Teacher (15 Minutes)**
   The teacher will summarize the key concepts covered during the session.

Practical 1.2 : Ancient Unani surgical instruments

Total Learning Hours: 4 Hours

1. **Demonstration by the Teacher (1 Hour)**
   The teacher will demonstrate visual aids of ancient Unani surgical instruments such as scalpels, forceps, scissors, hooks, concealed knife, and catgut, using displays available in the museum. The demonstration will include detailed explanations of the structure and traditional uses of each instrument.
2. **Hands-On Activity (1 Hour 30 Minutes)**
   The demonstrated instruments will be distributed among students. Each student will be asked to observe, identify, and describe the uses of the instruments based on the earlier explanation.
3. **Group Presentations (1 Hour)**
   Students will form small groups and briefly present their observations, focusing on identification, historical context, and potential uses of the instruments.
4. **Post-Activity Discussion and Reflection (30 Minutes)**
   A guided class discussion will follow, focusing on:
   – The relevance of ancient Unani surgical instruments in modern surgeries.
   – The challenges students faced during the identification process.

Practical 1.3 : Ancient Unani Surgeries of ear

Total Learning Hours: 4 Hours

1. **Demonstration of Ear Surgeries (2 Hours)**
   The teacher will present recreated videos of ear surgeries. Each surgical procedure will be explained in detail, highlighting key steps, instruments used, and clinical indications.
2. **Group Observation and Note-taking (1 Hour)**
   Students will observe the surgeries, taking notes on the surgical procedures, techniques, and instruments used, guided by the teacher's instructions.
3. **Post-Activity Discussion and Summary (1 Hour)**
   The teacher will lead a session summarizing the key surgeries observed. The discussion will include procedural highlights, learning points, and student reflections.

Practical 1.4 : Ancient Unani Surgeries in the nose and throat

Total Learning Hours: 4 Hours

1. **Demonstration of Nose and Throat Surgeries (1 Hour 30 Minutes)**
   The teacher will show videos of nose and throat surgeries, elaborating on the surgical techniques, steps, and instruments used in each procedure.
2. **Group Participation in Surgeries (1 Hour 30 Minutes)**
   Students will be divided into small groups. After taking necessary aseptic precautions, each group will assist the surgeon in a minimum of three to five cases of nose and throat surgeries under supervision.

3. **Group Reflection and Discussion (30 Minutes)**
   Students will discuss their observations and experiences either from the video demonstration or from the live surgeries, comparing techniques and reflecting on the procedures.
4. **Summary and Teacher Feedback (30 Minutes)**
   The teacher will summarize the surgeries covered, answer any questions, and provide feedback on students' participation and learning during the session.

Practical 1.5 : Pre and post-operative procedure and Medical Ethics & Moral Values

Total Learning Hours: 4 Hours

1. **Introduction and Objective Overview (30 Minutes)**
   The teacher will introduce the session's objectives: understanding pre and post-operative procedures for ear, nose, and throat conditions, and the importance of medical ethics and moral values in patient care. The teacher will also provide an overview of the significance of these procedures and ethics in Amraze Uzn, Anf wa Ḥalq.
2. **Demonstration of Pre and Post-operative Procedures (2 Hours)**
   The teacher will demonstrate the pre-operative preparation, surgical steps, and post-operative care for patients with ear, nose, and throat conditions. This includes explaining patient management, safety protocols, and recovery procedures.
3. **Medical Ethics and Moral Values in ENT (1 Hours)**
   The teacher will discuss medical ethics, focusing on principles such as patient confidentiality, informed consent, and the role of moral values in the care of patients with ear, nose, and throat conditions.
4. **Reflection and Summary (30 Minutes)**
   Students will reflect on the demonstrated procedures and discuss the importance of medical ethics and moral values. The teacher will summarize the session's key points and provide feedback on students' reflections.

Experiential learning Activity

Experiential-Learning 1.1 : Unani therapies used in Uzn, anf wa Ḥalq

Total Learning Hours: 4 Hours

1. **Group Formation and Assignment (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned five Unani therapies related to the ear, nose, and throat as practiced by ancient Unani physicians.
2. **Research and Identification (1 Hour 15 Minutes)**
   Each group will identify and explore the assigned Unani therapies, focusing on their methods, principles, and relevance to ENT (Amraz-i-Uzn, Anf wa Ḥalq).
3. **Group Presentations (2 Hours)**
   Groups will present their findings, elaborating on the role of each therapy in managing diseases of the ear, nose, and throat.

4. **Teacher's Summary and Reflection (15 Minutes)**
   The teacher will conclude by summarizing the key therapies discussed and their significance in the Unani system of medicine, followed by a brief reflective discussion.

Experiential-Learning 1.2 : Surgical instruments in surgeries (‘amal jirāḥī) of Uzn, anf wa Ḥalq

Total Learning Hours: 6 Hours

1. **Group Formation and Instrument Assignment (30 Minutes)**
   Students will be divided into groups and assigned specific categories of Unani ENT surgical instruments related to ear, nose, or throat surgeries. Clear instructions on the objectives and expected outcomes will be provided to guide their work.
2. **Instrument Identification, Assembly, and Sterilization Techniques (2 Hours 30 Minutes)**
   Students will independently identify and assemble the assigned instruments. They will then observe a demonstration of sterilization techniques and practice these techniques on their own under the teacher's supervision, ensuring they understand the correct procedures.
3. **Simulated Setup of ENT Surgery Trays (1 Hour)**
   Students will independently perform a simulated setup of ENT surgical trays in their groups. The teacher will circulate to provide feedback, ensuring the correct sequencing, arrangement, and instrument readiness for surgery.
4. **Demonstration of ENT Surgical Techniques (1 Hour 30 Minutes)**
   Students will demonstrate various ENT surgical techniques with the help of the assigned instruments. They will showcase their understanding of the correct procedures, instrument use, and their application in real surgeries, under the teacher's guidance.
5. **Summary and Reflection (30 Minutes)**
   The teacher will summarize the session's key points. Students will reflect on their independent learning, ask questions, and share their experiences from the activities.

Experiential-Learning 1.3 : Surgeries of the ear performed by ancient Unani Physicians

Total Learning Hours: 6 Hours

1. **Introduction and Objective Overview (30 Minutes)**
   The teacher will introduce the session's objectives and provide a brief overview of the surgeries: tympanoplasty, foreign body removal, mastoidectomy, and methods used by ancient Unani physicians.
2. **Group Formation and Surgery Assignment (30 Minutes)**
   Students will be divided into small groups and assigned 2 to 5 ear surgeries to study, focusing on procedures, techniques, and instruments.
3. **Supervised Surgical Observation (3 Hours)**
   Under the supervision of an Otorhinolaryngologist, students will observe the surgeries, identify key steps and instruments, and connect modern techniques with ancient practices.
4. **Group Discussion and Reflection (1 Hour)**
   Students will discuss their observations with their group, comparing modern and ancient surgical methods, and reflect on the learning experience.

5. **Summary and Teacher Feedback (1 Hour)**
   The teacher will summarize the session and provide feedback on students' observations. Students will have the opportunity to ask questions and clarify concepts.

Experiential-Learning 1.4 : Surgeries of the Nose & throat performed by ancient Unani Physicians.

Total Learning Hours: 4 Hours

1. **Introduction and Objective Overview (15 Minutes)**
   The teacher will briefly introduce the session's learning objectives: students will learn to identify polypectomy, antroestomy, submucous resection, adenoidectomy, tonsillectomy, and the methods used by ancient Unani physicians. A brief explanation of each surgery will be provided.
2. **Group Formation and Surgery Assignment (15 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 3 types of nose and throat surgeries to study. They will focus on understanding the procedures, techniques, and instruments involved.
3. **Supervised Surgical Observation (2 Hours)**
   Under the supervision of an Otorhinolaryngologist, students will observe the assigned surgeries. They will identify key steps, instruments, and techniques used in modern surgery.
4. **Group Discussion and Reflection (1 Hour)**
   After observing the surgeries, students will discuss their observations in groups. They will compare modern surgical techniques with those used by ancient Unani physicians, reflecting on similarities and differences.
5. **Summary and Teacher Feedback (30 Minutes)**
   The teacher will summarize the key surgeries covered during the session and provide feedback on students' observations. Students will have the opportunity to ask questions and clarify doubts.

Experiential-Learning 1.5 : Etiquette of physical examination of the patients in Amraze Uzn, Anf wa Halq

Total Learning Hours: 6 Hours

1. **Group Formation and Assignment (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned two patients for counseling. Groups will be tasked with effectively communicating with the patients about pre- and post-operative care, including explaining the procedures, obtaining consent, and addressing any concerns.
2. **Counseling and Communication Practice (3 Hours)**
   Each group will practice counseling their assigned patients. They will explain the advantages, disadvantages, risks, and benefits of the procedure. Additionally, students will focus on obtaining informed consent appropriately, keeping accurate records, and identifying priorities in case of emergency.
3. **Role-play and Simulated Patient Interaction (1 Hour 30 Minutes)**
   In a simulated environment, students will role-play patient interactions, focusing on communication skills, ethical considerations, and maintaining professionalism during physical examinations and counseling. Students will practice a variety of scenarios and receive feedback on their performance.
4. **Group Discussion and Reflection (30 Minutes)**
   After the counseling session, students will gather in their groups to discuss their experiences. They will reflect on challenges faced, the effectiveness of communication strategies, and areas for improvement.

5. **Summary and Teacher Feedback (30 Minutes)**
   The teacher will summarize the key aspects covered during the session, provide feedback on students' counseling practices, and offer guidance on improving patient communication and physical examination etiquette.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. **A.** Practical structured Viva: Prepare 10 viva questions, including all the topics of module 1. **(20 Marks)** **B**. Demonstration on the use of ENT surgical instruments, hand hygiene, assembling the sterilized instruments tray for particular cases, and etiquette of physical examination of the patients. **(30 marks)** or Any practical in converted form can be taken for assessment. **(25 Marks)** and Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 2 : Uzn ke Itlāqī Uṣūl (Applied basics of Ear) اذن کے اطلاقی اصول						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the applied basics of the Ear. Demonstrate the change occurring in the middle ear, branchial arch, radiography, and sound physics. Identify the structures of the ear and the abnormality in radiographic changes.						
Unit 1 Uzn ki Itlāqī tashrīh (Applied anatomy of ear) اذن کی اطلاقی تشریح 2.1.1. External ear 2.1.2. Tympanic membrane 2.1.3. Middle ear 2.1.4. Eustachian tube 2.1.5. Labyrinth **References:** 1,2,3,4,5,6,7,8,9,10,11,13,14,15,16						
CO1,CO6	Describe the applied anatomy of the pinna, external auditory canal, tympanic membrane, middle ear, mastoid, Eustachian tube, Vestibule, Cochlea, semi-circular canal, auditory pathways, and auditory cortex.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO6	Demonstrate the changes that occur in the mucosa of the middle ear during an inflammatory condition.	4	Practical2.1	PSY-GUD	Shows-how	D,DL,SIM

CO1,CO6	Identify various structures of the external, middle, and internal ear.	6	Experiential-Learning2.1	PSY-SET	Shows-how	D,D-M,PBL,SIM

Unit 2 Uzn ke Ilm-al Janīn wa Ilmul insija (Embryology and Histology of Ear) **اذن کے علم الجنین اور علم الانسجہ**

2.2.1. External ear

2.2.2. Tympanic membrane

2.2.3. Middle ear

2.2.4. Eustachian tube

2.2.5. Labyrinth

References: 9,10,11,13,14,15,16,17,18,24,25,26,27,29,32,42

3A	3B	3C	3D	3E	3F	3G
CO1,CO6	Describe the development and genesis of the ear from the pharyngeal arch.	1	Lecture	CC	Know	L
CO1,CO6	Illustrate the histology of the external, middle, and internal ear, metaplastic changes, and their relation with diseases.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO2	Demonstrate the stages of development of the ear from the branchial arch to the otic placode and histology.	4	Practical2.2	PSY-GUD	Shows-how	CBL,D,DL,D-M,SIM
CO1,CO2	Identify the changes that occur in the embryology of the ear.	3	Experiential-Learning2.2	PSY-SET	Does	CBL,D-M,DIS,SIM
CO1,CO2	Identify the changes that occur in the histology of the ear.	3	Experiential-Learning2.3	PSY-ADT	Shows-how	DL,D-M,L_VC,SIM

Unit 3 Uzn ka Shū'āiyya Mūṭā'lā (Radiographic study of Ear) **اذن کا شعاعیہ مطالعہ**

2.3.1. X-rays lateral views of skull

2.3.2. X-rays of mastoid

2.3.3. X-rays head

2.3.4. X rays Schuller's view

References: 9,10,11,23,24,25,26,28,33

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe the radiography of the ear.	2	Lecture	CC	Knows-how	BL,L&PPT
CO1,CO2	Demonstrate the radiography of the ear.	4	Practical2.3	PSY-GUD	Shows-how	CBL,D-BED,D-M,X-Ray
CO1,CO2	Identify the normal and abnormal radiography of ear	6	Experiential-Learning2.4	PSY-SET	Does	CBL,D,D-M,PBL,SIM,X-Ray

Unit 4 Uzn ke Manāfi‘ al-A‘dā’, wa Saut ki Ṭabī ‘āṭ (Physiology of Ear and Physics of Sound) اذن کے منافع الاعضاء و صوتی طبیعیات

2.4.1. Mechanism of balancing

2.4.2. Auditory pathways

2.4.3. Sound physics

2.4.4. Mechanism of Hearing

References: 9,10,11,23,24,25,26

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe the Physiology of Ear	2	Lecture	CC	Knows-how	L&PPT
CO1,CO2	Demonstrate hearing in normal or abnormal conditions	4	Practical2.4	PSY-GUD	Shows-how	CD,CBL,D,D-M,SIM
CO1,CO2	Identify the physiology of the ear, the Principle of hearing, and Sound Physics	5	Experiential-Learning2.5	CC	Knows-how	D-BED,D-M,PER,PrBL,SIM

Unit 5 Tawāzun ke Manāfi‘ al-A‘dā’ aur Duwār Ke marīẓ per iska Itlāq (Physiology of equilibrium and its application to the dizzy patient.) توازن کے منافع الاعضاء اور دوار کے مریض پر اسکا اطلاق

2.5.1. Role of labyrinth in dizzy patients

2.5.2. Dixhallpike test

2.5.3. Epley manoeuvre

2.5.4. Benign Paroxysmal Positional Vertigo (BPPV)

References: 9,10,11,23,24,25,26,35

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe the physiology of equilibrium	2	Lecture	CC	Knows-how	L
CO1,CO2	Demonstrate the physiology of equilibrium and its application to the dizzy patient	4	Practical2.5	PSY-GUD	Shows-how	D,D-M,PT,PER,RP,SIM
CO1,CO2	Identify the case of dizzy patients	3	Experiential-Learning2.6	PSY-ADT	Does	CD,CBL,D,D-M,DIS,RLE,SIM

Practical Training Activity

Practical 2.1 : Abnormal condition of the ear

Total Learning Hours: 4 Hours

1. Demonstration by the Teacher (1 Hour 15 Minutes)
The teacher will begin with a demonstration showing histological slides of normal middle ear mucosa, acute otitis media, and chronic otitis media. Students will observe features such as ciliated columnar epithelium and goblet cells in normal mucosa, edema and neutrophil infiltration in acute inflammation, and fibrosis with squamous metaplasia in chronic inflammation. The teacher will guide students in identifying key structures and histological changes for each condition.

2. Group Discussion (1 Hour)
Students will be divided into small groups to discuss the histological differences between normal, acute, and chronic inflammation. They will also correlate these changes with clinical symptoms such as hearing loss, ear pain, and ear discharge, linking the histological findings to possible clinical diagnoses.

3. Group Presentations (1.5 Hours)
Each group will present their observations and interpretations. Presentations will include labeled slide features, identification of whether the inflammation is acute or chronic, and a discussion of the clinical relevance, such as potential complications (e.g., mastoiditis, chronic hearing loss).

4. Summary & Assessment (15 Minutes)
The teacher will conclude by summarizing the key histological changes observed in normal, acute, and chronic conditions. Students will be assessed through a Mini-CEX (Clinical Evaluation Exercise), focusing on slide interpretation, identification of histological features, and clinical correlation. Feedback will be provided to ensure understanding.

Practical 2.2 : Embryology and Histology of Ear

Total Learning Hours: 4 Hours

1. Demonstration by the Teacher (1 Hour 15 Minutes)
The teacher will demonstrate ear development from the branchial arch to the otic placode, covering key structures like the branchial arches, otic placode, and hillocks of His, along with related histological features.
Materials Needed: Embryo models, labeled diagrams or animations, histological slides (otic placode, otic vesicle, early membranous labyrinth).

2. Model/Drawing-Based Identification (1 Hour)
Students will observe embryo models and identify structures such as branchial arches, otic placode, and hillocks of His. They will draw and label these on worksheets for active reinforcement.

3. Slide Observation (1.5 Hours)
Students will examine histological or virtual slides of otic placode, otic pit, otic vesicle, and early membranous labyrinth, identifying and labeling key features and correlating them with the developmental timeline.

4. Summary & Assessment (15 Minutes)
The teacher will summarize the key stages of ear development and highlight associated congenital conditions such as microtia, preauricular sinus, congenital deafness, and first arch syndrome. Students will be assessed through a Mini-CEX, OSPE, and OSCE, focusing on identification and interpretation of developmental stages, histological features, and clinical relevance.

Practical 2.3 : Radiographic study of Ear

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1.5 Hours)
The teacher will begin with a demonstration using X-ray, CT, and MRI images of the ear to show normal anatomy and common pathologies such as temporal bone fractures, otitis media, cholesteatoma, and acoustic neuroma. Students will be guided in identifying key structures and understanding the strengths and limitations of each imaging modality. X-rays will be used to highlight bony anatomy; CT scans will demonstrate detailed views of the temporal bone and ossicles; and MRIs will showcase soft tissue structures like the cochlea and vestibular apparatus.

Group Discussion (1 Hour)
Students will be divided into small groups to discuss and compare the different imaging techniques. They will analyze which modality is best suited for specific clinical conditions and correlate imaging findings with symptoms such as hearing loss, vertigo, and facial nerve involvement.

Group Presentations (1 Hour)
Each group will present their findings using annotated images. Presentations will cover identification of the imaging modality, key anatomical and pathological features, and the clinical significance of the findings, including potential complications and diagnostic relevance.

Summary & Assessment (30 Minutes)
The teacher will conclude with a summary of the key points from each imaging modality, emphasizing their clinical applications and diagnostic value. Students will be assessed through a Mini-CEX (Clinical Evaluation Exercise), along with OSCE/OSPE stations focused on image interpretation, anatomical structure identification, and correlation with clinical scenarios. Constructive feedback will be provided to enhance understanding and clinical reasoning.

Practical 2.4 : Physiology of the ear, Principles of hearing, and Sound Physics

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1.5 Hours)
The teacher will begin with demonstrations illustrating how hearing works in normal and abnormal conditions. This will include tuning fork tests (Rinne and Weber), water-based sound transmission experiments, and the use of an oscilloscope or sound simulation software to visualize sound waves. Students will observe simulations of signal transduction and animations of the auditory pathway to better understand how sound is processed from the outer ear to the brain. A 3D model or virtual dissection of the ear will be used to highlight anatomical structures involved in hearing.

Group Discussion (1 Hour)
Students will discuss the mechanisms of normal hearing and the impact of various abnormalities such as conductive or sensorineural hearing loss. They will also review the results of group hearing self-tests and audiogram comparisons to identify patterns and causes of hearing loss. Key discussion points will include the role of different ear structures, auditory thresholds, and the significance of decibel levels in hearing damage.

Group Presentations (1 Hour)
Groups will present their findings using labeled diagrams, hearing test results, and analysis of sound wave simulations. Presentations will include distinctions between normal and abnormal hearing patterns, explanations of diagnostic tools like pure-tone audiometry, and the clinical implications of different types of hearing loss. Students may also demonstrate the correct use of ear protection devices and explain their importance in hearing conservation.

Summary & Assessment (30 Minutes)
The teacher will summarize the mechanisms of normal hearing, common auditory pathologies, and key diagnostic methods. Assessment will include a Mini-CEX (Clinical Evaluation Exercise) and OSCE/OSPE-style tasks focused on interpreting audiograms, identifying hearing loss types, and demonstrating correct procedures for tuning fork tests and audiometry. Feedback will be given to reinforce concepts and improve practical understanding.

Practical 2.5 : Physiology of equilibrium

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1.5 Hours)
The teacher will demonstrate the vestibular system using models or simulations, explaining its role in balance. Students will engage in balance exercises, such as standing on one leg with eyes open vs. closed, to highlight the role of vision and proprioception. The Vestibulo-ocular reflex (VOR) will be demonstrated using a head-impulse test, and post-rotational nystagmus will be observed with a swivel chair or rotating platform. The Dix-Hallpike Maneuver for BPPV diagnosis will also be demonstrated.

Group Discussion (1 Hour)
Students will discuss the integration of sensory inputs in balance and analyze tests like the Romberg and Unterberger/Fukuda Step Test. They will also explore vestibular disorders like BPPV, linking symptoms to diagnostic tests.

Group Presentations (1 Hour)
Groups will role-play history-taking for dizzy patients and demonstrate the Epley maneuver for BPPV treatment. Presentations will also include balance training exercises using foam pads or balance boards.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts of equilibrium and vestibular function. Students will be assessed with a Mini-CEX and OSCE/OSPE tasks, demonstrating balance tests, maneuvers, and interpreting clinical scenarios. Feedback will be provided to ensure understanding.

Experiential learning Activity

Experiential-Learning 2.1 : Anatomical structure of the ear

Total Learning Hours: 6 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned to explore the anatomy of the external, middle, and internal ear. Tasks include identifying key structures and explaining their anatomical and functional significance using models, diagrams, and virtual simulations.
2. **Group Activities and Discussion (2 Hours)**

   In this session, students will engage in both external and middle ear activities, as well as explore the internal ear structures. For the external and middle ear, students will manipulate 3D ear models, label physical and digital diagrams, and construct models of the outer and middle ear components using materials such as paper or clay. For the internal ear, students will explore a virtual 3D dissection of the cochlea and labyrinth, and create labeled diagrams or models of the cochlear structures, such as the scala vestibuli, scala media, and scala tympani. They will also view histology slides or virtual microscope demonstrations of the organ of Corti. Throughout the activities, groups will analyze the structural-functional relationships between the ear components and any relevant clinical correlations.

3. **Station-Based Integrated Assessment Activities (3 Hours)**

   Students will rotate through a series of interactive learning stations. At Station 1, they will label anatomical structures on a model of the ear. At Station 2, students will match each ear structure with its function, helping to reinforce their understanding of ear physiology. At Station 3, students will identify abnormalities using clinical images, such as a perforated tympanic membrane, to enhance their ability to recognize ear pathologies and apply theoretical knowledge in clinical scenarios.

4. **Summary and Assessment (30 Minutes)**
   Concepts related to the anatomy of the external, middle, and internal ear will be reviewed. Assessment will be conducted using Mini-CEX, OSCE, OSPE, DOAP, and DOPS, focusing on structure recognition, functional mapping, and identifying pathological changes.

Experiential-Learning 2.2 : Embryology of the Ear

Total Learning Hours: 3 Hours

1. **Group Formation and Task Allocation (15 Minutes)**
   Students will be divided into small groups. Each group will discuss 5 to 10 cases related to the embryology of the ear, including developmental stages and anomalies. They will interpret slides or pictures to understand the formation and differentiation of ear structures.
2. **Hands-On Activities (1.5 Hours)**

   In this session, students will engage in a variety of hands-on activities to explore the embryological development of the ear. For the clay model creation, students will construct a model showing the progression from the germ layers to the otic vesicle, visualizing key embryological steps. They will then use 3D animations to observe and understand the formation of the otic placode, otic pit, and otic vesicle, providing a dynamic view of these critical stages. In the development of ear components and anomalies, students will participate in a model-making activity where they will build a model illustrating the auricle's development from six hillocks, using color coding to indicate different stages. Additionally, students will engage in diagram tracing, labeling and coloring embryological structures at various stages of development over weeks. In case studies, students will match developmental errors to their corresponding anomalies, exploring conditions such as congenital deafness or other ear malformations.

3. **Integration & Simulation (1 Hour)**

   During the integration and simulation session, students will participate in an identification exercise, where they will identify structures in embryological diagrams, reinforcing their understanding of the ear's formation and potential defects. They will then interact with 3D models to observe the development of ear structures, allowing for an in-depth exploration of the anatomical changes. The session will conclude with a clinical correlation exercise, where students will answer short-answer questions related to the developmental errors, such as, "What defect causes congenital deafness?" and other relevant clinical scenarios.

4. **Summary and Assessment (15 Minutes)**
   Key concepts related to the embryological development of the ear will be summarized. Students will be assessed through Mini-CEX, OSCE, OSPE, and DOPS, focusing on their understanding of the developmental process and recognition of associated anomalies.

Experiential-Learning 2.3 : Histology of the Ear

Total Learning Hours: 3 Hours

1. **Group Formation and Task Allocation (15 Minutes)**
   Students will be divided into small groups to discuss 5 to 10 cases of ear histology, interpreting slides to understand ear structures and cellular features.
2. **Hands-On Activities (1.5 Hours)**

   Students will begin by examining histological slides of the external auditory canal, tympanic membrane, and Eustachian tube, followed by sketching and labeling key features to reinforce structural understanding. In the internal ear session, they will explore cochlear sections under the microscope, identifying the scala vestibuli, scala media, scala tympani, hair cells, and the basilar membrane. To enhance comprehension, students will build physical

models of the cochlea using colored materials and interact with 3D or augmented reality (AR) simulations to explore cochlear histology. For the vestibular system, students will review slides of the crista ampullaris and macula, deepening their understanding of balance-related structures.

Integration & Simulation (45 Minutes)

To consolidate learning, students will use 3D or AR tools to visualize the vestibular apparatus in action, linking its histological structure to its functional role in maintaining balance and spatial orientation.

3. **Summary and Assessment (30 Minutes)**
   Key histological features of the ear will be reviewed. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, focusing on histology identification and functional understanding.

Experiential-Learning 2.4 : Radiographic study of Ear

Total Learning Hours: 6 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 5 groups, each assigned 5 to 10 radiographic cases. They will identify and present the normal and abnormal radiography findings of the ear using X-rays, CT, and MRI scans.
2. **Radiographic Anatomy of the Normal Ear (2 Hours)**

   In this session, students will begin by identifying key landmarks in radiographic images, focusing on structures such as the mastoid air cells, ossicles, and cochlea. They will study various radiographic views like Schüller, Stenvers, and HRCT (high-resolution CT) of the temporal bone to enhance their understanding of ear anatomy in imaging. For experiential activities, students will use printed radiographs to identify the structures of interest. They will also explore 3D digital models to correlate cross-sectional anatomy with CT scans, providing a more immersive understanding of the ear's structures. Additionally, students will engage in drawing and labeling exercises, annotating key landmarks on the radiographs to reinforce their knowledge.

3. **Abnormal Radiology – Common Pathologies (2 Hours)**

   The session will then shift focus to the identification of abnormalities seen in radiology. Students will learn to recognize pathologies such as otitis media, mastoiditis, cholesteatoma, otosclerosis, glomus tumors, and temporal bone fractures in radiographs. They will study how these conditions appear on CT and MRI images. As part of experiential activities, students will participate in a pathology "image spotting" challenge, where they will label various abnormalities on clinical images. In addition, they will engage in peer-group interpretation of case-based image scenarios, facilitating collaborative learning and critical thinking. To reinforce the concepts, students will create a "normal vs. abnormal" comparison chart, helping to solidify their understanding of how to differentiate healthy and pathological radiographic findings.

4. **Clinical Integration (1 Hour)**

In the final segment of the session, students will engage in a clinical integration exercise. They will match radiological abnormalities with corresponding ENT symptoms, helping them understand the clinical relevance of radiographic findings and how these abnormalities manifest in patient cases.

5. **Summary and Assessment (30 Minutes)**
   Key concepts related to normal and abnormal radiography of the ear will be summarized. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS to evaluate their understanding and ability to interpret radiographs accurately.

Experiential-Learning 2.5 : Role of sound Physics in hearing

Total Learning Hours: 5 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into small groups, with each group assigned to research and present 2 to 5 cases related to the physiology of the ear, the principle of hearing, and sound physics. They will explore the roles of the external, middle, and inner ear in hearing and sound transmission.
2. **Group Discussion (2 Hours)**
   Within each group, students will discuss the anatomy and functions of the ear structures, focusing on sound wave transmission, auditory transduction, and neural signaling. They will use 3D models or AR apps to visualize these relationships and role-play the pathway of sound (from the pinna to the cortex).
3. **Hands-on Activities (2 Hours)**

   Students will participate in a variety of hands-on activities designed to explore the principles of sound and hearing. They will begin by performing tuning fork tests (Weber and Rinne) to investigate the differences between air and bone conduction. Students will then build a “Cochlea-in-a-Tube” model to demonstrate frequency-specific vibrations using rubber bands and water. This will help illustrate how the cochlea responds to different sound frequencies. Next, students will create resonance tubes to explore sound properties such as pitch and frequency, providing a tactile experience of acoustic principles. Additionally, students will use a sound spectrum analyzer app to record and analyze environmental sounds, offering them real-time data to better understand sound characteristics. Finally, they will watch a video walkthrough titled “Journey of a Sound Wave”, which will reinforce their theoretical knowledge by visually demonstrating the concepts they've learned.

4. **Summary and Assessment (30 Minutes)**
   The key concepts related to the physiology of the ear, principles of hearing, and sound physics will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, and DOPS, focusing on their ability to identify key ear structures, understand sound transmission, and apply the principles of hearing in clinical scenarios.

Experiential-Learning 2.6 : Physiology of equilibrium and its application to the dizzy patient

Total Learning Hours: 03 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 4 groups. Each group will be assigned a case related to dizziness and equilibrium. The groups will research and identify the causes and symptoms of dizziness, including central and peripheral vertigo. They will also study the vestibular anatomy and its role in detecting head motion.

2. **Foundations of Equilibrium Physiology (1 Hour)**
   Within each group, students will explore the physiology of the semicircular canals, utricle, and saccule. They will focus on understanding how these structures contribute to balance and how the vestibulo-ocular reflex (VOR) helps stabilize gaze during movement.
3. **Application – Understanding Dizziness and Vertigo (1 Hour)**
   Students will be instructed to differentiate between the central and peripheral causes of vertigo. They will explore common conditions such as BPPV, vestibular neuritis, and Ménière's disease. Students will practice diagnostic maneuvers such as the Dix-Hallpike maneuver and Epley's maneuver, and apply their knowledge to identify and analyze real cases of vestibular disorders.
4. **Assessment & Integration Lab (30 Minutes)**
   Students will undergo a clinical skills assessment, applying their knowledge in a simulated clinical environment. They will complete a set of stations that test their ability to identify vestibular anatomy, perform bedside tests, and diagnose dizziness in patients using case-based scenarios.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment.The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. A. Identification of the normal and abnormal radiography of Ear – 20 Marks B. Illustration of physiology of ear and sound physics (20 marks) C. Practical Record Book – 10 Marks **or** Any practical in converted form can be taken for assessment. **(25 Marks)** and Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 3 : Anf aur Jūyūb-al- Anf ke Itlāqī būnyādī Uṣūl (Applied basic principles of Nose and Para nasal Sinuses) انف اور جیوب الانف کے اطلاقی بنیادی اصول						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the Applied basic principles of the Nose and paranasal Sinuses. Conduct the demonstration of blood and nerve supply concerning epistaxis, histology of nose and paranasal sinuses, error of olfaction in nose like anosmia, paraosmia, cachosmia, nasal provocation test, and pressure change in nose and PNS in deep sea and high altitude. Identify the site of bleeding and first aid for epistaxis and imbalance of sympathetic and parasympathetic nerves, embryology of paranasal sinuses, abnormal olfaction, nasal allergy by applying the nasal provocation test, and pathological changes that occur during barotrauma.						
Unit 1 Anf aur Jūyūb-al- anf ki Tashrīḥ (Anatomy of the Nose and Paranasal Sinuses) انف اور جیوب الانف کی تشریح 3.1.1. Anatomy of turbinates 3.1.2. Anatomy of nasal septum 3.1.3. Anatomy of the maxillary sinus 3.1.4. Anatomy of frontal sinus 3.1.5. Anatomy of sphenoidal sinus 3.1.6. Anatomy of ethmoidal sinus **References:** 9,10,11,23,24,25,26						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**

CO2,CO3	Describe the anatomy and surgical anatomy of the external nose, nasal septum and lateral wall of the nose	2	Lecture	CC	Knows-how	L,L&PPT
CO2,CO3	Demonstrate the blood and nerve supply of epistaxis	4	Practical3.1	PSY-GUD	Shows-how	CBL,D-M,DIS,PrBL,SIM
CO2,CO3	Identify the site of bleeding and first aid of epistaxis and imbalance of sympathetic and parasympathetic nerves	6	Experiential-Learning3.1	PSY-ADT	Does	CBL,D,DIS,PBL,SIM

Unit 2 : Anf aur Jūyūb-al- Anf ka Ilm-al Janīn wa Ilmul insija (Embryology and Histology of nose and paranasal sinuses) انف اور جیوب الانف کا علم اجنین و علم الانسجہ

3.2.1. Histology of nasal mucous membrane

3.2.2. Histology of mucosa of paranasal sinuses

3.2.3. Embryology of nose

3.2.4. Embryology of maxillary, frontal, sphenoidal and ethmoidal sinuses

References: 9,10,11

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the embryology of nose, including face, nasal cavity, palate and nasal septum,	2	Lecture	CC	Knows-how	L&GD,L&PPT
CO1,CO2	Demonstrate the histology of nose and paranasal sinuses	4	Practical3.2	PSY-GUD	Shows-how	D,D-M,DIS,PBL,SIM
CO1,CO2	Identify the embryology of nose and paranasal sinuses including maxillary, ethmoid, sphenoid, and frontal	6	Experiential-Learning3.2	PSY-ADT	Does	CBL,D,DIS,PER,SIM

Unit 3 Shāmmā ke Manāfi‘ al-A‘dā’ (Physiology of olfaction) قوت شامہ کے منافع الاعضاء

3.3.1. Mechanism of the olfaction

3.3.2. Olfactory pathways

3.3.3. Anosmia

3.3.4. Parosmia

3.3.5. Cacosmia

References: 9,10,11

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the physiology of olfaction	2	Lecture	CC	Knows-how	JC,L&PPT ,SY
CO2,CO3	Discuss and demonstrate the error of olfaction in nose like anosmia, paraosmia, cachosmia	4	Practical3.3	PSY-GUD	Shows-how	CBL,D,DIS,PT,PER,PBL
CO2,CO3	Diagnose the abnormality of olfaction	6	Experiential-Learning3.3	PSY-ORG	Does	CBL,D,DIS,PER,PBL,SIM

Unit 4 'Utās ke Manāfi' al-A'dā' (Physiology of sneezing) عطاس کے منافع الاعضاء

3.4.1. Mechanism of Sneezing

3.4.2. Evaluation of Sneezing

References: 9,10,11,23,24,26

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the physiology of sneezing	2	Lecture	CC	Knows-how	DIS,L
CO2,CO3	Illustrate the Nasal provocation test	4	Practical3.4	CK	Shows-how	CD,D,D-M,DIS,PER
CO2,CO3	Identify the nasal allergy by applying nasal provocation test	5	Experiential-Learning3.4	PSY-SET	Does	CBL,D,DIS,PER,SIM,TBL

Unit 5 Parwāz wa Ghoṭa Khori me anf wa Jūyūb-al- anf ki Pathophysiology (Pathophysiology of the nose and PNS in flight and diving) پروازوغوطہ خوری میں انف وجیوب الانف کی پیتھوفزیالوجی

3.5.1. Pathophysiological changes of nose during pressure change

3.5.2. Neurological Consequences of Diving with Chronic Sinusitis

References: 9,10,11,23,24,25,26,33

3A	3B	3C	3D	3E	3F	3G

CO2,CO3	Describe the Pathophysiology of the nose and PNS in flight and diving	2	Lecture	CC	Knows-how	BS,JC,L,L&PPT
CO2,CO3	Demonstrate the pressure change in nose and PNS in deep sea and high altitude	4	Practical3.5	PSY-GUD	Shows-how	CBL,D,D-M,DIS,PER,PBL
CO2,CO3	Diagnose the pathological changes occurs during barotrauma	3	Experiential-Learning3.5	PSY-MEC	Does	CBL,D,D-M,DIS,PER,SIM,SY,TBL

Practical Training Activity

Practical 3.1 : Blood and nerve supply of epistaxis

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1.5 Hours)
The teacher will demonstrate the blood and nerve supply involved in epistaxis, focusing on key structures like the sphenopalatine artery, anterior ethmoidal artery, and Kiesselbach's plexus. The teacher will explain the role of these vessels and nerves in both anterior and posterior epistaxis, using anatomical models or cadaver specimens to highlight the relevant structures.

Hands-on Training and Interpretation (1 Hour)
Students will be divided into small groups and provided with 2-5 case scenarios related to epistaxis. Each group will identify the blood vessels and nerves involved, particularly the sphenopalatine and anterior ethmoidal arteries, and Kiesselbach's plexus, on cadaver specimens or anatomical models. Students will draw and label the blood supply and nerve pathways, then present their findings to their peers for discussion.

Group Discussion and Case Analysis (1 Hour)
Each group will discuss the real cases, determine which vessels or nerves are most likely involved in the epistaxis, and explore the clinical implications. They will share insights into how the anatomy of the blood and nerve supply relates to clinical management and treatment options for epistaxis.

Summary & Assessment (30 Minutes)
The teacher will summarize the key anatomical structures involved in epistaxis and their clinical relevance. Students will be assessed through a Mini-CEX and OSCE/OSPE tasks where they identify blood vessels, nerves, and provide clinical reasoning based on case scenarios. Feedback will be given to ensure understanding of the anatomy and its application in clinical practice.

Practical 3.2 : Nose and paranasal sinuses

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1.5 Hours)
The teacher will begin by demonstrating the histology of the nose and paranasal sinuses, showing histological slides of normal and pathological tissues. The demonstration will include identification of key histological layers, such as the ciliated epithelium, goblet cells, and the mucosal lining of the sinuses. The teacher will explain the differences between the normal histology and disease-related changes such as inflammation or sinusitis.

Hands-on Training and Interpretation (1 Hour)
Students will be divided into small groups and provided with 2-5 case scenarios related to the histology and embryology of the nose and paranasal sinuses. Each group will identify histological layers and cell types in both normal and diseased tissues. They will also focus on recognizing disease-related histological changes, such as edema or goblet cell hyperplasia.

Group Activity (1 Hour)
Groups will dissect cadaveric or synthetic models to trace embryological remnants, such as the nasolacrimal duct and ethmoid air cells, which are significant in the development of the nose and sinuses. Students will integrate their understanding of histology and embryology to improve clinical decision-making, particularly in the context of congenital abnormalities and sinus diseases.

Summary & Assessment (30 Minutes)
The teacher will summarize the key histological features of the nose and paranasal sinuses, emphasizing clinical relevance. Students will be assessed through a Mini-CEX and OSCE/OSPE-style tasks focused on histological identification, embryological remnants, and clinical correlation. Feedback will be provided to reinforce understanding and enhance clinical reasoning.

Practical 3.3 : Errors of olfaction

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hours)
The teacher will begin by discussing 3 to 4 clinical cases of olfactory disorders, including anosmia (loss of smell), paraosmia (distorted smell), and cacosmia (perception of foul odors). These cases will be from outpatient and inpatient departments (OPD/IPD). The teacher will explain the potential causes of these disorders, such as viral infections, neurological conditions, or head trauma, and how they impact the olfactory system. The teacher will also demonstrate the diagnostic approaches used to assess these conditions.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with 3 to 4 clinical cases related to olfactory errors. Each group will identify the appropriate clinical signs and symptoms for their assigned case, focusing on understanding the underlying mechanisms of anosmia, paraosmia, and cacosmia. Students will discuss their approaches to diagnosis, potential causes, and treatment strategies within their groups.

Group Presentations and Discussion (1 Hour)
Each group will present their clinical case to the class, detailing their diagnostic approach, findings, and the clinical significance of the olfactory disorder in their case. The teacher will facilitate a discussion on the accuracy of the identified clinical case and provide feedback on differential diagnoses and management strategies.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts about the pathophysiology, diagnosis, and treatment of olfactory disorders. Students will be assessed through a Mini-CEX and OSCE/OSPE tasks, focusing on their ability to diagnose olfactory disorders and correlate symptoms with clinical cases. Feedback will be provided to reinforce understanding and improve clinical reasoning.

Practical 3.4 : Nasal provocation test

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hours)
The teacher will begin by discussing 3 to 4 nasal provocation tests commonly used in OPD/IPD, such as the nasal allergen provocation test, nasal challenge test for hyperresponsiveness, histamine provocation, and nasal saline irrigation tests. The teacher will explain the purpose of these tests, which are used to diagnose allergic rhinitis, non-allergic rhinitis, and other nasal conditions. The teacher will demonstrate how these tests are performed, showing how nasal reactions are monitored for symptoms like congestion, itching, or rhinorrhea.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with 3 to 4 different nasal provocation tests to perform. They will learn how to administer these tests, record responses, and interpret the results. Each group will practice how to safely conduct nasal provocation tests and monitor for adverse reactions.

Group Presentations and Discussion (1 Hour)
Each group will present their findings from the nasal provocation tests, discussing the symptoms observed and their clinical implications. The teacher will facilitate a discussion on the clinical use of each provocation test, how to interpret results, and the conditions they are useful for diagnosing. Students will also discuss potential complications and contraindications of these tests.

Summary & Assessment (30 Minutes)
The teacher will summarize the key points about nasal provocation tests, emphasizing their role in diagnosing nasal conditions and allergic reactions. Students will be assessed through a Mini-CEX and OSCE/OSPE tasks, focusing on their ability to perform the tests, interpret results, and correlate findings with clinical conditions. Feedback will be provided to ensure understanding and reinforce key concepts.

Practical 3.5 : Pathophysiology of the nose and PNS in flight and diving

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hours)
The teacher will demonstrate 3 to 4 clinical cases of pressure changes in the nose and paranasal sinuses (PNS) during deep sea diving and at high altitudes. The teacher will explain the physiological changes, such as barotrauma (pressure-related injury), nasal congestion, and sinus pain, experienced during rapid changes in pressure. The teacher will also highlight clinical symptoms and conditions like sinus barotrauma, ear congestion, and the effects of altitude sickness on the nasal passages.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with 3 to 4 cases related to pressure changes in the nose and PNS. Each group will identify the clinical features, risks, and appropriate management strategies for the assigned conditions (e.g., sinus barotrauma, altitude-related nasal issues). Students will analyze case details, interpret findings, and discuss approaches for treatment or prevention.

Group Presentations and Discussion (1 Hour)
Each group will present their clinical case, including a discussion on the pressure changes involved, symptoms, and treatment options. They will explain how

these conditions relate to pressure changes in the environment, both at high altitudes and deep sea. The teacher will facilitate a discussion on recognizing appropriate clinical cases and provide feedback on diagnosis and management strategies.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts, including the physiological impact of pressure changes on the nose and PNS in different environmental conditions. Students will be assessed through a Mini-CEX and OSCE/OSPE tasks, focusing on their ability to identify symptoms, diagnose conditions, and propose management plans. Feedback will be provided to ensure understanding and reinforce the application of knowledge in clinical scenarios.

Experiential learning Activity

Experiential-Learning 3.1 : Normal and abnormal condition of nose and paranasal sinuses

Total Learning Hours: 6 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into multiple groups. Each group will be assigned specific tasks to identify different sites of nasal bleeding (epistaxis) and explore the imbalance between the sympathetic and parasympathetic nerves. They will research the causes, symptoms, and management of epistaxis, as well as the effects of autonomic imbalance.
2. **Group Discussion (2 Hours)**
   Within each group, students will classify epistaxis cases as mild, moderate, or severe and identify the affected sites, such as the anterior or posterior nasal cavity. They will also discuss the imbalance of sympathetic and parasympathetic nerve functions in relation to epistaxis. Emphasis will be placed on understanding the physiological mechanisms behind the bleeding and the autonomic imbalance.
3. **Presentations (2.5 Hours)**
   Each group will present their findings on the classification and treatment of epistaxis, including the identification of bleeding sites and appropriate first aid measures. They will also explain how autonomic imbalance can affect nasal bleeding. Presentations will be followed by a discussion with all students and faculty to clarify concepts and reinforce learning.
4. **Summary and Assessment (1 Hour)**
   The key concepts related to the classification, treatment, and autonomic imbalance of epistaxis will be summarized. Students will be assessed using various methods, including Mini-CEX (Mini Clinical Evaluation Exercise), where their clinical reasoning and ability to manage epistaxis will be evaluated. Additionally, an OSPE (Objective Structured Practical Examination) will assess their practical skills in identifying bleeding sites and performing first aid. DOPS (Direct Observation of Procedural Skills) will be used to observe their ability to execute procedures such as nasal packing. Finally, an OSCE (Objective Structured Clinical Examination) will evaluate their overall understanding, including the ability to diagnose, classify, and treat epistaxis in a simulated clinical environment. These assessments will ensure a comprehensive evaluation of both theoretical knowledge and practical skills.

Experiential-Learning 3.2 : Embryology and Histology of nose and paranasal sinuses

Total Learning Hours: 06 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into multiple groups. Each group will be assigned a specific embryological site (e.g., maxillary, ethmoid, sphenoid, and frontal sinuses). They will research the embryology, structures, and development of these sinuses as part of their assignment.

2. **Group Discussion (2.5 Hours)**
   Each group will discuss the assigned embryological structures, focusing on the development and anatomical features of the maxillary, ethmoid, sphenoid, and frontal sinuses. The group will explore how these sinuses form during embryonic development.
3. **Presentations (2 Hours)**
   Each group will present their findings, discussing the embryology, development, and any relevant clinical implications of their assigned sinuses. Presentations will be followed by an interactive discussion with all students and faculty to clarify doubts and reinforce the learning.
4. **Summary and Assessment (1 Hour)**
   The key concepts related to the embryology of the nose and paranasal sinuses will be summarized. Students will be assessed using Mini-CEX, OSPE, DOPS, and OSCE to evaluate their understanding and ability to identify and explain the embryological development of the maxillary, ethmoid, sphenoid, and frontal sinuses.

Experiential-Learning 3.3 : Physiology of Olfaction

Total Learning Hours: 06 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into multiple groups. Each group will be assigned to identify abnormalities related to olfaction (sense of smell). They will research various conditions like anosmia, hyposmia, hyperosmia, and parosmia, and determine the causes and implications of each.

2. Group Discussion (2 Hours)
Within each group, students will discuss the identified abnormalities, focusing on the underlying causes, clinical presentations, and diagnostic approaches. They will explore both normal and abnormal olfactory conditions, discussing factors such as injury, disease, or congenital defects that could affect olfactory function.

3. Presentations (3 Hours)
Each group will present their findings on the abnormalities of olfaction, explaining the potential causes and the clinical significance of each condition. The presentation will be followed by an interactive discussion with all students and faculty to clarify doubts, explore further questions, and reinforce key concepts.

4. Summary and Assessment (30 Minutes)
Key concepts related to the abnormalities of olfaction, including their causes, clinical implications, and diagnostic methods, will be summarized. Students will be assessed through Mini-CEX, OSPE, DOPS, and OSCE, focusing on their ability to diagnose olfactory abnormalities and understand their clinical relevance.

Experiential-Learning 3.4 : Nasal provocation test

Total Learning Hours: 05 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into multiple groups. Each group will be assigned to perform the nasal provocation test to assess nasal allergies and identify normal and abnormal olfaction responses.

2. Group Discussion (2 Hours)
Within each group, students will perform the nasal provocation test, focusing on identifying allergic reactions and determining how these may affect olfaction. They will discuss factors such as nasal congestion, histamine response, and inflammation caused by allergens that may influence the results of the test.

3. Presentations (2 Hours)
Each group will present their findings from the nasal provocation test, highlighting any abnormalities observed in olfaction. The group will discuss the significance of these findings, including the relationship between nasal allergies and olfactory function. The presentation will be followed by a Q&A session to encourage discussion and clarification of key concepts.

4. Summary and Assessment (30 Minutes)
Key concepts related to nasal allergies, nasal provocation tests, and their impact on olfaction will be summarized. Students will be assessed through Mini-CEX, OSPE, DOPS, and OSCE, focusing on their ability to perform the nasal provocation test, analyze the results, and understand the clinical implications of allergic reactions on olfactory health.

Experiential-Learning 3.5 : Pathophysiology of barotrauma

Total Learning Hours: 03 Hours

1. Group Formation and Task Allocation (15 Minutes)
Students will be divided into multiple groups. Each group will be assigned to explore and diagnose pathological changes that occur during barotrauma. The groups will use hyperbaric/hypobaric chambers or virtual reality simulations to simulate conditions like deep-sea diving or high-altitude exposure to observe pressure changes on the body.

2. Hands-On Activities (1 Hour 30 Minutes)

Students will engage in simulations using hyperbaric or hypobaric chambers, or virtual reality setups, to observe the effects of pressure changes on the body. These include tympanic membrane retraction or rupture in the middle ear, mucosal edema or hemorrhage in the sinuses, and pneumothorax risk in the lungs. Following this, students will examine cadaveric specimens to identify pathological changes such as tympanic membrane perforations, sinus mucosal tears, submucosal hemorrhages, and Eustachian tube dysfunction, linking clinical signs to anatomical findings.

3. Group Discussion (30 Minutes)
Each group will discuss the pathological changes they observed and relate these to the clinical manifestations of barotrauma. They will compare normal anatomy with barotrauma-affected anatomy and explore the effects of pressure changes on various body systems.

4. Presentations and Summary (30 Minutes)
Each group will present their findings, including the pathological changes observed in the simulations and cadaveric specimens. Following the presentations, all students and faculty will engage in a discussion to clarify concepts and reinforce learning. Key points related to the diagnosis and pathological changes of barotrauma will be summarized.

5. Assessment (15 minutes) Students will be assessed using Mini-CEX, OSPE, DOPS, and OSCE, focusing on their ability to diagnose pathological changes associated with barotrauma, perform relevant clinical tests, and understand the underlying mechanisms involved.	
Modular Assessment	
Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. A. Problem based assessment (20 Marks) Example: Provide a Scenerio on Pathophysiological changes in nose during pressure change, Neurological Consequences of Diving With Chronic Sinusitis, case of parosmia, anosmia, cacosmia B. Performance assessment (15 Marks) Provide students with one case from module 3 C. Illustration of the anatomy of the nose and paranasal sinuses (15 marks) **or** Any practical in converted form can be taken for assessment. **(25 Marks)** and Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 4 : Jauf-al- Fam ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Oral Cavity) جوف الفم کے اطلاقی بنیادی اصول						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the applied basic principle of the Oral Cavity. Discuss the abnormal mucous membrane of the oral cavity in conditions such as oral submucous fibrosis, leukoplakia, aphthous ulcers, and traumatic ulcers, and explain the role of the oral cavity in deglutition, mastication, speech, and digestion Identify the physiology of the oral cavity, recognize abnormal conditions of the tongue, and perform an assessment of the tongue.						
Unit 1 Jauf-al- Fam wa Jabhi Fakkī ki Itlaqi tashrīḥ (Anatomy of mouth and facio maxillary structure) جوف الفم وجبہی فکی کی اطلاقی تشریح 4.1.1. Anatomy of oral cavity 4.1.2. Anatomy of facial bone (Maxilla, Zygomatic, Mandible and Nasal bone) **References:** 9,10,11,23,24,25,26,31,39,42,43						
3A	3B	3C	3D	3E	3F	3G
CO3	Describe the Anatomy & surgical anatomy of mouth and facio maxillary structure	2	Lecture	CC	Knows-how	JC,L,L&PPT
CO3	Demonstrate the abnormal mucous membrane of oral cavity such as oral sub mucous fibrosis, Leukoplakia, Apthous and traumatic ulcers	4	Practical4.1	PSY-GUD	Shows-how	CD,CBL,D,D-BED,DIS,FV,PER
CO3	Identify the difference between various lesions of oral cavity and maxillofacial structures	6	Experiential-Learning4.1	PSY-MEC	Shows-how	D,DIS,PL,PER,PrBL,SIM
Unit 2 Jauf-al- Fam ke Manāfi‘ al-A‘dā’ (Physiology of oral cavity) جوف الفم کے منافع الاعضاء						

4.2.1. The process of mastication

4.2.2. Role of minerals namely calcium and phosphorus for normal growth and development

4.2.3.The importance of saliva in oral cavity

References: 9,10,11

3A	3B	3C	3D	3E	3F	3G
CO3	Describe the Physiology of oral cavity	2	Lecture	CC	Knows-how	BS,L,L&PPT
CO3	Demonstrate the role of the oral cavity in deglutition, mastication, speech, and digestion	4	Practical4.2	PSY-GUD	Shows-how	CD,CBL,D,D-BED,DIS,PER,TBL
CO3	Identify the oral involvement in deglutition and dysphagia; trismus; dysarthria; ptylism and xerostomia.	6	Experiential-Learning4.2	PSY-SET	Shows-how	CBL,D,DIS,PER,SIM,TBL

Unit 3 Lisān ki itlāqi tashrīḥ wa Dhāeqe ka Mīkāniyyah (Applied anatomy of tongue and mechanism of taste) لسان کی اطلاقی تشریح اور ذائقے کا میکانیکیہ

4.3.1. Anatomy of tongue development

4.3.2. Parts of tongue and surfaces

4.3.3. Muscles of the tongue

4.3.4. Blood supply of tongue

4.3.5. Innervation of tongue

4.3.6. Lymphatic drainage of tongue

4.3.7. Applied aspects of tongue

References: 9,10,11,23,24,25,26,31,39,42,43

3A	3B	3C	3D	3E	3F	3G
CO3	Describe the applied anatomy of tongue and mechanism of taste	2	Lecture	CC	Knows-how	L,L&PPT ,SY

CO3	Demonstrate the macroglossia, fissured tongue, paralysis of tongue, Ageusia	4	Practical4.3	CK	Shows-how	CD,CBL,D,D-BED,DIS,PER,TBL
CO3	Identify and assess the abnormal condition of the tongue.	6	Experiential-Learning4.3	PSY-SET	Does	CBL,D,DIS,PER,SIM,TBL

Unit 4 Ghudda Lu'ābiyya ki Tashrīḥ, aur Manāfi' al-A'dā' (Anatomy, Physiology of salivary glands) غدد لعابیہ کی تشریح، ومنافع الاعضاء

4.4.1. Anatomy of parotid gland

4.4.2. Anatomy of sublingual gland

4.4.3. Anatomy of submandibular gland

4.4.4. Facial nerve in relation to parotid gland

4.4.5. Embryology of salivary glands

4.4.6. Mechanism of salivary secretion

References: 9,10,11,23,24,25,26,31,39,42,43

3A	3B	3C	3D	3E	3F	3G
CO3	Describe the anatomy, surgical anatomy and Physiology of salivary glands	2	Lecture	CC	Knows-how	BS,L,L&PPT
CO3	Demonstrate the parotid gland, submandibular and sublingual salivary glands in living persons	4	Practical4.4	PSY-GUD	Shows-how	CD,CBL,D,D-BED,DIS,PER
CO3	Perform the examination of parotid, submandibular and sublingual salivary glands	5	Experiential-Learning4.4	PSY-SET	Does	CBL,D,DIS,PER,SIM,TBL

Unit 5 Jauf-al- Fam ka Ilm-al Janīn wa Ilmul insija (Embryology and Histology of oral cavity) جوف الفم کا علم اجنین وعلم الانسجہ

4.5.1. Basic histological features of oral mucosa

4.5.2 . Development of oral cavity

4.5.3 . Clinical appearance of histological structure

4.5.4. Age related changes in oral mucosa

References: 9,10,11,23,24,25,26,31,39,42,43

3A	3B	3C	3D	3E	3F	3G
CO3	Describe in details about the embryology and histology of oral cavity	2	Lecture	CC	Knows-how	JC,L,L&PPT
CO3	Demonstrate histological changes and developmental defects of the oral cavity	4	Practical4.5	CE	Shows-how	CD,CBL,D,D-BED,DIS,PER,TBL
CO3	Identify the cleft lip and palate; anodontia; hypodontia, Amelo genesis imperfect, Microdontia, Taurodontism, Dysontogenetic tumors	3	Experiential-Learning4.5	PSY-SET	Does	CBL,D,DIS,PER,PrBL,SIM

Practical Training Activity

Practical 4.1 : Mouth and facio maxillary structures

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical cases of abnormal oral mucosa, including oral submucous fibrosis, leukoplakia, aphthous ulcers, and traumatic ulcers. The teacher will explain the clinical features, causes, and management of each condition using visual aids, such as photos or videos.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with case scenarios. They will identify and analyze the clinical signs of the conditions, discuss potential diagnoses, and prepare differential diagnoses. The instructor will guide them through the process.

Group Presentations and Discussion (1 Hour)
Each group will present their case, identifying the condition, discussing its features, causes, and management strategies. The teacher will facilitate a discussion on diagnosis and treatment options for each condition.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts, emphasizing clinical presentation and treatment. Students will be assessed through a Mini-CEX or OSCE task, identifying conditions and proposing treatment plans. Feedback will be provided to reinforce understanding.

Practical 4.2 : Physiology of oral cavity

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical cases illustrating the role of the oral cavity in deglutition (swallowing), mastication (chewing), speech, and digestion.

The teacher will explain how the oral cavity facilitates these functions and demonstrate common disorders affecting each, such as dysphagia (swallowing difficulty), bruxism (teeth grinding), speech impediments, and issues with digestion due to oral health.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with clinical case scenarios related to the oral cavity's role in these functions. They will discuss how the oral cavity contributes to each process, identify the associated disorders, and explore diagnostic and management approaches.

Group Presentations and Discussion (1 Hour)
Each group will present their case, highlighting the clinical features, challenges in deglutition, mastication, speech, or digestion, and the role of the oral cavity. They will discuss their findings and interpret the case outcomes, with guidance from the teacher.

Summary & Assessment (30 Minutes)
The teacher will summarize the key concepts of the oral cavity's involvement in deglutition, mastication, speech, and digestion. Students will be assessed through a Mini-CEX or OSCE-style task focused on diagnosing and managing disorders related to these functions. Feedback will be provided to reinforce learning.

Practical 4.3 : Function and structure of tongue

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical cases illustrating macroglossia (enlarged tongue), fissured tongue (tongue with deep grooves), paralysis of the tongue, and ageusia (loss of taste). The teacher will explain the causes, clinical features, and diagnostic approaches for each condition, using visual aids like photographs or videos for clarity.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with clinical case scenarios for each of the four conditions. They will discuss the key features of each condition, including potential causes, diagnostic methods, and management strategies.

Group Presentations and Discussion (1 Hour)
Each group will present their findings on one of the conditions, explaining the clinical signs, possible causes, and treatment options. The teacher will guide a discussion on the differentiation between these conditions and provide feedback on diagnosis and management approaches.

Summary Assessment (30 Minutes)
The teacher will summarize the key points related to the conditions of the tongue, emphasizing clinical features and management. Students will be assessed through a Mini-CEX or OSCE-style task, focused on their ability to identify and manage the conditions discussed. Feedback will be provided to ensure comprehensive understanding

Practical 4.4 : Function of salivary glands

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical cases involving the parotid, submandibular, and sublingual salivary glands, discussing common conditions like sialadenitis, salivary gland tumors, and duct obstructions. The teacher will show how to palpate and identify these glands in living persons and explain diagnostic techniques such as sialography or ultrasound to assess their function and health.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with clinical scenarios involving salivary gland conditions. They will practice identifying and palpating the parotid, submandibular, and sublingual glands in themselves or a peer. The groups will discuss the symptoms, diagnosis, and treatment options for each condition.

Group Presentations and Discussion (1 Hour)
Each group will present their case findings, focusing on the clinical features and the appropriate management strategies for the salivary gland conditions. The teacher will facilitate a discussion on how to differentiate between various glandular conditions and guide students in the proper techniques for diagnosis and examination.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts related to the function, examination, and clinical conditions of the parotid, submandibular, and sublingual glands. Students will be assessed through a Mini-CEX or OSCE task, where they will demonstrate their ability to palpate and diagnose issues related to the salivary glands. Feedback will be provided to reinforce learning and understanding.

Practical 4.5 : Developmental defects of the oral cavity

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical cases showcasing histological changes and developmental defects in the oral cavity, such as enamel hypoplasia, cleft lip and palate, and changes in oral mucosa due to various diseases. The teacher will explain the normal histology of the oral cavity and the alterations seen in these conditions, using histological slides and visual aids for clarity.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with clinical case scenarios and histological slides of oral cavity defects. They will identify and discuss the histological changes, developmental defects, and associated conditions. The groups will analyze and interpret their findings, applying their knowledge of oral development and pathology.

Group Presentations and Discussion (1 Hour)
Each group will present their findings, focusing on the identified histological changes or developmental defects. They will explain the causes, clinical relevance, and possible treatment approaches for each condition. The teacher will guide a discussion on the differentiation of various conditions based on histological features.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts, focusing on the histological changes and developmental defects in the oral cavity. Students will be assessed through a

Mini-CEX or OSCE-style task, where they will identify and interpret histological slides and diagnose conditions. Feedback will be provided to ensure understanding and reinforce learning.

Experiential learning Activity

Experiential-Learning 4.1 : Normal and abnormal conditions of the oral cavity and maxillofacial structures.

Total Learning Hours: 06 Hours

1. Group Formation and Task Allocation (30 Minutes)

Students will be divided into multiple groups. Each group will be assigned to identify and elaborate on different lesions and abnormalities of the oral cavity and maxillofacial structures. They will research various types of lesions and their differences, focusing on clinical presentations, causes, and diagnostic methods.

2. Group Discussion (2 Hours)

During the group discussion, students will work together to analyze and identify lesions in the **oral cavity** and **maxillofacial region**, differentiating between normal and abnormal findings. They will explore the **clinical features**, potential causes, and treatment options for each lesion type. Additionally, students will discuss the **diagnostic approaches** and the relevant investigations necessary to assess these lesions thoroughly. The aim is to deepen their understanding of how to recognize and address oral and maxillofacial lesions effectively.

3. Presentations (2 Hours 30 Minutes)

Each group will then present their findings, elaborating on the differences between various lesions in the **oral cavity** and **maxillofacial region**. Their presentations will cover the **types of lesions**, distinguishing between benign vs. malignant and congenital vs. acquired lesions. They will also discuss the **clinical signs** and **symptoms**, along with the **diagnostic tools** used to identify these lesions. The presentation will further address **treatment and management strategies** for each lesion type. Afterward, there will be a group discussion with all students and faculty to enhance understanding and clarify any points of confusion.

4. Summary and Assessment (1 Hour)

Key concepts related to the lesions of the oral cavity and maxillofacial structures will be summarized. Students will be assessed using Mini-CEX, OSPE, DOPS, and OSCE, focusing on their ability to differentiate various lesions, understand their clinical significance, and apply appropriate diagnostic methods.

Experiential-Learning 4.2 : Function of oral cavity

Total Learning Hours: 06 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into multiple groups. Each group will be assigned to identify and elaborate on the structures involved in deglutition, as well as conditions

like dysphagia, trismus, dysarthria, ptyalism, and xerostomia. Each group will research the anatomical structures, physiological processes, and common abnormalities related to these conditions.

2. Group Discussion (2 Hours)

In the group discussion session, students will begin by identifying the normal and abnormal aspects of deglutition (swallowing) and the assigned conditions. They will explore the physiological mechanisms involved in swallowing and examine the impact of abnormalities such as dysphagia (difficulty swallowing), trismus (restricted jaw movement), dysarthria (difficulty in speech articulation), ptyalism (excessive salivation), and xerostomia (dry mouth). Students will also discuss the clinical features, causes, and potential treatments for each condition, aiming to gain a deeper understanding of these disorders and how they affect swallowing process.

3. Presentations (2 Hours 30 Minutes)

Following the group discussions, each group will present their findings, providing a detailed explanation of the anatomy and physiology of the structures involved in deglutition. The presentations will cover the pathophysiology and clinical features of conditions such as dysphagia, trismus, dysarthria, ptyalism, and xerostomia. Students will also discuss the diagnostic and therapeutic approaches for managing these conditions. After the presentations, a discussion with all students and faculty will follow, reinforcing learning and providing an opportunity to clarify any questions or doubts.

4. Summary and Assessment (1 Hour)
Key concepts related to deglutition and the various conditions (dysphagia, trismus, dysarthria, ptyalism, and xerostomia) will be summarized. Students will be assessed using Mini-CEX, OSPE, DOPS, and OSCE, focusing on their ability to identify the structures involved, understand the pathophysiology, and apply appropriate diagnostic and treatment strategies.

Experiential-Learning 4.3 : Abnormal condition of tongue

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into multiple groups. Each group will be assigned the task of exploring the anatomy of the tongue, the mechanism of taste, and the assessment of taste. The objective is to identify both normal and abnormal conditions of the tongue and its taste functions.

2. Research and Group Discussion (2 Hours)
Within their groups, students will analyze the anatomical structures of the tongue to determine whether they are normal or show signs of abnormalities. They will explore the mechanism of taste, including the structure and function of taste buds, associated neural pathways, and overall physiology. Methods of clinical taste assessment will also be reviewed. Each group will interpret their findings collaboratively in preparation for presentation.

3. Presentations (3 Hours)
Each group will present their findings, focusing on the anatomy of the tongue, the physiology of taste, methods used for taste assessment, and any abnormalities identified or discussed. Presentations will be followed by interactive discussions involving all students and faculty members to clarify concepts, encourage critical thinking, and consolidate learning.

4. Summary and Assessment (30 Minutes)
Key concepts related to the anatomy, taste mechanism, and clinical assessment of the tongue will be summarized. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, focusing on their ability to identify anatomical structures, understand taste physiology, and evaluate abnormal findings through appropriate assessment methods.

Experiential-Learning 4.4 : Salivary gland examination

Total Learning Hours: 5 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into multiple groups. Each group will be assigned the task of examining the parotid, submandibular, and sublingual salivary glands. The objective is to assess the anatomical structures, identify any abnormalities, and understand the physiological mechanism of salivary secretion.

2. Examination and Group Discussion (2 Hours)
Each group will perform a clinical examination of the parotid, submandibular, and sublingual glands, using inspection and palpation techniques. Students will determine whether the glands appear normal or show signs of swelling, tenderness, or other abnormalities. The mechanism of salivary secretion, including neural control and gland function, will also be explored. Groups will then discuss their findings collaboratively.

3. Presentations (2 Hours)
Each group will present their findings in front of the class. The presentation will include observations from the examination of the salivary glands, highlighting any anatomical variations or abnormal conditions encountered. Students will also explain the physiology of salivary secretion and how it relates to the clinical assessment. After each presentation, there will be an interactive discussion involving all students and faculty members to clarify doubts, enhance understanding, and integrate theoretical knowledge with practical observations.

4. Summary and Assessment (30 Minutes)
Key concepts related to the anatomy, physiology, and clinical examination of the parotid, submandibular, and sublingual salivary glands will be reviewed. Student understanding will be assessed using Mini-CEX, OSPE, OSCE, and DOPS to evaluate clinical skills, identification of anatomical features, and the ability to recognize abnormalities through direct examination.

Experiential-Learning 4.5 : Abnormalities of oral cavity.

Total Learning Hours: 3 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into multiple groups. Each group will be assigned specific conditions of the oral cavity, including Anodontia, Hypodontia, Amelogenesis imperfecta, Microdontia, Taurodontism, and Dysontogenetic tumours. The objective is to study these conditions in terms of their anatomical impact, clinical presentation, and abnormal features.

2. Research and Group Discussion (1 Hour 30 Minutes)
Within their groups, students will investigate the assigned conditions to determine if the related oral structures are normal or show abnormalities. This includes

examining developmental, structural, and pathological aspects of each condition. Discussions will focus on distinguishing features, possible etiologies, and implications on oral health. Each group will collaboratively interpret their findings and prepare for presentation.

3. Presentations (45 Minutes)
Each group will present their findings on the assigned conditions, focusing on their clinical characteristics, abnormal features, and relevance in dental and medical practice. Presentations will be followed by an interactive discussion involving all students and faculty to ensure clarity, deepen understanding, and connect clinical findings with theoretical knowledge.

4. Summary and Assessment (15 Minutes)
Key concepts related to congenital and developmental conditions of the oral cavity will be summarized. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, with a focus on their ability to recognize abnormalities, differentiate among conditions, and understand their clinical implications.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. 1. Problem-Based Assessment (15 Marks): Students will respond to a clinical or conceptual scenario related to topics such as calcium and phosphorus in normal growth and development, the abnormal process of mastication, the mechanism of deglutition, speech, or digestion. 2. Performance Assessment (20 Marks): Each student will be assigned one anatomical or physiological case from Module 4, and their performance will be evaluated based on their understanding and application of knowledge. 3. Descriptive or Applied Component (15 Marks): Students will describe any three sub-units from any unit of the Basic Principles of the Oral Cavity. or Any practical in converted form can be taken for assessment. **(25 Marks)** and Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 5 : Bal'ūm aur Mari ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Throat and oesophagus) بلعوم ومری کے اطلاقی بنیادی اصول						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the applied basic principle of the throat and oesophagus. Conduct surgical procedures involving the oesophagus and pharynx; explain the action of the oesophagus in deglutition, peristaltic movement, the function of the lower oesophageal sphincter, and the motor control of the oesophagus; and identify various parts of the parapharyngeal spaces of the neck in a patient undergoing neck surgery or on a cadaver. Identify the normal and abnormal radiographic features of the pharynx and oesophagus, and explain the role of the the pharynx in breathing, swallowing, and speech.						
Unit 1 Bal'ūm aur Marī ki Tashrīḥ (Anatomy of pharynx and oesophagus) بلعوم اور مری کی تشریح 5.1.1. Anatomy of nasopharynx, 5.1.2. Anatomy of oropharynx 5.1.3. Anatomy of laryngopharynx. 5.1.4. Anatomy of oesophagus **References:** 9,10,11,23,24,25,26						
3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Illustrate the Anatomy of pharynx and oesophagus	2	Lecture	CAP	Knows-how	L
CO2,CO3	Demonstrate the surgical anatomy of oesophagus and pharynx.	4	Practical5.1	PSY-GUD	Shows-how	CD,CBL,D-BED,D-M,DIS,PER

CO2,CO3	Identify the normal and abnormal structures of the pharynx and oesophagus. Explain the normal and abnormal radiographic structures of the pharynx and oesophagus.	6	Experiential-Learning5.1	PSY-ADT	Does	CBL,D,DIS,PER,PBL,SIM,TBL,X-Ray

Unit 2 Bal'ūm wa mari ke Manāfi' al-A'dā' aur naghnagha ka Mīkāniyyah (Physiology of oesophagus, throat and mechanism of deglutition) بلعوم ومری کے منافع الاعضاء اور نغنغہ کامیکانیکیہ

5.2.1. Role of pharynx in vocal resonance

5.2.2. Role of pharynx in respiration

5.2.3. Function of oesophagus

5.2.4. Sphincter mechanism of oesophagus

5.2.5. Mechanism of deglutition

References: 9,10,11,23,24,25,26,31,39,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the physiology of oesophagus and mechanism of deglutition	2	Lecture	CC	Knows-how	L,L&GD
CO2,CO3	Demonstrate the action of oesophagus, deglutition, Peristaltic movement, lower oesophageal sphincter and motor control of oesophagus	2	Practical5.2	CK	Shows-how	CBL,D,DIS,PER,TBL
CO2,CO3	Discuss and demonstrate the role of the pharynx in breathing, swallowing, and speech	2	Practical5.3	PSY-GUD	Shows-how	CBL,D,DIS,PER,TBL
CO2,CO3	Identify the case of dysphagia, odynophagia, achalasia, diffuse oesophageal spasm, Para pharyngeal, retropharyngeal spaces, explain its abnormality and treat the case according to need	6	Experiential-Learning5.2	PSY-ADT	Does	CBL,D,DIS,PER,PrBL,SIM,TBL

Unit 3 Bal'ūm wa Mari ke Ilmul janin wa Ilmul Insija (Embryology, histology of Throat and Oesophagus) بلعوم ومری کے علم اجنین وعلم الانسجہ

5.3.1. Development of pharynx

5.3.2. Development of oesophagus

5.3.3. Histology of pharyngeal mucosa

5.3.4. Histology of oesophageal mucosa

References: 9,10,11,23,24,25,26,31,39,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the embryology, histology of throat and Oesophagus	2	Lecture	CC	Knows-how	BS
CO2,CO3	Demonstrate the mucosa, sub mucosa, muscular coat and serous coat of the pharynx and oesophagus with the help of slides	4	Practical5.4	PSY-GUD	Shows-how	CBL,D,DIS,PER
CO2,CO3	Identify the normal and abnormal condition of pharynx and oesophagus on the basis of histology	6	Experiential-Learning5.3	PSY-ADT	Does	CBL,DIS,PER,SIM,TBL

Unit 4 Raqba ki fiḍā-al- Bal'ūmi (Para pharyngeal spaces of the neck) رقبہ کی فضاءالبلعومی

5.4.1. Anatomical boundaries of Para pharyngeal spaces

5.4.2. Subdivision of Para pharyngeal spaces

5.4.3. Contents of Para pharyngeal spaces

5.4.4. Clinical significance of Para pharyngeal spaces

References: 9,10,11

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the anatomy and relationship of various neck spaces, Para pharyngeal spaces of the neck	2	Lecture	CC	Knows-how	BS,L
CO2,CO3	Demonstrate the various parts of Para pharyngeal spaces of the neck of patient during surgery of neck or on cadaver.	4	Practical5.5	PSY-GUD	Shows-how	CBL,D,D-BED,DIS,PER,TBL
CO2,CO3	Identify the abnormality of Para pharyngeal spaces of the neck such as muscles, trigeminal Schwanomma, cystic hygroma, brachial cleft cyst	5	Experiential-Learning5.4	PSY-MEC	Does	CBL,D,DIS,PER,TBL

Unit 5 Gūdda Daraqīyya ki Itlaqi tashrīḥ wa Manāfi' al-A'dā' (Applied anatomy and physiology of Thyroid gland) غدودرقیہ کی اطلاقی تشریح اور منافع الاعضاء

5.5.1. Clinical anatomy of thyroid gland

5.5.2. Development of thyroid gland

5.5.3. Histology of thyroid gland

5.5.4. Function of thyroid gland

5.5.5. Evaluation of thyroid swelling

References: 9,10,11,23,24,25,26,31,39,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe applied anatomy and physiology of thyroid gland	2	Lecture	CC	Knows-how	BS,L,L&PPT
CO2,CO3	Demonstrate the sites and functions of parotid, submandibular and sublingual glands	4	Practical5.6	PSY-GUD	Shows-how	CD,D,DIS,PER,TBL
CO2,CO3	Identify the normal and abnormal functions of parotid, submandibular and sublingual glands in human being and explain its abnormality.	3	Experiential-Learning5.5	PSY-SET	Does	CBL,D,DIS,PER,SIM,TBL

Practical Training Activity

Practical 5.1 : Applied anatomy of oesophagus and pharynx.

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical and surgical cases involving the anatomy of the oesophagus and pharynx, highlighting key surgical landmarks, layers, and relations. Conditions such as esophageal carcinoma, pharyngeal pouch (Zenker's diverticulum), and tracheoesophageal fistula will be used to illustrate anatomical relevance in surgical practice. Dissection videos or models may be used to enhance understanding.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and given case scenarios or surgical simulations related to pharyngeal and esophageal anatomy. They will identify important anatomical structures, surgical planes, and potential complications. Guided identification on models or cadaveric specimens will support hands-on learning.

Group Presentations and Discussion (1 Hour)
Each group will present their case, focusing on the surgical anatomy involved, key findings, and the relevance of anatomical knowledge in surgical procedures. The teacher will lead a discussion comparing different cases and reinforcing critical anatomical considerations for safe and effective surgery.

Summary & Assessment (30 Minutes)
The teacher will summarize essential surgical anatomy of the oesophagus and pharynx, highlighting clinical correlations and surgical relevance. Students will be assessed through a Mini-CEX or OSCE-style task focused on identifying anatomical structures and explaining their surgical importance. Feedback will be given to reinforce concepts.

Practical 5.2 : Function of oesophagus

Total Learning Hours: 2 Hours

Demonstration by the Teacher (45 Minutes)
The teacher will demonstrate 3 to 4 clinical scenarios illustrating the functional anatomy and physiology of the oesophagus, focusing on deglutition (swallowing phases), peristaltic movements, the role and control of the lower oesophageal sphincter (LES), and the neural regulation of oesophageal motility. Real-life cases such as achalasia, GERD, and esophageal dysmotility will be used to explain abnormalities in motor control.

Hands-on Training (45 Minutes)
Students will be divided into small groups and provided with clinical case scenarios. Using videos, models, or motility test simulations (e.g., manometry), students will analyze the physiology of swallowing and esophageal movement, identify dysfunctions, and discuss related conditions.

Summary & Assessment (30 Minutes)
The teacher will summarize the key concepts regarding oesophageal function and control. Students will be assessed with a quick OSCE/Mini-CEX focused on identifying normal and abnormal movement patterns and correlating them with clinical cases. Feedback will be given to ensure clarity and understanding.

Practical 5.3 : Role of pharynx in breathing, swallowing and speech

Total Learning Hours: 2 Hours

Demonstration by the Teacher (45 Minutes)
The teacher will demonstrate 3 to 4 clinical cases showing the functional role of the pharynx in breathing, swallowing, and speech. Using clinical examples such as obstructive sleep apnea, dysphagia, and speech resonance disorders, the teacher will explain the anatomy, physiology, and dysfunctions of the pharynx in each activity.

Hands-on Training (45 Minutes)
Students will be divided into small groups and given relevant case scenarios. Each group will observe or practice identification of pharyngeal structures, assess function through clinical findings or models, and interpret case details. They will explore the interplay of the pharynx in respiration, deglutition, and vocalization.

Summary & Assessment (30 Minutes)
The teacher will summarize the essential roles of the pharynx and its clinical relevance. A brief Mini-CEX or OSCE-style task will assess students on functional identification and interpretation. Feedback will be provided to reinforce learning.

Practical 5.4 : Mucosal layers of pharynx and oesophagus

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hours)
The teacher will demonstrate 3 to 4 histological slides showing the layers of the pharynx and oesophagus—mucosa, submucosa, muscular coat, and serous/adventitial coat. Each layer's structure and function will be explained, highlighting differences between the pharynx and oesophagus and their clinical significance (e.g., in reflux or inflammation).

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with slide samples or digital histology images. Each group will examine and identify the layers, label the structures, and relate them to function and pathology. Guidance will be provided to reinforce correct identification and interpretation.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned slide or case, identifying the specific histological layers and explaining their significance. The discussion will include normal histology and changes seen in conditions like esophagitis or pharyngitis.

Summary & Assessment (30 Minutes)
The teacher will summarize the key histological features of the pharynx and oesophagus. Students will be assessed via a brief OSCE or Mini-CEX task focused on slide interpretation and structure identification. Feedback will be given to reinforce understanding.

Practical 5.5 : Para pharyngeal spaces of the neck

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 cases highlighting the anatomy of the parapharyngeal spaces during neck surgery or on a cadaver. Key areas covered will include the prestyloid and poststyloid compartments, their boundaries, contents (e.g., carotid sheath, cranial nerves), and clinical relevance in surgical access or tumor spread.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with cadaveric dissections, surgical images, or 3D models. Each group will identify anatomical landmarks and structures within the parapharyngeal space and discuss their relationships, access routes, and surgical considerations.

Group Presentations and Discussion (1 Hour)
Groups will present their assigned case or dissection findings, detailing the compartments of the parapharyngeal space, structures involved, and clinical or surgical implications. The teacher will facilitate a discussion to reinforce anatomical understanding and clinical application.

Summary & Assessment (30 Minutes)
The teacher will summarize key anatomical features and clinical relevance of the parapharyngeal spaces. Students will be assessed using an OSCE or Mini-CEX format focused on identifying structures and discussing surgical approaches. Feedback will be provided to reinforce learning.

Practical 5.6 : Functions of parotid, submandibular and sublingual glands

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical cases involving the parotid, submandibular, and sublingual glands, focusing on their anatomical sites, salivary functions, and common abnormalities. Conditions such as sialolithiasis, infections, and tumors will be discussed using models, clinical images, or patient cases to show both normal and abnormal presentations.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with relevant clinical scenarios. Each group will practice identifying gland locations through palpation or model-based learning, assess symptoms, and discuss functional impairments associated with various pathologies.

Group Presentations and Discussion (1 Hour)
Groups will present their assigned case, identifying the affected gland, its anatomical location, functional role, and related pathology. The teacher will guide a discussion to reinforce anatomical relationships and clinical applications.

Summary & Assessment (30 Minutes)
The teacher will summarize the anatomical positions, functions, and clinical relevance of the three major salivary glands. Students will be assessed through an OSCE or Mini-CEX focused on gland identification, function assessment, and clinical reasoning. Feedback will be provided to consolidate understanding.

Experiential learning Activity

Experiential-Learning 5.1 : Abnormal structures of pharynx and oesophagus.

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned the task of identifying the normal and abnormal anatomical structures of the pharynx and oesophagus. Groups will also analyze and explain radiographic features, both normal and abnormal, associated with these regions.

2. Research and Group Discussion (2 Hours)
Each group will examine the anatomical structures of the pharynx and oesophagus to determine whether they are normal or abnormal. In addition, students will explore and interpret radiographic images, identifying characteristic features and abnormalities. Discussions will include possible causes of abnormalities and implications for diagnosis and treatment. Findings will be analyzed collaboratively in preparation for presentation.

3. Presentations (3 Hours)
Each group will present their findings, covering the normal and abnormal anatomical features of the pharynx and oesophagus, along with radiographic interpretations. The presentations will include visual examples where available and will address the clinical significance of each abnormality. An interactive discussion will follow, involving all students and faculty, to enhance understanding and clarify complex concepts.

4. Summary and Assessment (30 Minutes)
Key concepts related to the anatomy and radiographic evaluation of the pharynx and oesophagus will be summarized. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, focusing on their ability to identify structures, interpret radiographic findings, and differentiate between normal and abnormal presentations.

Experiential-Learning 5.2 : Dysphagia, odynophagia, achalasia, diffuse oesophageal spasm, Para pharyngeal, retropharyngeal spaces

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned clinical topics including dysphagia, odynophagia, achalasia, diffuse oesophageal spasm, and abnormalities of the para-pharyngeal and retropharyngeal spaces. The objective is to identify associated normal and abnormal anatomical structures, understand the underlying pathologies, and propose appropriate treatment strategies based on case scenarios.

2. Research and Group Discussion (2 Hours)
Within their groups, students will investigate each assigned condition to determine whether the related structures are normal or abnormal. They will study the etiology, clinical presentation, radiological features, and pathological changes related to each condition. Students will also discuss evidence-based management and treatment options, tailored to the specific clinical features of each case.

3. Presentations (3 Hours)

Each group will present its findings, focusing on the identification of normal and abnormal anatomy related to the assigned conditions. They will explain the pathophysiological mechanisms involved and interpret relevant clinical and imaging findings. Additionally, groups will suggest treatment plans and interventions based on the needs of the case. After the presentations, there will be interactive discussions with all students and faculty. These discussions will encourage critical thinking, clarify concepts, and help integrate theory with clinical application, allowing for a deeper understanding of the material.

4. Summary and Assessment (30 Minutes)
Key concepts related to the diagnosis, anatomical interpretation, and management of dysphagia, odynophagia, achalasia, oesophageal spasms, and deep neck space abnormalities will be reviewed. Student understanding will be assessed through Mini-CEX, OSPE, OSCE, and DOPS, focusing on clinical reasoning, diagnostic skills, and the ability to develop appropriate treatment plans.

Experiential-Learning 5.3 : Normal and abnormal condition of pharynx and oesophagus

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned the task of identifying the normal and abnormal histological features of the pharynx and oesophagus. The objective is to understand the microscopic structure, recognize histopathological abnormalities, and relate them to clinical conditions.

2. Research and Group Discussion (2 Hours)
Within their groups, students will examine histological slides, images, or case studies related to the pharynx and oesophagus. They will determine whether the

tissue samples are normal or abnormal, describe the specific histological changes, and discuss the possible underlying conditions. Treatment approaches, where relevant, will also be considered. Findings will be discussed collaboratively in preparation for presentation.

3. Presentations (3 Hours)

Each group will present their analysis of the normal and abnormal histological features of the pharynx and oesophagus. The presentations will include the identification of key histological structures, a description of abnormal findings, and a discussion of clinical correlations and implications. If applicable, groups will also suggest treatment or management options. After the presentations, an interactive discussion will follow, allowing faculty and peers to explore the findings in greater depth and enhance understanding through shared insights.

4. Summary and Assessment (30 Minutes)
Key concepts related to the histology of the pharynx and oesophagus, including normal structure and common abnormalities, will be reviewed. Student understanding will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, focusing on their ability to recognize histological patterns, interpret abnormalities, and apply knowledge to clinical cases.

Experiential-Learning 5.4 : Abnormality of Para pharyngeal spaces

Total Learning Hours: 5 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned to study the normal and abnormal conditions of the parapharyngeal spaces of the neck, focusing on structures such as muscles, trigeminal schwannoma, cystic hygroma, and branchial cleft cyst. The objective is to identify abnormalities, understand their clinical presentation, and propose appropriate treatment strategies where necessary.

2. Research and Group Discussion (2 Hours)
Within their groups, students will analyze the anatomical structures of the parapharyngeal spaces and determine whether they are normal or abnormal. Special focus will be given to identifying the features and pathology of trigeminal schwannoma, cystic hygroma, and branchial cleft cysts. Students will also discuss the clinical implications, diagnostic approaches, and treatment plans relevant to each condition.

3. Presentations (2 Hours)

Each group will present its findings, focusing on the anatomical and pathological features of the parapharyngeal space conditions. The presentations will include the identification of normal anatomical structures, the recognition and description of abnormalities, and radiological or histological correlations, where applicable. Additionally, groups will propose management or treatment options based on the clinical context. Following each presentation, an interactive discussion with students and faculty will help reinforce learning and clarify key concepts.

4. Summary and Assessment (30 Minutes)
Key concepts related to para-pharyngeal anatomy and pathology, including abnormalities such as trigeminal schwannoma, cystic hygroma, and branchial cleft cyst, will be summarized. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, focusing on their ability to identify abnormalities, explain clinical significance, and suggest appropriate treatments.

Experiential-Learning 5.5 : Abnormalties of salivary glands.

Total Learning Hours: 3 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned the task of identifying the normal and abnormal functions of the parotid, submandibular, and sublingual glands in human beings. The objective is to understand their physiological roles, recognize functional disorders, and explain the clinical significance of observed abnormalities.

2. Research and Group Discussion (1 Hour 30 Minutes)
Within their groups, students will examine the functional aspects of the salivary glands, including secretion mechanisms, composition of saliva, and neural regulation. They will identify disorders such as xerostomia, sialadenitis, sialolithiasis, and tumors, and discuss how these affect normal gland function. Groups will collaboratively analyze their findings and prepare to present their interpretations.

3.Presentations (45 Minutes)

Each group will present their findings on the normal and abnormal functions of the parotid, submandibular, and sublingual glands. The presentations will include a description of normal gland functions, an explanation of functional abnormalities, and an exploration of associated clinical features and implications. Following the presentations, an interactive discussion with all students and faculty will take place to reinforce understanding and clarify key concepts.

4. Summary and Assessment (15 Minutes)
Key concepts related to the functions and dysfunctions of the major salivary glands will be reviewed. Students will be assessed using Mini-CEX, OSPE, OSCE, and DOPS, focusing on their ability to differentiate normal from abnormal function, and explain the clinical relevance of salivary gland disorders.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. A. SAQ: 5 questions (One question from each unit) - (25 marks). B. Performance assessment (25 Marks): Provide each student with one anatomical or physiological case from module 5. or Any practical in converted form can be taken for assessment. **(25 Marks)** and Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 6 : Ḥanjra ke Itlaqi Bunyādī Uṣūl (Applied basics principles of Larynx) حنجرہ کے اطلاقی بنیادی اصول						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the Applied basic principles of the Larynx. Demonstrate the different cartilages and muscles of the Larynx, the mechanism of voice production, the mechanism of respiration, etc. Identify any abnormality of the larynx and take the proper history of the laryngeal disorders, pulmonary volume, capacities, and function test, etc.						
Unit 1 Ḥanjra ki itlaqi tashrīḥ, (Applied Anatomy of larynx) حنجرہ کی اطلاقی تشریح 6.1.1. Cartilages of larynx 6.1.2. Vocal cords 6.1.3. Laryngeal membrane 6.1.4. Muscles of larynx 6.1.5. Innervation of larynx 6.1.6. Subdivision of larynx **References:** 1,2,3,4,5,6,7,8,9,10,11,21,22,23,24,25,26,31,39,42,43						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**
CO2,CO3	Illustrate the applied anatomy and surgical anatomy of larynx	2	Lecture	CC	Knows-how	L,L&GD

CO2,CO3	Demonstrate the different cartilages and muscles structures of the Larynx and their functions.	4	Practical6.1	PSY-GUD	Shows-how	CBL,D,D-BED,DIS,PER,TBL
CO2,CO3	Identify the normal and abnormal structures of the larynx and explain its abnormality	6	Experiential-Learning6.1	PSY-GUD	Does	CBL,D,D-M,DIS,PER,SIM,TBL

Unit 2 Nūṭq ke Manāfi‘ al-A‘dā’ (Physiology of phonation) نطق کے منافع الاعضاء

6.2.1. Phonation theories

6.2.2. Mechanism of voice production

6.2.3. Properties of phonation

6.2.4. Changes in voice

References: 9,10,11,21,22,23,24,25,26,31,39

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the physiology of phonation	2	Lecture	CC	Knows-how	L,L&GD
CO2,CO3	Discuss the mechanism of voice production	4	Practical6.2	PSY-GUD	Shows-how	CBL,D,DIS,PER,TBL
CO2,CO3	Identify and illustrate the normality and abnormality of voice	6	Experiential-Learning6.2	PSY-SET	Shows-how	CBL,D,D-M,DIS,PER,PBL,SIM,TBL

Unit 3 Tanaffus ke Manāfi‘ al-A‘dā’ (Physiology of respiration) تنفس کے منافع الاعضاء

6.3.1. Physiological anatomy of respiratory system

6.3.2. Mechanism of respiration

6.3.3. Pulmonary volume, capacity and function test

6.3.4.Transport of gases

6.3.5. Exchange of gases

6.3.6. Regulation of respiration

References: 9,10,11,21,22,23,24,25,26,31

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the physiology of respiration	2	Lecture	CC	Knows-how	BL,L
CO2,CO3	Demonstrate and discuss the mechanism of respiration	4	Practical6.3	PSY-GUD	Shows-how	CBL,D,D-M,DIS,PER,SIM,TBL
CO2,CO3	Identify the pulmonary volume, capacities and function test and identify any abnormality related to respiration.	6	Experiential-Learning6.3	PSY-SET	Does	CBL,D,D-M,DIS,PAL,PER,SIM,TBL

Unit 4 Hanjra wa Shajarah Qasaba –al-Shu'ab ke Ilmul janin wa Ilmul Insija (Histology and embryology of larynx and tracheobronchial tree) حنجرہ و تجرہ قصبہ الشعب کے علم الجنین و علم الانسجہ

6.4.1. Histology of larynx

6.4.2. Histology of tracheobronchial tree

6.4.3. Development of larynx

6.4.4. Development of tracheobronchial tree

References: 9,10

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the embryology of larynx	2	Lecture	CC	Knows-how	BS,L
CO2,CO3	Demonstrate the normal and abnormal histology of larynx and their functions.	4	Practical6.4	PSY-GUD	Shows-how	CBL,D,DL,D-M,DIS,PER,TBL
CO2,CO3	Identify the normality and abnormality of the tracheobronchial tree.	5	Experiential-Learning6.4	PSY-ADT	Does	CBL,D,D-M,DIS,PER,SIM,TBL

Unit 5 Ri'a, Dhāt al-Janb, aur Wasṭ-al-ṣadar ki Itlāqi Tashrīḥ wa Su'al ka Mīkāniyah (Applied anatomy of lungs, pleurae ,mediastinum and mechanism of cough) ریہ، ذات الجنب اور وسط الصدر کی اطلاقی تشریح اور سعال کا میکانیہ

6.5.1. Clinical anatomy of lungs and pleura

6.5.2. Anatomy of mediastinum

6.5.3. Mechanism of cough

6.5.4. Cough-inducing agents

References: 9,10,11,21,22,23,24,25,26

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe Applied and surgical anatomy of lungs	2	Lecture	CC	Knows-how	BS,L,L&GD
CO2,CO3	Demonstrate the mechanism of cough and its functions	4	Practical6.5	PSY-GUD	Shows-how	CBL,D-BED,D-M,DIS,PER,TBL
CO2,CO3	Identify the normal and abnormal strutures of pleurae and mediastinum and elaborates in details.	3	Experiential-Learning6.5	PSY-ADT	Does	CBL,D,DIS,PER,SIM,TPW

Practical Training Activity

Practical 6.1 : Cartilages and muscles of the larynx

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 3 to 4 clinical or anatomical cases to explain the major cartilages (thyroid, cricoid, arytenoid, epiglottis) and intrinsic/extrinsic muscles of the larynx. Emphasis will be placed on their roles in phonation, respiration, and airway protection. Anatomical models, cadaveric specimens, or laryngoscopy videos may be used to aid understanding.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with models, diagrams, or clinical cases. They will identify different laryngeal cartilages and muscles, understand their attachments and innervations, and correlate them with functions such as voice production and airway control.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned case or structure, explaining its anatomy, function, and clinical importance (e.g., vocal cord paralysis, cricothyrotomy). A discussion will follow to reinforce anatomical and functional concepts.

Summary & Assessment (30 Minutes)
The teacher will summarize the structural and functional anatomy of the larynx. Students will be assessed via a brief OSCE or Mini-CEX focused on identifying structures and explaining their roles in laryngeal function. Feedback will be given to support learning.

Practical 6.2 : Voice production

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2 to 3 cases related to the mechanism of voice production, using models, video animations, and real clinical examples. The demonstration will cover the role of the larynx, vocal folds, respiratory support, and resonating chambers. Key components like vocal fold vibration, subglottic pressure, and neuromuscular control will be explained.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with practical scenarios involving normal and abnormal voice production. Each group will explore case materials, identify anatomical and physiological aspects involved, and simulate how changes in muscle coordination or airflow affect voice quality.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned case, focusing on the mechanism of voice production involved and any deviations due to pathology. Discussions will include voice modulation, pitch, loudness, and the clinical significance of voice disorders. Peer and faculty feedback will be encouraged.

Summary & Assessment (30 Minutes)
The teacher will summarize the essential steps in the voice production process and the role of various anatomical structures. Students will be assessed through Mini-CEX, OSCE, or OSPE to evaluate their understanding of the anatomy, physiology, and clinical relevance of voice production. Constructive feedback will be provided.

Practical 6.3 : Mechanism of respiration

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate the mechanism of respiration using real or virtual tools, such as models, animations, or simulations. Key concepts like pulmonary ventilation, gas exchange, diaphragm and intercostal muscle movement, and neural control of breathing will be explained.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and given clinical or simulated cases to explore the phases of respiration. Using models or software, they will observe and analyze how changes in thoracic volume, airway resistance, or neural signals affect breathing.

Group Presentations and Discussion (1 Hour)
Each group will present their findings, demonstrating an understanding of the mechanics of inspiration and expiration, along with clinical correlations such as obstructive or restrictive respiratory disorders. A guided discussion will follow to consolidate learning.

Summary & Assessment (30 Minutes)
The teacher will review the respiratory mechanism and highlight clinical relevance. Students will be assessed using Mini-CEX, OSCE, or OSPE to evaluate their understanding of respiratory physiology and interpretation of clinical scenarios. Feedback will be provided to reinforce key concepts.

Practical 6.4 : Histology of larynx

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2 to 3 cases highlighting normal and abnormal histological features of the larynx. Normal histology will include stratified squamous and respiratory epithelium, while abnormal cases may include laryngitis, vocal cord nodules, or carcinoma. The structural-functional relationship will be explained with slide images or virtual histology tools.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with histology slides (physical or digital) for examination. Each group will identify epithelial types, connective tissue, glands, and pathological changes. Functional implications, such as voice changes or airway obstruction, will be discussed based on histological findings.

Group Presentations and Discussion (1 Hour)
Each group will present their slide findings, discussing the type of epithelium or pathology observed and how it impacts laryngeal function. Presentations will include labeled diagrams or annotated images, followed by a discussion on clinical correlations.

Summary & Assessment (30 Minutes)
The teacher will summarize key differences between normal and abnormal laryngeal histology and their functional outcomes. Assessment will be conducted via OSCE or Mini-CEX, focusing on histological identification and interpretation. Feedback will be provided to reinforce understanding.

Practical 6.5 : Mechanism of cough

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate the mechanism of cough using real-life examples, videos, or simulations. The process will be explained step-by-step, highlighting the role of the respiratory muscles, brainstem, and irritant receptors. A discussion on how the cough reflex is triggered, including its phases (inhalation, compression, expulsion), and the physiological and protective functions of coughing will be covered.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with cases related to coughing (e.g., reflex cough due to irritants, dry cough, productive cough). Each

group will be tasked with identifying the cause and mechanisms of the cough in each case. Using models, they will simulate and observe the muscle coordination involved in the cough reflex.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned case, explaining the mechanism of cough in that situation and its role in airway protection. Presentations will include visual aids or diagrams to support their findings. A class-wide discussion will follow to review different causes of cough and its clinical significance.

Summary & Assessment (30 Minutes)
The teacher will summarize the key components of the cough reflex and its protective functions. Students will be assessed via a brief quiz or OSCE, focused on understanding the anatomy and physiology involved in coughing, and its clinical implications. Feedback will be provided to reinforce concepts.

Experiential learning Activity

Experiential-Learning 6.1 : Abnormality of larynx

Total Learning Hours: 6 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned to study specific aspects of the larynx, including identification of normal anatomical structures and common abnormalities. Anatomical models, endoscopic images, or clinical case simulations will be provided as study material.
2. **Group Discussion (2 Hours)**
   Within their groups, students will analyze the assigned structures, determining whether they are normal or abnormal. Discussions will focus on structural deviations such as nodules, polyps, laryngeal stenosis, or paralysis, along with their functional and clinical implications.
3. **Presentations (3 Hours)**
   Each group will present their findings, demonstrating both normal and abnormal structures of the larynx. Explanations will include the underlying pathology, associated symptoms (e.g., hoarseness, stridor), and clinical significance. This will be followed by an interactive discussion with other groups and faculty.
4. **Summary and Assessment (30 Minutes)**
   Key insights about laryngeal anatomy and pathology will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their ability to differentiate normal from abnormal structures and explain clinical consequences.

Experiential-Learning 6.2 : Abnormalities of voice

Total Learning Hours: 6 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned to explore the mechanisms of normal voice production and identify abnormalities such as hoarseness, aphonia, dysphonia, and voice fatigue. Audio recordings, clinical case studies, or voice analysis software may be used for illustration.

2. **Group Discussion (2 Hours)**
   Each group will examine their assigned cases, distinguishing between normal and abnormal voice patterns. Discussions will focus on causes (e.g., vocal cord nodules, laryngitis, nerve damage), diagnostic approaches, and clinical significance.
3. **Presentations (3 Hours)**
   Groups will present their findings, including audio-visual demonstrations where applicable. Presentations will include explanations of the pathology, symptoms, and implications on communication. A group-wide discussion will follow to consolidate learning and share insights.
4. **Summary and Assessment (30 Minutes)**
   Key points about voice production and related abnormalities will be summarized. Assessment will be conducted via Mini-CEX, OSPE, OSCE, DOAP, and DOPS, emphasizing the identification of voice issues and understanding their physiological and clinical relevance.

Experiential-Learning 6.3 : Pulmonary volume,capacities and function test

Total Learning Hours: 6 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned tasks related to identifying pulmonary volumes (e.g., tidal volume, residual volume), lung capacities (e.g., vital capacity, total lung capacity), and interpreting pulmonary function tests (PFTs). Each group will work with sample data, clinical cases, or simulations to assess for abnormalities.
2. **Group Discussion (2 Hours)**
   Groups will analyze the given data and identify any abnormalities such as restrictive or obstructive patterns. Discussions will focus on physiological significance, clinical relevance, and comparison with normal respiratory parameters.
3. **Presentations (3 Hours)**
   Each group will present their findings, including identified abnormalities and interpretations of PFTs. Presentations will highlight key features, diagnostic insights, and possible underlying conditions. This will be followed by a discussion with all groups and faculty.
4. **Summary and Assessment (30 Minutes)**
   Key concepts of pulmonary volumes, capacities, and their clinical significance will be summarized. Assessment will include Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on the ability to interpret respiratory function tests and recognize abnormalities.

Experiential-Learning 6.4 : Abnormality of tracheobronchial tree

Total Learning Hours: 5 Hours

1. **Group Formation and Task Allocation (30 Minutes)**
   Students will be divided into 2 to 5 groups. Each group will be assigned to study normal and abnormal conditions of the tracheobronchial tree, including airway obstruction, tracheal and bronchial tumors (benign and malignant), tracheoesophageal fistula, and tracheal stenosis. Visual aids, case studies, or simulations may be used to assist learning.
2. **Group Discussion (1.5 Hours)**
   Within their groups, students will examine the assigned cases or images, identifying structural abnormalities and discussing their physiological and clinical implications. Each group will analyze symptoms and diagnosis associated with the abnormalities.

3. **Group Presentations (2.5 Hours)**
   Groups will present their findings on normal and abnormal features of the tracheobronchial tree, supported by images or case summaries. Peer discussion will be encouraged to compare insights and enhance understanding of clinical significance.
4. **Summary and Assessment (30 Minutes)**
   Key concepts related to the structure, function, and pathological conditions of the tracheobronchial tree will be summarized. Students will be assessed using Mini-CEX, OSCE, OSPE, DOAP, and DOPS, with a focus on identification of abnormalities and clinical interpretation.

Experiential-Learning 6.5 : Abnormality of pleurae and mediastinum

Total Learning Hours: 3 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 5 cases related to the pleurae and mediastinum structures. They will research and elaborate on the normal and abnormal conditions of these structures. In case real clinical situations are unavailable, simulation or models will be used to demonstrate the pleurae and mediastinum anatomy and abnormalities.

2. Group Discussion (1 Hour)
Within each group, students will discuss the assigned cases, focusing on the anatomical features, functions, and clinical significance of the pleurae and mediastinum. They will also explore abnormalities such as pleural effusion, pneumothorax, and mediastinal masses.

3. Presentations (1 Hour)
Each group will present their findings on the normal and abnormal structures of the pleurae and mediastinum, detailing the abnormalities they identified, their clinical relevance, and the diagnostic methods. The presentation will be followed by an interactive discussion with all students and faculty to reinforce understanding.

4. Summary and Assessment (30 Minutes)
Key concepts related to the pleurae and mediastinum will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their ability to identify and interpret abnormalities in the pleurae and mediastinum and apply clinical knowledge.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. A. SAQ: 5 questions (1 question from each unit)- (25 Marks)	4

B. Performance assessment (25 Marks): Provide each student with one anatomical or physiological case from module 6 **or** Any practical in converted form can be taken for assessment. **(25 Marks)** **and** Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 7 : ʻAẓm al-Qiḥf ki Tashrīḥ-al-ʻAṣabi ke Itlāqi Bunyādī Uṣūl (Applied basics principles of Skull and neuroanatomy) عظم القحف اور تشریح العصبی کے اطلاقی بنیادی اصول						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the applied basics principles of skull and neuroanatomy. Demonstrate the skull bone, structure, and function of the cerebral cortex, midbrain, Pons, Medulla, and spinal cord, and potential spaces of the head and neck. Identify applied aspects of the cerebral cortex, midbrain, Pons, Medulla, and spinal cord, perform the examination of cranial nerves.						
Unit 1 ʻAẓm al-Qiḥf ki Itlaqi tashrīḥ (Applied anatomy of skull bone) عظم القحف کی اطلاقی تشریح 7.1.1. Norma Verticalis 7.1.2. Norma Occipitalis 7.1.3. Norma lateralis 7.1.4. Norma frontalis 7.1.5. Norma basalis 7.1.6. Interior of skull **References:** 9,10,11,21,22,24,25,26,34,40,41,42,43						
3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Illustrate the applied anatomy of skull bones	2	Lecture	CC	Knows-how	L,L&GD

CO2,CO3	Demonstrate the different skull bones and their functions.	4	Practical7.1	PSY-GUD	Shows-how	D,D-M,DIS,PER,TBL
CO2,CO3	Identify the each cranial bones separately and discuss their functions.	6	Experiential-Learning7.1	PSY-ADT	Does	CBL,D,D-M,DIS,PER,SIM,TBL

Unit 2 Sarīrī Tashrīḥ-al-'Aṣabi (Clinical Neuroanatomy) سریری تشریح العصبی

7.2.1. Anatomy of cerebral cortex

7.2.2. Anatomy of mid brain

7.2.3. Anatomy of pons

7.2.4. Anatomy of medulla

7.2.5. Anatomy of cerebellum

7.2.6. Blood supply of brain

7.2.7. Circle of Willis

7.2.8. Ventricles of brain

7.2.9. Cerebrospinal fluid

References: 9,10,11,21,22,23,24,25,26,34,40,41,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the structures of brain	2	Lecture	CC	Knows-how	L,L&GD
CO2,CO3	Demonstrate the structure and function of the cerebral cortex, midbrain, Pons, Medulla and spinal cord	4	Practical7.2	CK	Shows-how	D,DL,D-M,L_VC,PER
CO2,CO3	Identify the applied aspects of cerebral cortex, mid brain, Pons, Medulla and spinal cord.	6	Experiential-Learning7.2	PSY-ADT	Does	CBL,D,D-M,DIS,L_VC,PER,SIM,TBL

Unit 3 A'ṣāb Dimāghiyya ki Itlāqi Tashrīḥ (Applied anatomy of Cranial Nerves) اعصاب دماغیہ کی اطلاقی تشریح

7.3.1. Anatomy of cranial nerve

7.3.2. Development of cranial nerve

7.3.3. Function of cranial nerve

7.3.4. Clinical significance of cranial nerve

References: 9,10,11,21,22,23,24,25,26,34,40,41,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the anatomy of Cranial Nerves.	2	Lecture	CC	Knows-how	BS,L
CO2,CO3	Demonstrate the nucleus, course and different branches of cranial nerves and their functions	4	Practical7.3	PSY-GUD	Shows-how	CBL,D,D-BED,DIS,PER,PBL,TBL
CO2,CO3	Perform the examination of cranial nerves and their functions.	6	Experiential-Learning7.3	PSY-SET	Does	CBL,D,D-BED,D-M,DIS,PER,SIM,TBL

Unit 4 : R'as aur Raqba ki Līfāfī Fīḍa (Fascial spaces of head and neck) راس اور رقبہ کی لیفافی فضاء

7.4.1. Primary fascial spaces

7.4.1. 1. Maxillary

7.4.1. 2. Mandibular

7.4.2. Secondary fascial spaces

7.4.2. 1. Pterygomandibular

7.4.2. 2. Retropharyngeal

7.4.2. 3. Lateral pharyngeal

7.4.2. 4. Prevertebral

References: 9,10,11,21,22,23,24,25,26,34,40,41,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the fascial spaces of the head and neck , such as benign and malignant tumors (Primary Brain Tumors, Metastatic Tumors, Dermoid Cysts), infections (Brain Abscess, Meningitis), cysts, and vascular malformations (Hematoma, Hydrocephalus, Granuloma and Tuberculoma, Multiple Sclerosis).	2	Lecture	CC	Knows-how	BS,L
CO2,CO3	Demonstrate the potential spaces of the head and neck, such as benign and malignant tumors (Primary Brain Tumors, Metastatic Tumors, Dermoid Cysts), infections (Brain Abscess, Meningitis), cysts, and vascular malformations (Hematoma, Hydrocephalus, Granuloma and Tuberculoma, Multiple Sclerosis) and their functions.	4	Practical7.4	PSY-GUD	Shows-how	CBL,D,D-M,DIS,PER
CO2,CO3	Identify the space-occupying lesions of the head and neck	5	Experiential-Learning7.4	PSY-ADT	Does	CBL,D,D-M,DIS,PER,PBL,SIM

Unit 5 R'as aur Raqba ki 'Uqdah Limphāwiyyah (Lymph nodes of head and neck) راس اور رقبہ کی عقدہ لمفاویہ

7.5.1. Occipital lymph nodes

7.5.2. Mastoid lymph nodes

7.5.3. Preauricular and posterior auricular lymph nodes

7.5.4. Parotid lymph nodes

7.5.5. Submental lymph nodes

7.5.6. Submandibular lymph nodes

7.5.7. Anterior cervical

7.5.8. Superficial cervical

7.5.9. Posterior Cervical

7.5.10. Deep Cervical

7.5.11. Supra clavicular

References: 9,10,11,21,22,23,24,25,26,34,40,41,42,43

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the anatomy of lymph nodes of head and neck	2	Lecture	CC	Knows-how	BS,L
CO2,CO3	Demonstrate the lymph nodes of the head and neck and their functions.	4	Practical7.5	PSY-GUD	Shows-how	CBL,DL,L_VC
CO2,CO3	Identify the site of diseases on the basis of lymph node involvement and their functions.	3	Experiential-Learning7.5	PSY-ADT	Does	CBL,D,D-M,DIS,PER,SIM,TBL

Practical Training Activity

Practical 7.1 : Skull bones

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate the 2 to 3 cases of different skull bones, such as the frontal bone, parietal bone, temporal bone, occipital bone, and others. The teacher will explain the structure, location, and function of each bone, focusing on how they protect the brain, support sensory organs, and contribute to facial structure and communication. The teacher will also demonstrate how these bones articulate and discuss their clinical relevance (e.g., fractures, congenital anomalies).

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with models or images of skull bones. Each group will be tasked with identifying the different bones and discussing their functions. They will practice labeling the bones on a printed skull diagram or 3D model. The groups will also discuss clinical scenarios (e.g., skull fractures, sinus infections, congenital defects) and the impact on the function of these bones.

Group Presentations and Discussion (1 Hour)
Each group will present their findings, identifying the bones they worked with, explaining their functions, and providing insights into relevant clinical cases. The presentations will be followed by a class-wide discussion to consolidate learning, answer questions, and discuss any misconceptions.

Summary & Assessment (30 Minutes)
The teacher will summarize the key points about the lskull bones and their clinical relevance. Students will be assessed through a Mini-CEX (Clinical Evaluation Exercise), OSCE (Objective Structured Clinical Examination), and OSPE (Objective Structured Practical Examination). Feedback will be provided to reinforce key concepts.

Practical 7.2 : Structure and function of the brain

Total Learning Hours: 04 hours

1. Demonstration by the Teacher (1.5 Hours)
The teacher will demonstrate the structure and function of the cerebral cortex, midbrain, pons, medulla, and spinal cord using anatomical models, brain diagrams, and relevant clinical cases. The teacher will explain their roles in movement, sensation, autonomic functions, and higher cognitive processes. Clinical manifestations of brain and spinal cord lesions will be discussed.

2. Hands-on Training (1 Hour)
Students will work in small groups to analyze case studies illustrating neurological conditions related to damage in these brain areas (e.g., stroke, spinal cord injury). They will identify affected regions based on symptoms and discuss the pathophysiology using models and brain section images.

3. Group Presentations (1 Hour)
Groups will present their case analysis, describing the affected brain area, clinical signs, and relevant diagnostic tests and treatments. They will also discuss the brain structures involved and their role in motor, sensory, and autonomic functions.

4. Summary and Assessment (30 Minutes)
The teacher will summarize the structures and functions of the cerebral cortex, midbrain, pons, medulla, and spinal cord, highlighting their clinical relevance. Assessment will be conducted through an OSCE or quiz, evaluating students' understanding of the material and their ability to correlate clinical signs with neurological lesions.

Practical 7.3 : Cranial nerves

Total Learning Hours: 04 hours

1. Demonstration by the Teacher (1.5 Hours)
The teacher will demonstrate 2 to 3 cases showing the nuclei, course, and branches of cranial nerves, highlighting their functions. The teacher will cover major cranial nerves (e.g., V, VII, IX, X) and their roles in sensory, motor, and autonomic functions. Clinical cases of nerve damage or dysfunction (such as Bell's palsy, trigeminal neuralgia) will be used to demonstrate the relevance of understanding these pathways.

2. Hands-on Training (2 Hours)
Students will be divided into small groups. Each group will be provided with clinical cases involving cranial nerve pathology. Using anatomical models and diagrams, students will trace the course of affected nerves, identify the nuclei, and understand the associated clinical symptoms. Groups will present their findings, including the affected nerve and the functional deficits observed in the cases.

3. Summary and Assessment (30 Minutes)
The teacher will summarize the anatomy and function of the cranial nerves, their nuclei, and their clinical importance. An OSCE (Objective Structured Clinical Examination) or quiz will be conducted to assess students' understanding of the course, function, and clinical implications of cranial nerves. Feedback will be provided to ensure clarity and understanding.

Practical 7.4 : Potential spaces of head and neck

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2 to 3 cases involving tumors, infections, cysts, and vascular malformations in the head and neck. These will include primary brain tumors, metastatic tumors, brain abscesses, meningitis, hydrocephalus, and more. The teacher will explain their clinical presentation, pathophysiology, and the functional consequences on surrounding structures.

Hands-on Training (1.5 Hours)
Students will work in small groups with clinical cases, using imaging tools (e.g., CT or MRI) to identify affected areas and discuss diagnosis, treatment options, and potential complications. They will explore the impact of these conditions on head and neck function.

Group Presentations and Discussion (1 Hour)
Each group will present their case, highlighting the affected structures and functional implications. Presentations will include visual aids, followed by a class-wide discussion on clinical management strategies and functional impacts.

Summary & Assessment (30 Minutes)
The teacher will summarize the key concepts of head and neck pathologies. Students will be assessed through a Mini-CEX (Clinical Evaluation Exercise), OSCE (Objective Structured Clinical Examination), and OSPE (Objective Structured Practical Examination). These assessments will focus on the understanding of anatomy, pathophysiology, and clinical management of these conditions. Feedback will be provided to reinforce learning.

Practical 7.5 : Lymph nodes of head and neck

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate the anatomy and functions of the lymph nodes of the head and neck. Different regions such as the submandibular, cervical, and supraclavicular nodes will be highlighted, with an explanation of their role in immune defense and response to infection or malignancy. The teacher will also cover how the lymphatic drainage of these nodes correlates with clinical conditions.

Hands-on Training (1.5 Hours)
Students will work in small groups, provided with clinical cases involving lymph node enlargement or pathology (e.g., infections, malignancies). They will palpate anatomical models or use imaging to identify the affected nodes. Each group will then present their case and the lymphatic pathway involved, including any potential clinical significance such as metastasis or infections.

Group Presentations and Discussion (1 Hour)
Each group will present their case, discussing the identified lymph nodes, their functions, and the clinical implications of their enlargement or pathology. Presentations will include visual aids or diagrams, followed by a group discussion on the clinical management and diagnostic approach.

Summary & Assessment (30 Minutes)
The teacher will summarize the key points about the lymph nodes of the head and neck and their clinical relevance. Students will be assessed through a Mini-CEX

(Clinical Evaluation Exercise), OSCE (Objective Structured Clinical Examination), and OSPE (Objective Structured Practical Examination). These assessments will evaluate the students' ability to identify and understand the lymphatic pathways and their role in disease. Feedback will be provided to reinforce key concepts.

Experiential learning Activity

Experiential-Learning 7.1 : Study the cranial bones

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 cranial bones. They will research the anatomy, functions, normal conditions, and abnormalities of these bones. In case real clinical situations are unavailable, simulation or models will be used to demonstrate the cranial bones and their structures.

2. Group Discussion (2 Hours)
Within each group, students will discuss the assigned cranial bones, focusing on their anatomical features, functions, and clinical significance. They will also explore any abnormalities or pathologies that could affect these bones, such as fractures or congenital defects.

3. Presentations (3 Hours)
Each group will present their findings on the assigned cranial bones, detailing their functions, common abnormalities, and clinical implications. The presentation will be followed by an interactive discussion with all students and faculty to reinforce the learning and clarify any queries.

4. Summary and Assessment (30 Minutes)
Key concepts related to the anatomy, functions, and abnormalities of cranial bones will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their ability to identify cranial bones, understand their functions, and recognize any associated abnormalities.

Experiential-Learning 7.2 : Applied aspects of brain.

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned two to five models related to the cerebral cortex, midbrain, pons, medulla, and spinal cord. Students will research the normal and abnormal conditions of each structure and explain their functions. In case real clinical situations are unavailable, simulation or models will be used to demonstrate the anatomy and functions of these structures.

2. Group Discussion (2 Hours)
Within each group, students will discuss the assigned models, focusing on the functions, clinical significance, and anatomical features of the cerebral cortex, midbrain, pons, medulla, and spinal cord. They will also explore the impact of abnormalities in these structures and their related clinical conditions.

3. Presentations (3 Hours)
Each group will present their findings on the applied aspects of the cerebral cortex, midbrain, pons, medulla, and spinal cord. Presentations will include normal

and abnormal conditions, as well as the clinical relevance of these structures. The findings will be discussed by all students and faculty to ensure comprehensive understanding.

4. Summary and Assessment (30 Minutes)
Key concepts related to the applied aspects of the cerebral cortex, midbrain, pons, medulla, and spinal cord will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their understanding of these structures, their functions, and the clinical implications of abnormalities.

Experiential-Learning 7.3 : Examination of cranial nerves

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned the task of performing the examination of two to five cranial nerves. They will research and elaborate on the normal and abnormal conditions of each nerve, as well as explain their respective functions. In case real clinical situations are unavailable, simulation or models will be used to simulate cranial nerve examinations.

2. Group Discussion (2 Hour)
Within each group, students will discuss the cranial nerves they are assigned, focusing on their anatomical location, functions, and methods of examination. They will also discuss how abnormalities in these nerves manifest in clinical practice and how these abnormalities can be identified.

3. Presentations (3 Hours)
Each group will present their findings on the cranial nerves they examined, explaining their normal and abnormal conditions, and how these conditions are assessed clinically. Presentations will be followed by an interactive discussion with all students and faculty members to clarify key points and reinforce the learning.

4. Summary and Assessment (30 Minutes)
Key concepts related to the cranial nerve examination and their functions will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their ability to perform a detailed cranial nerve examination, identify abnormalities, and correlate these findings with clinical conditions.

Experiential-Learning 7.4 : Space occupying lesion of head and neck.

Total Learning Hours: 5 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 5 cases related to space-occupying lesions in the head and neck, such as benign and malignant tumors (e.g., Primary Brain Tumors, Metastatic Tumors, Dermoid Cysts), infections (e.g., Brain Abscess, Meningitis), cysts, and vascular malformations (e.g., Hematoma, Hydrocephalus, Granuloma and Tuberculoma, Multiple Sclerosis). In case real clinical situations are unavailable, simulation or models will be used to simulate these conditions.

2. Group Discussion (1 Hour)
Within each group, students will discuss the assigned cases, focusing on the clinical presentation, diagnostic techniques, and treatment options for the different space-occupying lesions. They will also examine the pathophysiology of these lesions and their impact on surrounding structures.

3. Presentations (3 Hours)
Each group will present their findings, detailing the types of space-occupying lesions, their clinical significance, diagnostic challenges, and management strategies. Discussions will be encouraged among all students and faculty members to deepen understanding and explore clinical implications.

4. Summary and Assessment (30 Minutes)
Key concepts related to space-occupying lesions in the head and neck will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their ability to identify and interpret the lesions, understand the pathophysiology, and apply diagnostic and treatment principles.

Experiential-Learning 7.5 : Lymph node distrubution.

Total Learning Hours: 3 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 5 cases related to lymph node involvement. Students will investigate the normal and abnormal conditions of lymph nodes, their functions, and the diseases associated with their involvement. In case real clinical situations are unavailable, simulation or models will be used to mimic the clinical cases.

2. Group Discussion (1 Hour)
Within each group, students will discuss the assigned cases, focusing on the signs of lymph node abnormalities (e.g., enlargement, tenderness) and the potential diseases linked to these changes. They will also correlate the specific lymph node sites with diseases that commonly involve them.

3. Presentations (1 Hour)
Each group will present their findings on lymph node involvement. Presentations will include details of the normal and abnormal conditions of lymph nodes, their functions, and the diseases related to specific sites of involvement. The discussion will be followed by a Q&A session for clarification.

4. Summary and Assessment (30 Minutes)
Key concepts related to lymph node involvement and its role in disease diagnosis will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their understanding of lymph node function, recognition of abnormalities, and ability to link diseases with affected lymph nodes.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade	4

point as per table 6 C. A. Practical structured Viva: Prepare 10 questions including all the topics of module 7. 25 marks (10X2.5=25) B. Performance assessment (25 Marks); Provide each student with one anatomical or physiological case from module 7. **or** Any practical in converted form can be taken for assessment. **(25 Marks)** **and** Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical/experiential) learning session, the students should be able to)	3C Notional Learning Hours	3D Lecture/ Practical/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/ Shows how/ Knows how/ Know)	3G Teaching Learning Methods
Module 8 : 'Amal-i-takhdīr (Anaesthetia) عمل تخدیر						
Module Learning Objectives **(At the end of the module, the students should be able to)** Describe the role of anaesthesia in ENT diseases. Demonstrate the preoperative, postoperative and Basic Life support and Advanced cardiac life support. Conduct the procedure of general anaesthesia, epidural and local anaesthesia.						
Unit 1 Amrāz-i- Uzn Anf wa Halq me takhdīr –al-Khāfiḍ Lilḍaghṭ ka 'Amal (Hypotensive anaesthesia in ENT) امراض اذن، انف وحلق میں تخدیر الخافض للضغط 8.1.1. Indication of hypotensive anaesthesia 8.1.2. Drugs for hypotensive anaesthesia 8.1.3. Monitoring 8.1.4. Post-operative complication **References:** 37,38						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4	Describe in detail about excessively bloody operations, prolonged operations, and anatomically detailed and complicated operations in the head and neck	2	Lecture	CC	Knows-how	L,L&GD
CO1,CO2,CO4	Demonstrate the ganglionic blocking agents to reduce the mean arterial pressure (MAP).	4	Practical8.1	PSY-GUD	Shows-how	CBL,D,D-BED,D-M,DIS,PER,SIM,TBL

CO1,CO2,CO4	Assess the hypotensive anaesthesia in ENT and head, neck and in major maxillofacial procedures.	6	Experiential-Learning8.1	PSY-ADT	Does	CBL,D,DIS,PER,PBL,SIM

Unit 2 Amrāz-i- Uzn Anf wa Halq me Insidād Aqālīm (Regional blocks in ENT) **امراض اذن،انف وحلق میں انسداد اقالیم**

8.2.1. “Regional Nerve Blocks” Technique

8.2.2. Auriculo temporal nerve block

8.2.3. Post auricular branch of greater auricular nerve block

8.2.4. Great occipital nerve block

8.2.5. Lesser occipital nerve block

References: 37,38

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4	Describe the regional blocks such as Blocks of the Head and Neck, Thoracic, local and epidural anaesthesia	2	Lecture	CC	Knows-how	L,L&PPT
CO1,CO2,CO4	Demonstrate the regional blocks techniques in Ear, Nose and throat surgery.	4	Practical8.2	PSY-GUD	Shows-how	CBL,D-BED,D-M,DIS,PER,PBL,PrBL,SIM
CO1,CO2,CO4	Perform the regional blocks techniques of Ear, Nose and throat.	6	Experiential-Learning8.2	PSY-ADT	Does	CBL,D,D-M,DIS,PAL,PER

Unit 3 Takhdīr ‘Umūmī (General Anaesthesia) **تخدیر عمومی**

8.3.1. Classification of General Anaesthesia

8.3.2. Pre- anaesthetic medication

8.3.3. Stages of general anaesthesia

8.3.4. Recovery from general anaesthesia

8.3.5. Drugs/ gases used for general anaesthesia

References: 37,38

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4	Describe in detail about the general anaesthesia	2	Lecture	CC	Knows-how	JC,L,L&PPT
CO1,CO2,CO4	Demonstrate the procedure for the general anaesthesia related to ENT, head and Neck surgery.	4	Practical8.3	PSY-GUD	Shows-how	CBL,D,DIS,PER,PBL
CO1,CO2,CO4	Perform all the procedural techniques of general anaesthesia related to ENT like inhalational agents, gases, intravenous anaesthetics, Muscle Relaxants,	6	Experiential-Learning8.3	PSY-SET	Does	CBL,D,D-M,DIS,PAL,SIM,TBL

Unit 4 'Amalīyyā qabl Jirāḥiyya (Preoperative procedure) عملیہ قبل الجراحیہ

8.4.1. Evaluation of medical records

8.4.2. Patients interviews

8.4.3. Physical examination

8.4.4. Pre-anaesthesia test

References: 37,38

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4	Describe the preoperative procedure	2	Lecture	CC	Knows-how	BS,L,L&GD
CO1,CO2,CO4	Demonstrate the pre- anaesthesia check-up (PAC), hand wash techniques, gloves wearing method, surgical trolley preparation, patient position, intubation methods.	4	Practical8.4	CK	Shows-how	CBL,D,DIS,PER,PBL
CO1,CO2,CO4	Perform the techniques of the preoperative procedure	5	Experiential-Learning8.4	PSY-ADT	Does	CBL,D,D-M,DIS,PER,TBL

Unit 5 : 'Amalīyyā ba'd Jirāḥiyya (Postoperative procedure) عملیہ بعد الجراحیہ

8.5.1. Homeostasis

8.5.2. Treatment of pain

8.5.3. Prevention & Early Detection of Complications

8.5.4. Acute pulmonary problems

8.5.5. Cardio-Vascular problems

8.5.6. Fluid derangements

8.5.7. Position of bed and mobilization

8.5.8. Monitoring

References: 37,38

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4	Describe in detail the postoperative procedure in Amraz-i-Uzn. Anf wa Ḥalq and head and neck surgery	2	Lecture	CC	Know	L,L&GD,L&PPT
CO1,CO2,CO4	Demonstrate the complication of the post-operative surgical procedure and their managements	4	Practical8.5	PSY-GUD	Shows-how	CBL,D-BED,D-M,DIS,PER
CO1,CO2,CO4	Identify and manage the complications of postoperative surgeries	3	Experiential-Learning8.5	PSY-MEC	Does	CBL,D,DIS,PAL,PER

Practical Training Activity

Practical 8.1 : Ganglionic blocking agents

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2-3 clinical cases where ganglionic blocking agents are used to reduce mean arterial pressure (MAP). The pharmacological effects of these agents will be explained, focusing on their ability to interrupt sympathetic and parasympathetic signals, lowering MAP. Clinical scenarios such as hypertensive crises will be discussed to illustrate their application.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with a clinical case involving ganglionic blockers. They will analyze the case, identify appropriate applications, and simulate the administration of these agents. This will help students practice clinical decision-making and understand their effects on blood pressure.

Group Presentations and Discussion (1 Hour)
Each group will present their case, explaining how ganglionic blocking agents reduce MAP and their clinical use. A class discussion will follow to clarify understanding and address any questions.

Summary & Assessment (30 Minutes)
The teacher will summarize the key points on ganglionic blocking agents, their mechanisms, and uses. Students will be assessed through a quiz, OSCE (Objective Structured Clinical Examination), and/or Mini-CEX (Clinical Evaluation Exercise). Feedback will be provided to reinforce learning.

Practical 8.2 : Regional blocks techniques.

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2-3 cases showcasing regional block techniques used in Ear, Nose, and Throat (ENT) surgery. This will include a step-by-step explanation of various blocks, such as local anesthesia for ear procedures, nasal blocks, and throat-related regional anesthesia. The teacher will emphasize the indications, techniques, and patient safety during these procedures.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with cases for hands-on practice of regional block techniques. They will identify the appropriate block for each case, simulate the technique on models, and practice administering the blocks under supervision.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned case, explaining the regional block technique used and the rationale behind the choice. Discussions will follow to share approaches and consolidate knowledge on regional anesthesia in ENT surgeries.

Summary & Assessment (30 Minutes)
The teacher will summarize key concepts of regional anesthesia techniques in ENT surgery. Assessment will include a brief quiz, and the students will be evaluated using OSCE (Objective Structured Clinical Examination) and Mini-CEX (Clinical Evaluation Exercise) to reinforce their practical skills and theoretical knowledge.

Practical 8.3 : General anaesthesia

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2-3 cases of general anaesthesia procedures specific to ENT, head, and neck surgeries. The demonstration will include pre-operative assessment, anaesthesia induction, maintenance, and airway management techniques. The teacher will highlight patient positioning, monitoring, and specific drug choices for these surgeries, providing an overview of the challenges and risks involved.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, with each group assigned a case of general anaesthesia for ENT or head/neck surgery. They will practice techniques

such as induction, maintenance, intubation, airway management, and patient positioning. The hands-on practice will allow students to familiarize themselves with the practical aspects of anaesthesia management in these specialized surgeries.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned case, discussing their approach to anaesthesia management, challenges faced, and solutions implemented. This will be followed by a class-wide discussion to ensure all students understand the complexities of general anaesthesia for ENT and head/neck surgeries. Case-based learning will reinforce key principles and techniques.

Summary & Assessment (30 Minutes)
The teacher will summarize the key concepts covered during the session. Students will be assessed through Mini-CEX and OSCE to evaluate their ability to apply the knowledge practically. Feedback will be provided to reinforce learning and correct any misconceptions.

Practical 8.4 : Pre-anaesthesia check-up (PAC)

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2-3 cases highlighting key aspects of pre-anaesthesia check-up (PAC), including patient assessment and history-taking. The demonstration will also cover hand wash techniques, proper glove-wearing methods, surgical trolley preparation, patient positioning, and various intubation methods. The teacher will emphasize infection control practices, correct technique, and patient safety.

Hands-on Training (1.5 Hours)
Students will be divided into small groups, each provided with cases to practice the skills demonstrated. They will conduct pre-anaesthesia check-ups (PAC), perform hand washing, practice proper glove-wearing, set up a surgical trolley, position the patient, and simulate intubation techniques under supervision.

Group Presentations and Discussion (1 Hour)
Each group will present their assigned case, demonstrating the steps they performed (PAC, hand washing, trolley setup, etc.). They will discuss their approach, challenges faced, and solutions, followed by a class-wide discussion on best practices.

Summary & Assessment (30 Minutes)
The teacher will summarize the key steps of pre-anaesthesia preparation, emphasizing patient safety and proper techniques. Students will be assessed using a combination of Mini-CEX (Clinical Evaluation Exercise) and OSCE (Objective Structured Clinical Examination) to evaluate their skills and understanding of the procedures. Feedback will be provided for further improvement.

Practical 8.5 : Post-operative procedure

Total Learning Hours: 4 Hours

Demonstration by the Teacher (1 Hour)
The teacher will demonstrate 2-3 cases of post-operative surgical complications, focusing on common issues such as infection, bleeding, wound dehiscence, deep vein thrombosis (DVT), and pulmonary embolism (PE). The teacher will explain the pathophysiology, identification, and management strategies for each

complication, discussing both preventive and corrective measures. The teacher will also highlight how to monitor patients post-surgery and make timely interventions.

Hands-on Training (1.5 Hours)
Students will be divided into small groups and provided with case scenarios related to post-operative complications. They will practice identifying and managing these complications, including performing wound assessments, recognizing signs of infection or bleeding, and learning appropriate intervention techniques. Students will have the opportunity to discuss and demonstrate different approaches to managing post-operative challenges.

Group Presentations and Discussion (1 Hour)
Each group will present their case, including the identified complication and their management plan. They will discuss their rationale for the approach, potential risks, and preventive strategies. The teacher will facilitate a class-wide discussion to reinforce key concepts and encourage peer learning. This will also include insights into how post-operative care can be optimized for better patient outcomes.

Summary & Assessment (30 Minutes)
The teacher will summarize the key points regarding post-operative complications and management. Students will be assessed through Mini-CEX and OSCE to evaluate their competency in recognizing and managing surgical complications. Feedback will be provided to highlight strengths and areas for improvement.

Experiential learning Activity

Experiential-Learning 8.1 : Hypotensive anaesthesia

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 3 cases related to hypotensive anaesthesia used in ENT, head, neck, and major maxillofacial procedures. Students will research the indications, techniques, and benefits of hypotensive anaesthesia for each case. In case real clinical situations are unavailable, simulation or models will be used to mimic the clinical cases.

2. Group Discussion (2 Hours)
Each group will discuss their assigned cases, focusing on the physiological principles behind hypotensive anaesthesia, its indications, and how it is applied in various surgical procedures. The discussion will also cover potential risks, complications, and patient outcomes.

3. Presentations (3 Hours)
Each group will present their findings, including the mechanisms of hypotensive anaesthesia, its role in reducing blood loss, and its application in ENT and maxillofacial surgeries. Presentations will be followed by a discussion involving students and faculty to clarify concepts and reinforce learning.

4. Summary and Assessment (30 Minutes)
Key concepts related to hypotensive anaesthesia will be summarized, emphasizing its role in ENT and maxillofacial procedures. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their understanding of hypotensive anaesthesia, clinical application, and the ability to make informed decisions during procedures.

Experiential-Learning 8.2 : Regional blocks techniques.

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 3 cases related to regional block techniques in ENT, focusing on areas like the ear, nose, and throat. Students will prepare by researching the techniques in detail, covering the indications, methods, and expected outcomes. In case real clinical situations are unavailable, **simulation or models** will be used to mimic the clinical cases.

2. Group Discussion (2 Hours)
Within each group, students will discuss the assigned regional block techniques, including the mechanisms of action, clinical applications, and potential complications. They will also compare the effectiveness and risks associated with each technique used in ENT procedures.

3. Presentations (3 Hours)
Each group will present their findings on the regional block techniques, discussing the step-by-step procedures, clinical relevance, and potential complications. Presentations will be followed by a discussion with students and faculty to clarify key points and deepen understanding.

4. Summary and Assessment (30 Minutes)
The key concepts related to regional block techniques in ENT will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on their understanding of the techniques, their ability to apply the procedures, and their clinical decision-making skills.

Experiential-Learning 8.3 : Procedural techniques of general anaesthesia

Total Learning Hours: 6 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 cases related to procedural techniques of general anaesthesia in ENT, covering inhalational agents, gases, intravenous anaesthetics, and muscle relaxants. Groups will research and prepare their cases, focusing on normal usage, effects, and clinical relevance.

2. Group Discussion (2 Hours)
Within each group, students will discuss their assigned cases, examining the mechanisms of action, indications, side effects, and relevance of each anaesthetic technique. This detailed discussion will enhance understanding of the anaesthetic techniques used in ENT procedures.

3. Presentations (3 Hours)
Each group will present their findings, explaining the various anaesthetic techniques, their clinical applications in ENT, and expected outcomes. Presentations will be followed by an interactive discussion involving both students and faculty for feedback and clarification.

4. Summary and Assessment (30 Minutes)
The key concepts related to general anaesthesia techniques in ENT procedures will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE,

DOAP, and DOPS, focusing on their ability to apply anaesthesia techniques, make clinical decisions, and demonstrate practical skills in anaesthesia management for ENT procedures.

Experiential-Learning 8.4 : Preoperative procedure

Total Learning Hours: 5 Hours

1. Group Formation and Task Allocation (30 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 5 cases related to techniques used in preoperative procedures. Groups will review the procedures, describe the techniques in detail, and identify aspects of normality, abnormality, and function.

2. Group Discussion (1 Hour)
Within each group, students will discuss the assigned preoperative techniques, examining the clinical significance and potential implications of normal and abnormal findings.

3. Presentations (3 Hours)
Groups will present their findings and interpretations. Each presentation will include procedural steps, clinical relevance, and functional insights. Discussions will be encouraged with participation from both students and faculty to deepen understanding.

4. Summary and Assessment (30 Minutes)
Key techniques and clinical considerations in preoperative procedures will be summarized. Students will be assessed through Mini-CEX, OSPE, OSCE, DOAP, and DOPS, focusing on procedural understanding, interpretation of findings, skill performance, and clinical application.

Experiential-Learning 8.5 : Complication of postoperative surgeries

Total Learning Hours: 3 Hours

1. Group Formation and Task Allocation (15 Minutes)
Students will be divided into 2 to 5 groups. Each group will be assigned 2 to 5 complications related to postoperative surgeries for case-based discussion and management.

2. Group Discussion (45 Minutes)
Each group will discuss the assigned complications and formulate appropriate management strategies using Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) protocols.

3. Presentations (1.5 Hours)
Each group will present their findings and management plans. Presentations will be followed by interactive discussion involving all students and faculty for shared learning and clarification.

4. Summary and Assessment (30 Minutes) Key concepts related to the management of postoperative complications using BLS and ACLS will be summarized. Students will be assessed through Mini-CEX, OSPE, and OSCE, focusing on clinical decision-making, application of life support protocols, and effective teamwork during emergency scenarios.	
Modular Assessment	
Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. A. Demonstration: Demonstrate hand hygiene and prepare the anaesthesia table and anaesthesia tray for a particular procedure -(25 Marks) B. Performance assessment (25 Marks) ; Provide each students to one case of hypotensive anaesthesia or regional nerve blocks or general anaesthesia or preoperative procedure from modeule 8 **or** Any practical in converted form can be taken for assessment. **(25 Marks)** **and** Any of the experiential as portfolio/ refelections / presentations can be taken as assessment. **(25 Marks)**	4

Table 4 : Practical Training Activity

(*Refer table 3 of similar activity number)

Practical No*	Practical name	Hours
1.1	Contribution of ancient Unani Physicians	4
1.2	Ancient Unani surgical instruments	4
1.3	Ancient Unani Surgeries of ear	4
1.4	Ancient Unani Surgeries in the nose and throat	4
1.5	Pre and post-operative procedure and Medical Ethics & Moral Values	4
2.1	Abnormal condition of the ear	4
2.2	Embryology and Histology of Ear	4
2.3	Radiographic study of Ear	4
2.4	Physiology of the ear, Principles of hearing, and Sound Physics	4
2.5	Physiology of equilibrium	4
3.1	Blood and nerve supply of epistaxis	4
3.2	Nose and paranasal sinuses	4
3.3	Errors of olfaction	4
3.4	Nasal provocation test	4
3.5	Pathophysiology of the nose and PNS in flight and diving	4
4.1	Mouth and facio maxillary structures	4
4.2	Physiology of oral cavity	4
4.3	Function and structure of tongue	4
4.4	Function of salivary glands	4
4.5	Developmental defects of the oral cavity	4
5.1	Applied anatomy of oesophagus and pharynx.	4

5.2	Function of oesophagus	2
5.3	Role of pharynx in breathing, swallowing and speech	2
5.4	Mucosal layers of pharynx and oesophagus	4
5.5	Para pharyngeal spaces of the neck	4
5.6	Functions of parotid, submandibular and sublingual glands	4
6.1	Cartilages and muscles of the larynx	4
6.2	Voice production	4
6.3	Mechanism of respiration	4
6.4	Histology of larynx	4
6.5	Mechanism of cough	4
7.1	Skull bones	4
7.2	Structure and function of the brain	4
7.3	Cranial nerves	4
7.4	Potential spaces of head and neck	4
7.5	Lymph nodes of head and neck	4
8.1	Ganglionic blocking agents	4
8.2	Regional blocks techniques.	4
8.3	General anaesthesia	4
8.4	Pre-anaesthesia check-up (PAC)	4
8.5	Post-operative procedure	4

Table 5 : Experiential learning Activity

(*Refer table 3 of similar activity number)

Experiential learning No*	Experiential name	Hours
1.1	Unani therapies used in Uzn, anf wa Ḥalq	4
1.2	Surgical instruments in surgeries (‘amal jirāḥī) of Uzn, anf wa Ḥalq	6
1.3	Surgeries of the ear performed by ancient Unani Physicians	6
1.4	Surgeries of the Nose & throat performed by ancient Unani Physicians.	4
1.5	Etiquette of physical examination of the patients in Amraze Uzn, Anf wa Halq	6
2.1	Anatomical structure of the ear	6
2.2	Embryology of the Ear	3
2.3	Histology of the Ear	3
2.4	Radiographic study of Ear	6
2.5	Role of sound Physics in hearing	5
2.6	Physiology of equilibrium and its application to the dizzy patient	3
3.1	Normal and abnormal condition of nose and paranasal sinuses	6
3.2	Embryology and Histology of nose and paranasal sinuses	6
3.3	Physiology of Olfaction	6
3.4	Nasal provocation test	5
3.5	Pathophysiology of barotrauma	3
4.1	Normal and abnormal conditions of the oral cavity and maxillofacial structures.	6
4.2	Function of oral cavity	6
4.3	Abnormal condition of tongue	6
4.4	Salivary gland examination	5
4.5	Abnormalities of oral cavity.	3

5.1	Abnormal structures of pharynx and oesophagus.	6
5.2	Dysphagia, odynophagia, achalasia, diffuse oesophageal spasm, Para pharyngeal, retropharyngeal spaces	6
5.3	Normal and abnormal condition of pharynx and oesophagus	6
5.4	Abnormality of Para pharyngeal spaces	5
5.5	Abnormalties of salivary glands.	3
6.1	Abnormality of larynx	6
6.2	Abnormalities of voice	6
6.3	Pulmonary volume,capacities and function test	6
6.4	Abnormality of tracheobronchial tree	5
6.5	Abnormality of pleurae and mediastinum	3
7.1	Study the cranial bones	6
7.2	Applied aspects of brain.	6
7.3	Examination of cranial nerves	6
7.4	Space occupying lesion of head and neck.	5
7.5	Lymph node distrubution.	3
8.1	Hypotensive anaesthesia	6
8.2	Regional blocks techniques.	6
8.3	Procedural techniques of general anaesthesia	6
8.4	Preoperative procedure	5
8.5	Complication of postoperative surgeries	3

Table 6 : Assessment Summary: Assessment is subdivided in A to H points
6 A : Number of Papers and Marks Distribution

Subject Code	Paper	Theory	Practical	Total
UNI-AB-UAH	1	100	200	300

6 B : Scheme of Assessment (Formative and Summative Assessment)

Credit frame work

UNI-AB-UAH consists of 8 modules totaling 16 credits, which correspond to 480 Notional Learning Hours. Each credit comprises 30 Hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Formative Assessment : Module wise Assessment:will be done at the end of each module. Evaluation includes learners active participation to get Credits and Marks. Each Module may contain one or more credits.

Summative Assessment: Summative Assessment (University examination) will be carried out at the end of Semester II.

6 C : Calculation Method for Modular Grade Points (MGP)

Module Number & Name (a)	Credits (b)	Actual No. of Notional Learning Hours (c)	Attended Number of notional Learning hours (d)	Maximum Marks of assessment of modules (e)	Obtained Marks per module (f)	MGP =d*f/c*e*100
M1. Ṭibb-i-Unani me Uzn, Anf-wa-Ḥalq ki Tārīkh aur Akhlāqiyāt -o- Uṣūl -i-Ẓawābiṭ (History of Otorhinolaryngology in Unani System of Medicine.Identify the Unani physician, surgical instruments, different surgeries and make a moral role to the patients, attendant and others. Ethics and moral values) طب یونانی میں امراض اذن، انف وحلق کی تاریخ۔اخلاقیات واصول ضوابط	2	60		50		
M2. Uzn ke Itlāqī Uṣūl (Applied basics of Ear) اذن کے اطلاقی اصول	2	60		50		
M3. Anf aur Jūyūb-al- Anf ke Itlāqī būnyādī Uṣūl (Applied basic principles of Nose and Para nasal Sinuses) انف اور جیوب الانف کے اطلاقی بنیادی اصول	2	60		50		
M4. Jauf-al- Fam ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Oral Cavity) جوف الفم کے اطلاقی بنیادی اصول	2	60		50		
M5. Bal'ūm aur Mari ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Throat and oesophagus) بلعوم ومری کے اطلاقی بنیادی اصول	2	60		50		
M6. Ḥanjra ke Itlaqi Bunyādī Uṣūl (Applied basics principles of Larynx) حنجرہ کے اطلاقی بنیادی اصول	2	60		50		

M7. ‘Aẓm al-Qiḥf ki Tashrīḥ-al-‘Aṣabi ke Itlāqi Bunyādī Uṣūl (Applied basics principles of Skull and neuroanatomy) عظم القحف اور تشریح العصبی کے اطلاقی بنیادی اصول	2	60		50		
M8. ‘Amal-i-takhdīr (Anaesthetia) عمل تخدیر	2	60		50		
MGP = ((Number of Notional learning hours attended in a module) X (Marks obtained in the modular assessment) / (Total number of Notional learning hours in the module) X (Maximum marks of the module)) X 100						

6 D : Semester Evaluation Methods for Semester Grade Point Average (SGPA)

SGPA will be calculated at the end of the semester as an average of all Module MGPs. Average of MGPS of the Semester For becoming eligible for Summative assessment of the semester, student should get minimum of 60% of SGPA

SGPA = Average of MGP of all modules of all papers = add all MGPs in the semester/ no. of modules in the semester Evaluation Methods for Modular Assessment

A S.No	B Module number and Name	C MGP
1	M1.Ṭibb-i-Unani me Uzn, Anf-wa-Ḥalq ki Tārīkh aur Akhlāqiyāt -o-Uṣūl -i-Ẓawābiṭ (History of Otorhinolaryngology in Unani System of Medicine.Identify the Unani physician, surgical instruments, different surgeries and make a moral role to the patients, attendant and others. Ethics and moral values) طب یونانی میں امراض اذن، انف وحلق کی تاریخ۔اخلاقیات واصول ضوابط	C 1
2	M2.Uzn ke Itlāqī Uṣūl (Applied basics of Ear) اذن کے اطلاقی اصول	C 2
3	M3.Anf aur Jūyūb-al- Anf ke Itlāqī būnyādī Uṣūl (Applied basic principles of Nose and Para nasal Sinuses) انف اور جیوب الانف کے اطلاقی بنیادی اصول	C 3
4	M4.Jauf-al- Fam ke Iṭlaqi Bunyādī Uṣūl (Applied basics principle of Oral Cavity) جوف الفم کے اطلاقی بنیادی اصول	C 4
5	M5.Bal‘ūm aur Mari ke Itlaqi Bunyāḍī Uṣūl (Applied basics principle of Throat and oesophagus) بلعوم ومری کے اطلاقی بنیادی اصول	C 5
6	M6. Ḥanjra ke Iṭlaqi Bunyādī Uṣūl (Applied basics principles of Larynx) حنجرہ کے اطلاقی بنیادی اصول	C 6
7	M7.‘Aẓm al-Qiḥf ki Tashrīḥ-al-‘Aṣabi ke Itlāqi Bunyādī Uṣūl (Applied basics principles of Skull and neuroanatomy) عظم القحف اور تشریح العصبی کے اطلاقی بنیادی اصول	C 7
8	M8.‘Amal-i-takhdīr (Anaesthetia) عمل تخدیر	C 8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)

S. No	Evaluation Methods
1.	Method explained in the Assessment of the module or similar to the objectives of the module.

6 E : Question Paper Pattern

MD/MS Unani Examination
UNI-AB-UAH
Sem II
Time: 3 Hours ,**Maximum Marks:** 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	Marks per question	Total Marks
Q 1	Application-based Questions (ABQ)	1	20	20
Q 2	Short answer questions (SAQ)	8	5	40
Q 3	Analytical based structured Long answer question (LAQ)	4	10	40
				100

6 F : Distribution for summative assessment (University examination)

S.No	List of Module/Unit	ABQ	SAQ	LAQ
(M- 1) Ṭibb-i-Unani me Uzn, Anf-wa-Ḥalq ki Tārīkh aur Akhlāqiyāt -o- Uṣūl -i-Ẓawābiṭ (History of Otorhinolaryngology in Unani System of Medicine.Identify the Unani physician, surgical instruments, different surgeries and make a moral role to the patients, attendant and others. Ethics and moral values) طب یونانی میں امراض اذن،انف وحلق کی تاریخ۔اخلاقیات واصول ضوابط (Marks: Range 5-15)				
1	**(U-1)** Amrāḍ -i- Uzn, Anf-wa-Ḥalq me tamām qadīm Mu'ālijīn ka t'aūn (Contribution of all ancient Unani Physicians in the field of Uzn, Anf-wa-Ḥalq) امراض اذن،انف وحلق میں تمام قدیم معالجین کا تعاون	No	Yes	Yes
2	**(U-2)** Amrāḍ -i- Uzn, Anf-wa-Ḥalq me qadīm Unani Mu'ālijīn ke dhari'y iste'māl hone wale Jīrāḥi ke Ālāṭ ki tafṣīl (Description of surgical instruments used by ancient Unani Physicians jn the field of Amrāḍ -i-Uzn, Anf-wa-Ḥalq) امراض اذن،انف وحلق میں قدیم یونانی معالجین کے ذریعہ استعمال ہونے والے جراحی کے آلات کی تفصیل	No	Yes	Yes
3	**(U-3)** Qadīm Unani Mu'ālijīn ke dhari'y ki Jāne wālī Uzn ke Jaraḥat ki tafṣīl (Description of surgeries of Ear performed by ancient Unani Physicians) قدیم یونانی معالجین کے ذریعہ کی جانے والی اذن کے جراحت کی تفصیل	No	Yes	Yes
4	**(U-4)** Qadīm Unani Mu'ālijīn ke dhari'y ki Jāne wālī Anf wa Ḥalq ke Jaraḥat ki tafṣīl (Description of surgeries of Nose & throat performed by ancient Unani Physicians) قدیم یونانی معالجین کے ذریعہ کی جانے والی انف وحلق کے جراحت کی تفصیل	No	Yes	Yes
5	**(U-5)** Amraze Uzn, Anf wa Halq me Tibbi akhlāqiyāt wa Uṣūl -i-Ẓawābiṭ (Medical ethics & moral values in Amraze Uzn, Anf wa Halq) امراض اذن،انف وحلق میں طبی اخلاقیات واصول ضوابط	No	Yes	Yes
(M- 2) Uzn ke Itlāqī Uṣūl (Applied basics of Ear) اذن کے اطلاقی اصول (Marks: Range 5-20)				
1	**(U-1)** Uzn ki Itlāqī tashrīh (Applied anatomy of ear) اذن کی اطلاقی تشریح	No	Yes	Yes
2	**(U-2)** Uzn ke Ilm-al Janīn wa Ilmul insija (Embryology and Histology of Ear) اذن کے علم الجنین اور علم الانسجہ	No	Yes	Yes
3	**(U-3)** Uzn ka Shū'āiyya Mūṭā'lā (Radiographic study of Ear) اذن کا شعاعیہ مطالعہ	Yes	Yes	Yes

4	**(U-4)** Uzn ke Manāfi‘ al-A‘dā’, wa Saut ki Ṭabī ‘āṭ (Physiology of Ear and Physics of Sound) اذن کے منافع الاعضاء و صوتی طبیعیات	Yes	Yes	Yes
5	**(U-5)** Tawāzun ke Manāfi‘ al-A‘dā’ aur Duwār Ke marīẓ per iska Itlāq (Physiology of equilibrium and its application to the dizzy patient.) توازن کے منافع الاعضاء اور دوار کے مریض پر اسکا اطلاق	No	Yes	Yes
(M- 3) Anf aur Jūyūb-al- Anf ke Itlāqī būnyādī Uṣūl (Applied basic principles of Nose and Para nasal Sinuses) انف اور جیوب الا نف کے اطلاقی بنیادی اصول (Marks: Range 5-20)				
1	**(U-1)** Anf aur Jūyūb-al- anf ki Tashrīḥ (Anatomy of the Nose and Paranasal Sinuses) انف اور جیوب الانف کی تشریح	Yes	Yes	Yes
2	**(U-2)** : Anf aur Jūyūb-al- Anf ka Ilm-al Janīn wa Ilmul insija (Embryology and Histology of nose and paranasal sinuses) انف اور جیوب الا نف کا علم الجنین و علم الانسجہ	Yes	Yes	Yes
3	**(U-3)** Shāmmā ke Manāfi‘ al-A‘dā’ (Physiology of olfaction) قوت شامہ کے منافع الاعضاء	Yes	Yes	Yes
4	**(U-4)** ‘Utās ke Manāfi‘ al-A‘dā’ (Physiology of sneezing) عطاس کے منافع الاعضاء	Yes	Yes	Yes
5	**(U-5)** Parwāz wa Ghoṭa Khori me anf wa Jūyūb-al- anf ki Pathophysiology (Pathophysiology of the nose and PNS in flight and diving) پرواز و غوطہ خوری میں انف و جیوب الانف کی پیتھوفزیالوجی	Yes	Yes	Yes
(M- 4) Jauf-al- Fam ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Oral Cavity) جوف الفم کے اطلاقی بنیادی اصول (Marks: Range 5-20)				
1	**(U-1)** Jauf-al- Fam wa Jabhi Fakkī ki Itlaqi tashrīḥ (Anatomy of mouth and facio maxillary structure) جوف الفم و جبہی فکی کی اطلاقی تشریح	Yes	Yes	Yes
2	**(U-2)** Jauf-al- Fam ke Manāfi‘ al-A‘dā’ (Physiology of oral cavity) جوف الفم کے منافع الاعضاء	No	Yes	Yes
3	**(U-3)** Lisān ki itlāqi tashrīḥ wa Dhāeqe ka Mīkāniyyah (Applied anatomy of tongue and mechanism of taste) لسان کی اطلاقی تشریح اور ذائقے کا میکانیکیہ	No	Yes	Yes
4	**(U-4)** Ghudda Lu‘ābiyya ki Tashrīḥ, aur Manāfi‘ al-A‘dā’ (Anatomy, Physiology of salivary glands) غدد لعابیہ کی تشریح، و منافع الاعضاء	No	Yes	Yes
5	**(U-5)** Jauf-al- Fam ka Ilm-al Janīn wa Ilmul insija (Embryology and Histology of oral cavity) جوف الفم کا علم الجنین و علم الانسجہ	No	Yes	Yes
(M- 5) Bal‘ūm aur Mari ke Itlaqi Bunyādī Uṣūl (Applied basics principle of Throat and oesophagus) بلعوم و مری کے اطلاقی بنیادی اصول (Marks: Range 5-15)				
1	**(U-1)** Bal‘ūm aur Marī ki Tashrīḥ (Anatomy of pharynx and oesophagus) بلعوم اور مری کی تشریح	No	Yes	Yes
2	**(U-2)** Bal‘ūm wa mari ke Manāfi‘ al-A‘dā’ aur naghnagha ka Mīkāniyyah (Physiology of oesophagus, throat and mechanism of deglutition) بلعوم و مری کے منافع الاعضاء اور نغنغہ کا میکانیکیہ	No	Yes	Yes
3	**(U-3)** Bal‘ūm wa Mari ke Ilmul janin wa Ilmul Insija (Embryology, histology of Throat and Oesophagus) بلعوم و مری کے علم الجنین و علم الانسجہ	No	Yes	Yes
4	**(U-4)** Raqba ki fiḍā-al- Bal‘ūmi (Para pharyngeal spaces of the neck) رقبہ کی فضاء البلعومی	No	Yes	Yes
5	**(U-5)** Gūdda Daraqīyya ki Itlaqi tashrīḥ wa Manāfi‘ al-A‘dā’ (Applied anatomy and physiology of Thyroid gland) غدود درقیہ کی اطلاقی تشریح اور منافع الاعضاء	No	Yes	Yes

(M- 6) Ḥanjra ke Itlaqi Bunyādī Uṣūl (Applied basics principles of Larynx) حنجرہ کے اطلاقی بنیادی اصول (Marks: Range 5-15)				
1	**(U-1)** Ḥanjra ki itlaqi tashrīḥ, (Applied Anatomy of larynx) حنجرہ کی اطلاقی تشریح	No	Yes	Yes
2	**(U-2)** Nūṭq ke Manāfi‘ al-A‘dā’ (Physiology of phonation) نطق کے منافع الاعضاء	No	Yes	Yes
3	**(U-3)** Tanaffus ke Manāfi‘ al-A‘dā’ (Physiology of respiration) تنفس کے منافع الاعضاء	No	Yes	Yes
4	**(U-4)** Ḥanjra wa Shajarah Qasaba –al-Shu‘ab ke Ilmul janin wa Ilmul Insija (Histology and embryology of larynx and tracheobronchial tree) حنجرہ و شجرہ قصبہ الشعب کے علم الجنین و علم الانسجہ	No	Yes	Yes
5	**(U-5)** Ri’a, Dhāt al-Janb, aur Wasṭ-al-ṣadar ki Itlāqi Tashrīḥ wa Su‘al ka Mīkāniyah (Applied anatomy of lungs, pleurae ,mediastinum and mechanism of cough) ریہ، ذات الجنب اور وسط الصدر کی اطلاقی تشریح اور سعال کا میکانیہ	No	Yes	Yes
(M- 7) ‘Aẓm al-Qiḥf ki Tashrīḥ-al-‘Aṣabi ke Itlāqi Bunyādī Uṣūl (Applied basics principles of Skull and neuroanatomy) عظم القحف اور تشریح العصبی کے اطلاقی بنیادی اصول (Marks: Range 5-15)				
1	**(U-1)** ‘Aẓm al-Qiḥf ki Itlaqi tashrīḥ (Applied anatomy of skull bone) عظم القحف کی اطلاقی تشریح	No	Yes	Yes
2	**(U-2)** Sarīrī Tashrīḥ-al-‘Aṣabi (Clinical Neuroanatomy) سریری تشریح العصبی	No	Yes	Yes
3	**(U-3)** A‘ṣāb Dimāghiyya ki Itlāqi Tashrīḥ (Applied anatomy of Cranial Nerves) اعصاب دماغیہ کی اطلاقی تشریح	No	Yes	Yes
4	**(U-4)** : R’as aur Raqba ki Līfāfī Fīḍa (Fascial spaces of head and neck) راس اور رقبہ کی لیفافی فضاء	No	Yes	Yes
5	**(U-5)** R’as aur Raqba ki ‘Uqdah Limphāwiyyah (Lymph nodes of head and neck) راس اور رقبہ کی عقدہ لمفاویہ	No	Yes	Yes
(M- 8) ‘Amal-i-takhdīr (Anaesthetia) عمل تخدیر (Marks: Range 5-20)				
1	**(U-1)** Amrāz-i- Uzn Anf wa Halq me takhdīr –al-Khāfiḍ Lilḍaghṭ ka ‘Amal (Hypotensive anaesthesia in ENT) امراض اذن، انف و حلق میں تخدیر الخافض للضغط	Yes	Yes	Yes
2	**(U-2)** Amrāz-i- Uzn Anf wa Halq me Insidād Aqālīm (Regional blocks in ENT) امراض اذن، انف و حلق میں انسداد اقالیم	Yes	Yes	Yes
3	**(U-3)** Takhdīr ‘Umūmī (General Anaesthesia) تخدیر عمومی	Yes	Yes	Yes
4	**(U-4)** ‘Amalīyya qabl Jirāḥiyya (Preoperative procedure) عملیہ قبل الجراحیہ	Yes	Yes	Yes
5	**(U-5)** : ‘Amalīyya ba‘d Jirāḥiyya (Postoperative procedure) عملیہ بعد الجراحیہ	Yes	Yes	Yes

6 G : Instruction for the paper setting & Blue Print for Summative assessment (University Examination)

Instructions for the paper setting.

1. 100 marks question paper shall contain:-
• Application Based Question: 1 No (carries 20 marks)
• Short Answer Questions: 8 Nos (each question carries 05 marks)
• Long Answer Questions: 4 Nos (each question carries 10 marks)
2. Questions should be drawn based on the table 6F.
3. Marks assigned for the module in 6F should be considered as the maximum marks. No question shall be asked beyond the maximum marks.
4. Refer table 6F before setting the questions. Questions should not be framed on the particular unit if indicated “NO”.
5. There will be a single application-based question (ABQ) worth 20 marks. No other questions should be asked from the same module where the ABQ is framed.
6. Except the module on which ABQ is framed, at least one Short Answer Question should be framed from each module.
7. Long Answer Question should be analytical based structured questions assessing the higher cognitive ability.
8. Use the Blueprint provided in 6G or similar Blueprint created based on instructions 1 to 7

Blueprint		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Application based Questions** 1 Question 20 marks All compulsory	M2.U3 **Or** M2.U4 **Or** M3.U1 **Or** M3.U2 **Or** M3.U3 **Or** M3.U4 **Or** M3.U5 **Or** M4.U1 **Or** M8.U1 **Or** M8.U2 **Or** M8.U3 **Or** M8.U4 **Or** M8.U5 **Or**
Q2	**Short answer Questions** Eight Questions 5 Marks Each All compulsory	1. M1.U2 **Or** . M1.U3 **Or** . M1.U1 **Or** . M1.U4 **Or** . M1.U5 2. M2.U1 **Or** . M2.U2 **Or** . M2.U3 **Or** . M2.U4 **Or** . M2.U5 3. M3.U1 **Or** . M3.U2 **Or** . M3.U3 **Or** . M3.U4 **Or** . M3.U5 4. M4.U1 **Or** . M4.U2 **Or** . M4.U3 **Or** . M4.U4 **Or** . M4.U5 5. M5.U1 **Or** . M5.U2 **Or** . M5.U3 **Or** . M5.U4 **Or** . M5.U5 6. M6.U1 **Or** . M6.U2 **Or** . M6.U3 **Or** . M6.U4 **Or** . M6.U5 7. M7.U1 **Or** . M7.U2 **Or** . M7.U3 **Or** . M7.U4 **Or** . M7.U5 8. M8.U1 **Or** . M8.U2 **Or** . M8.U3 **Or** . M8.U4 **Or** . M8.U5
Q3	**Analytical Based Structured Long answer Questions** Four Questions 10 marks each All compulsory	1. M1.U1 **Or** . M1.U2 **Or** . M1.U3 **Or** . M1.U4 **Or** . M1.U5 **Or** . M2.U1 **Or** . M2.U2 **Or** . M2.U3 **Or** . M2.U4 **Or** . M2.U5 2. M3.U1 **Or** . M3.U2 **Or** . M3.U3 **Or** . M3.U4 **Or** . M3.U5 **Or** . M4.U1 **Or** . M4.U2 **Or** . M4.U3 **Or** . M4.U4 **Or** . M4.U5 3. M5.U1 **Or** . M5.U2 **Or** . M5.U3 **Or** . M5.U4 **Or** . M5.U5 **Or** . M6.U1 **Or** . M6.U2 **Or** . M6.U3 **Or** . M6.U4 **Or** . M6.U5 4. M7.U1 **Or** . M7.U2 **Or** . M7.U3 **Or** . M7.U4 **Or** . M7.U5 **Or** . M8.U1 **Or** . M8.U2 **Or** . M8.U3 **Or** . M8.U4 **Or** . M8.U5

6 H : Distribution of Practical Exam (University Examination)

S.No	Heads	Marks
1	**Major Practical:** Long Case Evaluation of the Given Patient The candidate will conduct a comprehensive evaluation of an assigned patient. The assessment will be based on the following criteria: 1. Detailed History Taking (10 marks) 2. General and Systemic Physical Examination (10 marks) 3. Specific Examination of ENT (20 marks 4. Differential Diagnosis (10 marks) 5. Provisional and Final Diagnosis (5 marks) 6. Relevant Investigations (05 marks) 7. Management Plan (20 marks)	80
2	**Short case or short practical** (03 numbers: 30 minutes of total duration): 03X20 marks= 60 marks (i) Short case (01 number; 20 marks) **Short Case Evaluation of the Given Patient** **The assessment will be based on the following criteria:** 1. Detailed History Taking (04 marks) 2. Physical Examination (04 marks) 3. Differential Diagnosis, Provisional Diagnosis (04 marks) 4. Relevant Investigations (04 marks) 5. Management Plan (04 marks) (ii) **Spotters or specimens (05 numbers- 05X04= 20 marks)** **1.** Two specimens of Ear (one specimen is of 04 marks; 02x 04= 08) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function. or One specimen of Ear (one specimen is of 04 marks; 01x 04= 04) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function or Two specimens of Ear (one specimen is of 04 marks; 02x 04= 08) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function. **2.** Two specimens of Nose (one specimen is of 04 marks; 02x 04= 08)	60

	• Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function. or One specimen of Nose (one specimen is of 04 marks; 01x 04= 04) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function. Two specimens of Nose (one specimen is of 04 marks; 02x 04= 08) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function. or 3. One specimen of Throat (one specimen is of 04 marks; 01x 04= 04) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function. or Two specimens of throat (one specimen is of 04 marks; 02x 04= 08) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function or Two specimens of throat (one specimen is of 04 marks; 02x 04= 08) • Two marks for identification • One mark for drawing the diagram and label if necessary • One mark for function (iii) Interpretation of lab reports or usage of instruments (05 numbers- 05X04=20 marks)	
3	Viva (2 examiners: 20 marks/each examiner)	40
4	**Logbook (Activity record)** : Daily lectures/practical/experiential activities should be recorded in the logbook and checked by the concerned teacher. Marks will be deducted in case of incomplete or unchecked logbook	10
5	Clinical Record: 10 in numbers	10
Total Marks		**200**

Reference Books/ Resources

S.No	References
1	Ibn Sīnā. Al-Qānūn Fi'l Tibb (Urdu translation by Kantūri GH). 1st edn. New Delhi: Idara Kitab-al-Shif. 2007.
2	Khan A. Ḥaziq. 1 st edn. Delhi: Bīsvi Ṣadi Publishers. 1987
3	Arzānī MA. Ṭibb-i- Akbar (Urdu translation by Husain M).1 stedn. New Delhi: IdaraiKitab-al-Shifa
4	Rhāzi Z. Kitāb-al-Ḥāvī. 1 stedn. Vol.3rd .New Delhi: CCRUM; 1998.
5	Ṭabarī, AHAM. Mu'ālajāt al-Buqrāṭiyya (Urdu translation by CCRUM). Vol.3rd . New Delhi: CCRUM. 1997.
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Abbreviations

Domain		T L Method		Level	
CK	Cognitive/Knowledge	L	Lecture	K	Know
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does
CS	Cognitive/Synthesis	REC	Recitation		
CE	Cognitive/Evaluation	SY	Symposium		
PSY-SET	Psychomotor/Set	TUT	Tutorial		
PSY-GUD	Psychomotor/Guided response	DIS	Discussions		
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming		
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning		
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning		
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning		
AFT-RES	Affective/Responding	PrBL	Project-Based Learning		
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning		
AFT-SET	Affective/Organization	TPW	Team Project Work		
AFT-CHR	Affective/ characterization	FC	Flipped Classroom		
		BL	Blended Learning		
		EDU	Edutainment		
		ML	Mobile Learning		
		ECE	Early Clinical Exposure		
		SIM	Simulation		
		RP	Role Plays		
		SDL	Self-directed learning		
		PSM	Problem-Solving Method		
		KL	Kinaesthetic Learning		
		W	Workshops		
		GBL	Game-Based Learning		
		LS	Library Session		
		PL	Peer Learning		
		RLE	Real-Life Experience		

		PER	Presentations		
		D-M	Demonstration on Model		
		PT	Practical		
		X-Ray	X-ray Identification		
		CD	Case Diagnosis		
		LRI	Lab Report Interpretation		
		DA	Drug Analysis		
		D	Demonstration		
		D-BED	Demonstration Bedside		
		DL	Demonstration Lab		
		DG	Demonstration Garden		
		FV	Field Visit		
		JC	Journal Club		
		Mnt	Mentoring		
		PAL	Peer Assisted Learning		
		C_L	Co Learning		