Competency-Based Dynamic Curriculum for MD/ MS Unani
(PRESCRIBED BY NCISM)
Semester II
Applied Basics of Amraze Atfal
(Paediatrics)
(SUBJECT CODE : UNIPG-AB-AA)

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

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BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
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Preface

The Unani System of Medicine stands as one of the oldest and most well-established healthcare traditions, offering a holistic approach to health and well-being. Rooted in ancient wisdom and refined through centuries of clinical practice, Unani medicine emphasizes the balance of temperament (Mizāj), humors (Akhlāṭ), and lifestyle as fundamental principles for disease prevention and treatment. Recognized by the World Health Organization (WHO) in 1976, this system has gained global acceptance as a comprehensive and effective healthcare resource.

Within the Unani system, Amraze Atfal (Paediatrics) is a dedicated discipline focusing on the health and development of children from infancy to adolescence. This branch provides a structured framework for understanding pediatric diseases, encompassing their etiology, diagnosis, prevention, and management through Unani principles. The pediatric age group is classified under Sinn-i-Numū (Growing age), characterized by a Hot and Moist (Har Ratb) temperament, and further divided into Sinn-i-Ṭufūlat (Infancy), Sinn-i-Ṣabā (Childhood), Sinn-i-Tara'ru' (Adolescence), Sinn-i-Bulūgh/Sinn-i-Ruhāq (Puberty) and Sinn-i-Fatā (final stage of growing age). The primary objective of this specialty is to enhance pediatric health outcomes by preventing and managing a broad spectrum of childhood illnesses. It emphasizes the early detection, effective treatment, and holistic prevention of pediatric diseases while advocating for the adoption of healthy lifestyle practices, including balanced nutrition, immunization, hygiene, and regular medical assessments. This integrated approach ensures optimal growth, development, and overall well-being in children.

The MD (Mahir-e-Amraz-e-Atfal) program is meticulously designed to cultivate highly skilled specialists proficient in the assessment, management, and treatment of pediatric health conditions within the Unani medical framework. The curriculum harmoniously integrates traditional Unani wisdom with modern scientific advancements, aligning with national health policies and global pediatric standards. The program encompasses a comprehensive range of pediatric healthcare modalities, including: 'Ilāj bi'l Taghdhiya (Dietotherapy), 'Ilāj bi'l Dawā' (Pharmacotherapy), 'Ilāj bi'l Yad (Surgical Management), 'Ilāj bi'l Tadbīr (Regimenal Therapy), with a focus on Tadbīr al-Mawlūd (Neonatal Care). Beyond clinical expertise, the program places a strong emphasis on leadership, teamwork, and professional development. It fosters a culture of self-directed learning, entrepreneurship, research implementation, and evidence-based practice, ensuring that graduates are well-equipped to contribute to the advancement of pediatric healthcare. The curriculum is structured to integrate cognitive, psychomotor, and affective learning domains while enhancing communication skills, enabling specialists to deliver high-quality pediatric care across various healthcare settings. These specialists will play a crucial role in strengthening community health, contributing to national healthcare development, and upholding the highest standards of pediatric care for future generations.

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Competency-Based Dynamic Curriculum for MD/ MS Unani
Applied Basics of Amraze Atfal (UNIPG-AB-AA)

Summary & Credit Framework

Semester II

Module Number & Name	Credits	Notional Learning Hours	Maximum Marks of assessment of modules (Formative Assessment)
M 1. جنین کی اطلاقی تشریح ومنافع الاعضائی بیان (Janeen ki Iṭlaqī Tashrīḥ wa Manāfi‘ al-A‘ḍā’ bayan) Applied Anatomy & Physiology of Embryo	1	30	25
M 2. امراض اطفال کے بنیادی اصول (Amraze Atfal ke Bunyadi Uṣūl) Unani Principals in Pediatrics	2	60	50
M 3. اطلاقی کیمیاء حیویہ وعلم الاحیاء الدقیقیہ (Itlaqi Kimiyae haiwya wa Ilmul hayae daqeeqya) Applied Biochemistry & Microbiology	3	90	75
M 4. اطلاقی ماہیت مرضی (Itlaqi Mahiyate Marzi) Applied Pathology	2	60	50
M 5. اطلاقی علم الادویہ برائے امراض اطفال (Itlaqi Ilmul Advia baraye Amraze Atfal) Applied Pharmacology used in pediatrics	2	60	50
M 6. اطلاقی طبی اخلاقیات و حفظی وسماجی طب Applied Social, Preventive, Medicolegal and Ethical Medicine	3	90	75
M 7. سریریات اطفال (Sareeriyat-i-Atfal) Pediatrics Clinical Method	3	90	75
	16	480	400

Credit frame work

UNIPG-AB-AA consists of 7 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
UNIPG-AB-AA	Applied Basics of Amraze Atfal (Paediatrics)

Table 1 : Course learning outcomes and mapped Program learning outcomes

CO No	A1 Course learning Outcomes (CO) UNIPG-AB-AA At the end of the course UNIPG-AB-AA, the students should be able to	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Demonstrate expertise in Unani concepts for pediatric health assessment by conducting comprehensive medical histories, systematic physical examinations, neurodevelopmental assessments, and relevant bedside investigations for accurate diagnosis and management.	PO1,PO2,PO6
CO2	Demonstrate proficiency in applied embryology and genetic counselling by maintaining accurate documentation and adhering to legal and ethical standards; integrate classical therapeutic approaches with contemporary scientific advancements to enhance diagnostic accuracy and improve treatment outcomes.	PO2,PO5,PO8
CO3	Demonstrate the ability to design and implement community health initiatives that promote sustainable lifestyle changes and preventive strategies, in alignment with local and global health policies; with a focused emphasis on breastfeeding promotion, immunization coverage, and effective implementation of national child health programs.	PO3,PO4
CO4	Conduct interdisciplinary research merging Classical Unani medicine with biomedical sciences to produce evidence-based findings that support the integration and expansion of Unani practices in pediatric care (Amraze-Atfal).	PO3,PO4,PO5,PO8
CO5	Integrate Unani, conventional medicine and digital technologies to preserve traditional knowledge, enhance education, innovate drug development, and utilize telemedicine, while promoting sustainability and ethical sourcing.	PO4,PO5,PO8
CO6	Demonstrate expertise in Unani medicine by applying diagnostic and therapeutic principles alongside conventional practices to manage neonates and pediatric emergencies, utilizing evidence-based methods for optimal outcomes.	PO1,PO2,PO6,PO7
CO7	Appraise commitment to lifelong learning, critical thinking, and problem by engaging with emerging research and technologies in classical medicine.	PO4,PO6,PO7,PO8
CO8	Justify the importance of leadership in research and education by interpreting classical Unani literature, mentoring skilled Unani pediatricians, and fostering entrepreneurship to preserve and advance Unani medical knowledge.	PO1,PO2,PO7,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 جنین کی اطلاقی تشریح و منافع الاعضائی بیان (Janeen ki Iṭlaqī Tashrīḥ wa Manāfi‘ al-A‘ḍā’ bayan) Applied Anatomy & Physiology of Embryo** This module provides an in-depth exploration of Human Embryological Development, examining the stages from conception through early foetal growth, along with key milestones in Organ System Development as the body’s major systems form and mature. Students will also study Prenatal Diagnosis and Screening techniques, focusing on methods for detecting congenital anomalies and assessing fetal health to improve outcomes. Additionally, the module emphasizes effective Communication and Counselling skills, equipping students to engage empathetically with expectant parents, convey diagnostic information, and provide support through complex decisions. Together, these units offer a holistic view of early human development, diagnostic strategies, and the interpersonal skills essential in Applied anatomy and physiology in paediatric. • **M1.U1 اطلاقی تشریح (Iṭlaqī Tashrīḥ) Applied Anatomy** 1.1.1. تکوین جنین و عضو رئیس کی نشوونما (Takveen-i Janīn wa A‘ḍā’ Ra’īsa ki nushūnuma) Embryogenesis and development of Major Organ Systems. • **M1.U2 جنین کی اطلاقی منافع الاعضائی بیان (Janīn ki Iṭlaqī Manāfi‘ al-A‘ḍā’ bayan) Applied Physiology** 1.2.1. اعضاء رئیسہ کے طبعی افعال (A‘ḍā’ Ra’īsa ke Ṭabī‘iy Af‘āl) physiology of different vital organs. 1.2.2. جوانوں کے مقابل بچوں کے اعضاء کی منافع الاعضائی تفریق (jawano ke muqabil baccho ke aada ki manafeul adhayee tafriq) Physiological Differences in child compare to adult.	1	5	10	15	30

	• **M1.U3** تشخیص وتنظیر بین الحمل (Tashkhis wa Tanzeer bainal hamal) Prenatal Diagnosis and Screening 1.3.1. Combined first trimester screening 1.3.2. Ultrasound 1.3.3. Nuchal Translucency (NT) 1.3.4. Chorionic villus sampling (CVS) 1.3.5. Second trimester screening 1.3.6. Amniocentesis 1.3.7. Non-invasive prenatal testing (NIPT) 1.3.8. Biophysical Profile (BPP) 1.3.9. Doppler Ultrasonography • **M1.U4** Communication and Counselling 1.4.1. Common embryological conditions and congenital anomalies 1.4.2. Causes and prevalence 1.4.3. Potential impacts on paediatric health.					
2	**M-2 امراض اطفال کے بنیادی اصول (Amraze Atfal ke Bunyadi Uṣūl) Unani Principals in Pediatrics** This module deals with the fundamental principles (kulliyat) and diagnostic criteria of Unani medicine. It employs macroscopic parameters for disease diagnosis, encompassing signs and symptoms, pulse examination, and inspection of urine, stool, sweat, and sputum. The classical literature of Unani medicine contains an extensive catalogue of these indicators for diverse disease	2	10	20	30	60

	states. The module deals with its applied basics, Uṣūl-i tashkis,Uṣūl-i Ilaj. ‘Ilāj bi’l Ghidhā’. *Different methods of* Nuḍj *wa* Tanqiya • **M2.U1** اطلاقی امور طبیعیہ (Iṭlaqī Umoor-i-Tabaiyya) Basic Unani Principles 2.1.1. اطلاقی امور طبیعیہ برائے اطفال (Iṭlaqī Umūr Ṭabī‘iyya in children) 2.1.2. اطفال میں اخلاط مزاج قوی اور افعال کا منافع الاعضائی و ماہیت مرضی بیان (Consideration of physiology and pathology of Akhlāṭ, Mizāj, Quwā, Af‘āl I in Children) 2.1.3. درجات عمر مع مزاج (Darjāt-i-Umar wa Mizāj) Classification of Age and its Temperament • **M2.U2** اصول تشخیص واصول علاج (Uṣūl-i-Tashkhīṣ wa Uṣūl-i-Ilaj) Principle of Diagnosis and Treatment 2.2.1. اصول تشخیص برائے اطفال (Uṣūl-i-Tashkhīṣ in Children) 2.2.2 اصول علاج برائے اطفال (Uṣūl-i-Ilaj in Children) • **M2.U3** علاج بالغذا و یونانی معدل مناعت (Ilaj bil Taghdhiya wa Unani immunomudulator) 2.3.1. اطفال میں یونانی علاج با لغزاء کی اہمیت (Atfal me unani ilaj bil-gidha ki ahmiat) Role of Unani Dietotherapy in Paediatrics 2.3.2. Diet and Nutritional Evaluation and values of Indian food 2.3.3. اطفال میں یونانی معدل مناعت ادویہ کی اہمیت (Atfal me Unani moaddil-i manat advia ki ahmiat) Unani Immuno modulators and its importance in pediatrics. • **M2.U4** یونانی طریقہ علاج اور اس میں مستعمل تدابیر (Unani Tariqa Ilaj aur isme mustāmal Tadbīr) 2.4.1. یونانی معالجہ کے بنیادی اصول و مخصوص علاج با لتدا بیر (Unani Moalajat ke bunyadi Uṣūl wa makhsus ‘Ilāj bi’l Tadbīr) Fundamentals of Unani treatment and specific procedures 2.4.2. نضج و تنقیہ (اسہال) (Nuḍj *wa* Tanqiya (ishaal)					

	2.4.3. عمل حقنہ مع اقسام (Amale Huqna and its types) 2.4.4. عمل قاثاطیر و عمل مزاولت (Amale qasateer wa Amale muzawalat) Catheterization and CSF tapping), 2.4.5. عمل کی (Al-kayy) Cauterization 2.4.6. دلک و ریاضت (Dalk wa Riyazat) Massage and Exercise 2.4.7. انبوب انفی و معدی و ادخال القنیہ (Anbub-i anfi wa medi wa idkhalul qunaiyah) Nasogastric Tube & Canulation • **M2.U5** نفسیات اطفال(Nafsiyat-i-Atfal) Child Psychology 2.5.1. بچوں کی نفسیات میں یونانی علاج کی اہمیت (Baccho ki nafsiyat me Unani Tariqua-i-ilaj ki ahmiyat) Role of Unani medicine in Child psychology. • **M2.U6** نفسیات اطفال(Nafsiyat-i-Atfal) Child Psychology 2.6.1. بچوں کی نفسیات میں یونانی علاج کی اہمیت (Baccho ki nafsiyat me Unani Tariqua-i-ilaj ki ahmiyat) Role of Unani medicine in Child psychology.					
3	**M-3 اطلاقی کیمیاء حیویہ وعلم الاحیاء الدقیقیہ(Itlaqi Kimiyae haiwya wa Ilmul hayae daqeeqya) Applied Biochemistry & Microbiology** This module provides an in-depth exploration of key biochemical and microbiological principles essential for understanding pediatric health and disease. Students will gain foundational knowledge in metabolic processes, acid-base balance, and the role of essential vitamins and minerals, as well as the identification and management of inborn errors in carbohydrate, fat, and amino acid metabolism. The module will further introduce core concepts in microbiology, covering bacterial morphology, virology, parasitology, and mycology, with an emphasis on diagnostic methods including serology, staining, and culture techniques. Through this module, students will develop a strong grasp of biochemical and microbial mechanisms and their clinical relevance, which is critical for accurate diagnosis, treatment, and management in pediatrics. • **M3.U1** اطلاقی کیمیا حیویہ(Itlaqi kimiya haiwiyah) Applied Biochemistry	3	15	30	45	90

	3.1.1. Biochemical basis of Nutritional and metabolic diseases in children 3.1.2. Basal Metabolic Rate 3.1.3. Vitamins & Minerals 3.1.4. Metabolic Acidosis & Metabolic Alkalosis 3.1.5. Acid –Base Disorders. • **M3.U2** Metabolic Disorders 3.2.1. Approach to Inborn Errors of Carbohydrate , amino acids and Fat Metabolism 3.2.2. Disorders of Purine and pyrimidine metabolism • **M3.U3** اطلاقی علم الاحیاء الدقیقیہ (Itlaqi Ilmul ahya-ul daqqiyah) Applied Microbiology 3.3.1. Clinical Microbiology applied to investigations for diseases in childhood. 3.3.2. Bacterial Morphology, Virology, Parasitology and Mycology 3.3.3. Serology staining, culture					
4	**M-4 اطلاقی ماہیت مرضی (Itlaqi Mahiyate Marzi) Applied Pathology** **Module Description:** This module introduces students to fundamental concepts in disease mechanisms and pathology, beginning with Ilmul Ahwal (the study of states and conditions), where students explore traditional perspectives on health and disease. The Marzi Munafiyati Khususiyat (Applied Pathophysiology) unit focuses on understanding altered physiological processes in disease, linking theory to clinical scenarios. Pathogenesis covers the origins and development of diseases, emphasizing cellular and molecular changes that lead to illness. Lastly, Basic Histopathology provides practical insights into microscopic tissue analysis, helping students recognize structural changes indicative of disease. Together, these units equip students with a comprehensive understanding of disease processes from both traditional and modern perspectives.	2	10	20	30	60

	• **M4.U1** اطلاقی ماہیت مرضی (Iṭlaqī Mahiyate Marzi) Applied Pathology 4.1.1. Ilmul Aḥwāl 4.1.2. Aḥwāl badan 4.1.3. Sabab, Marz and Arz 4.1.4. AsbābĀmma 4.1.5. Asbāb Juz'iyya • **M4.U2** Marzi Munafiyati Khususiyat (Applied Pathophysiology) 4.2.1. Aza-i-Nafsani 4.2.2. Aza-i-Haiwani 4.2.3. Aza-i-Tabbiyya • **M4.U3** Pathogenesis 4.3.1. Acute Vs. Chronic inflammation 4.3.2. Regeneration vs repair • **M4.U4** Basic Histopathology 4.4.1. Primary vs secondary intention of healing 4.4.2. Phases of wound healing 4.4.3. Factors affecting wound healing 4.4.4. Cellular components					

5	**M-5 اطلاقی علم الادویہ برائے امراض اطفال (Itlaqi Ilmul Advia baraye Amraze Atfal) Applied Pharmacology used in pediatrics** The module deals with the use of drugs in children's diseases and their dosage. Children require carefully calculated dosages due to their developing bodies. Medicines for children should be age-appropriate and weight-adjusted. Doses that work for adults might be toxic for children, so paediatric dosages are crucial for safety. It also deals with consideration of Tiryaq-e-Samoom for Children. This is a traditional compound used to counteract poisoning. When considering its use in children, careful attention must be paid to the appropriate dosage and potential side effects, as children are more sensitive to both the poison and the antidote. Different types of oral and local Unani medicine used in different form and their proper implications in AmrazeAtfal. • **M5.U1** اندرونی وبیرونی ادویات (Andrūnī wa Bayrūnī Adviāt) External and internal drugs 5.1.1. اطفال کیلئے مستعمل اندرونی و بیرونی ادویات (Atfal ke liye mustamal Andrūnī wa Bayrūnī Adviāt) External and Internal drugs used for paediatric diseases • **M5.U2** اشکال ادویہ ومقدار خوراک (Ashkal-i-Adviā wa Miqdar-i-Khurak) Drug doses Forms 5.2.1. امراض اطفال میں مستعمل ادویہ اور انکی مقدار خوراک (Amraze Atfal me Mustaamal Advia aur Unki Miqdar-e-khuraak) Dosage forms and its pediatric doses • **M5.U3** تریاق سموم (Tiryāq-i-Sumūm) Antidote 5.3.1. Consideration of Tiryāq-i-Sumūm for children • **M5.U4** Clinical pharmacology 5.4.1. Clinical pharmacology: Therapeutics of childhood diseases, 5.4.2. Drug interactions, 5.4.3. Rational drug therapy, 5.4.4. Adverse Drug Reactions,	2	10	20	30	60

6	**M-6 اطلاقی طبی اخلاقیات و حفظی و سماجی طب Applied Social, Preventive, Medicolegal and Ethical Medicine** This module provides a broad overview of pediatric healthcare, beginning with Pediatric Health Care Systems and National Child Health Programs, where students learn about health infrastructure and initiatives aimed at improving child health. In Health Statistics and Global Child Health, students analyse data and global health trends impacting pediatric care. The module also covers Pediatric Care: Screening, Disability, and Rehabilitation, emphasizing early identification, intervention, and support for children with disabilities. Moreover focus on Child Rights, Protection, and Medicolegal Considerations in Paediatric Care focus on safeguarding children's welfare, while Ethical Considerations in Pediatric Care explores dilemmas unique to paediatric practice, fostering compassionate, legally-informed care approaches. Together, these units provide a comprehensive understanding of pediatric healthcare within national and global contexts. • **M6.U1** Pediatric Health Care Systems and National Child Health Programs 6.1.1. Health care delivery system 6.1.2. Structure and function of Pediatric Health Care Systems 6.1.3. National Programme related to children • **M6.U2** Health Statistics and Global Child Health 6.2.1. Health Statistics 6.2.2. Global Child Health Indicators 6.2.3. Global Child Health Initiatives • **M6.U3** Pediatric care: Screening, Disability, and Rehabilitation 6.3.1. Child Screening 6.3.2. Child Disability and Rehabilitation 6.3.3. Role of Unani in Child care	3	15	30	45	90

	• **M6.U4** Child Rights, Protection, and Medicolegal Considerations in Pediatric Care 6.4.1. Rights and Protection of Children 6.4.2. Basic Principles of Ethics and Impact of Violence on Children (Child labour & Consumer Protection Act) 6.4.3. Abused and Neglected children • **M6.U5** Ethical Considerations in Pediatrics care 6.5.1. Medicolegal case (MLC), Fitness Certificate, Medical Certificate, Person with Disability certificate, Referral letter.					
7	**M-7 سریریاتِ اطفال (Sareeriyat-i-Atfal) Pediatrics Clinical Method** This module offers essential training in pediatric clinical skills and procedures. The Clinical Method in Pediatrics unit introduces students to systematic approaches in pediatric assessment, including patient history-taking, physical examination, and case presentation tailored to children's unique needs. Applied Radiology focuses on interpreting pediatric imaging, teaching students to recognize normal and abnormal findings in X-rays,CT Scan, MRI, ultrasounds, ECG and other modalities commonly used in diagnosing childhood conditions. In Applied Surgery in Pediatrics, students explore foundational surgical principles relevant to pediatric care, including pre- and post-operative management and minor surgical procedures along with identify the surgical cases and its optimal timing of surgury.Together, these units equip students with the skills necessary for accurate diagnosis and effective management of pediatric patients • **M7.U1** روداد و عمومی امتحان مریض (Rudad wa Umūmī Imteḥān-e-Marīz) History taking and general Examination 7.1.1. استفسارات مریض (Istafsarat Mariz) Basic information 7.1.2. موجودہ شکایات (Maujudah Shikayat) Presenting Complain 7.1.3. روداد شکایت موجودہ (Rudad Shikayat Maujudah) History of present illness	3	15	30	45	90

	7.1.4. روداد سابقہ (Rudad Sabiqa) History of past illness 7.1.5. روداد ولادت (Rudad wiladat) Birth History 7.1.6. روداد بعد الولادت (Rudad bād-al-wiladat) Post Natal History 7.1.7. روداد مناعت (Rudad Manaat) Immunization history 7.1.8. روداد غذاء (Rudad Ghiza) Diet/Feeding History 7.1.9. روداد نشو ونما (Rudad Nashwo Numa) Developmental History 7.1.10. روداد دواء (Rudad Dawa)Drug history 7.1.11 روداد حساسیت (Rudad Hassasiat)Allergic history 7.1.12. روداد خاندان (Rudad Khandan) Family History and Pedigree chart 7.1.13. روداد سماجی و معاشی حالت (Rudad samaji wa Mashi halat) Socioeconomic history 7.1.14. امتحان عمومی (Imteḥān-i-Umūmī) General Examination 7.1.15. اہم عضو کا امتحان (Aham Uzw Ka IImteḥān) Vital Examination 7.1.16. امتحان نومولود (Imteḥān-i-Naumaulud) Examination of Newborn Baby 7.1.17. امتحان رأس و عنق (Imteḥān-i-Ras wa Unuq) Examination of Head & Neck 7.1.18. امتحان عین اذن انف و حلق (Imteḥān-i-ain, uzn, anaf wa halaq)Examination of Eye ear Nose and Throat 7.1.19. امتحان جلد (Imteḥān-i-Jild) Examination of Skin surface 7.1.20. امتحان طرف علوی و اسفل (Imteḥān-i-Tarf ulwi wa asfal) Examination of upper limb& Lower limb					

	7.1.21. امتحان قیاسۃ اجسم البشری (Imteḥān-i-Qayasatul jism al bashri) Anthropometric Examination 7.1.22. امتحان عمومی و نظامی (Imteḥān-i-Umumi wa Nezami) General & Systemic examination 7.1.23. تفتیشات و تشخیص (Taftishat wa Tashkhees) Investigation & Diagnosis 7.1.24. اصول علاج و علاج (Usul ilaj wa Ilaj) Management/ Treatment • **M7.U2** اطلاقی جراحت (Itlaqi Jarahat) Applied Surgery 7.2.1. Recognizing and Referring of surgical conditions in Pediatrics. 7.2.2. Identifing Optimal timing of surgery for common pediatric surgical condition • **M7.U3** اطلاقی ریڈیولوجی Applied Radiology 7.3.1. X-Rays 7.3.2. Ultra sonography (USG) 7.3.3. Echocardiogram (ECG) 7.3.4. Electroencephalogram (EEG) 7.3.5. Computed Tomography (CT-scan) 7.3.6. Magnetic Resonance Imaging (MRI).					
		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 : جنین کی اطلاقی تشریح و منافع الاعضائی بیان (Janeen ki Iṭlaqī Tashrīḥ wa Manāfi‘ al-A‘ḍā’ bayan) Applied Anatomy & Physiology of Embryo						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. Describe the key stages of human embryological development and their significance for pediatric health outcomes. 2. Identify the major organ systems developed during embryogenesis and their critical milestones in relation to pediatric health. 3. Conduct a review of prenatal diagnostic techniques, including ultrasound and amniocentesis, and describe their role in assessing foetal well-being and detecting congenital anomalies. 4. Identify the factors influencing normal and abnormal embryonic and organ system development, including genetic, environmental, and maternal health factors. 5. Describe effective communication strategies for discussing complex medical information related to embryological development and congenital anomalies with families. 6. Conduct patient counselling sessions that address the implications of prenatal screening results, providing families with compassionate support and clear information. 7. Identify ethical considerations in prenatal diagnosis and counselling, ensuring respect for patient autonomy and informed decision-making.						
Unit 1 اطلاقی تشریح (Iṭlaqī Tashrīḥ) Applied Anatomy 1.1.1. تکوین جنین و عضو رئیس کی نشوونما (Takveen-i Janīn wa A‘ḍā’ Ra’īsa ki nushūnuma) Embryogenesis and development of Major Organ Systems. **References:** 1,2,3,4,33						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO6 ,CO8	Describe the basic stages of human embryological development, from fertilization to organogenesis, including key milestones in each stage.	1	Lecture	CC	Knows-how	L,L&PPT

CO1,CO2,CO6	Evaluate common congenital anomalies through visual aids, such as embryological models or imaging studies	2	Practical1.1	CE	Shows-how	D,D-M,DIS,PBL
CO1,CO2,CO7,CO8	Identify the use of prenatal diagnostic techniques, such as ultrasound and amniocentesis, to assess embryonic development.	3	Experiential-Learning1.1	AFT-RES	Does	CBL,D

Unit 2 جنین کی اطلاقی منافع الاعضائی بیان (Janīn ki Ịtlaqī Manāfi‘ al-A‘ḍā’ bayan) Applied Physiology

1.2.1. اعضاء رئیسہ کے طبعی افعال (A‘ḍā’ Ra’īsa ke Ṭabī‘iy Af‘āl) physiology of different vital organs.

1.2.2. جوانوں کے مقابل بچوں کے اعضاء کی منافع الاعضائی تفریق (jawano ke muqabil baccho ke aada ki manafeul adhayee tafriq) Physiological Differences in child compare to adult.

References: 4,16,33

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO6,CO8	Describe the embryological development of major organ systems, highlighting critical developmental milestones and their significance to pediatric health, as well as the correlation between normal organ development and the emergence of common pediatric diseases and congenital anomalies.	1	Lecture	CE	Knows-how	L&PPT
CO1,CO2,CO7,CO8	Illustrate the structural organization of major organ systems development.	2	Practical1.2	PSY-GUD	Shows-how	D,DIS,L_VC,PER
CO1,CO2,CO7,CO8	Justify the diagnosis of congenital anomalies associated with specific organ systems using appropriate diagnostic resources.	3	Experiential-Learning1.2	AFT-VAL	Does	CD,CBL,DIS,SIM

Unit 3 تشخیص وتنظیر بین الحمل (Tashkhis wa Tanzeer bainal hamal) Prenatal Diagnosis and Screening

1.3.1. Combined first trimester screening

1.3.2. Ultrasound

1.3.3. Nuchal Translucency (NT)

1.3.4. Chorionic villus sampling (CVS)

1.3.5. Second trimester screening

1.3.6. Amniocentesis

1.3.7. Non-invasive prenatal testing (NIPT)

1.3.8. Biophysical Profile (BPP)

1.3.9. Doppler Ultrasonography

References: 4,16

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO6,CO8	Describe the various prenatal diagnostic techniques, including ultrasound, amniocentesis, chorionic villus sampling (CVS), and non-invasive prenatal testing (NIPT), and their purposes in prenatal care.	1	Lecture	CAP	Knows-how	L,L&PPT,L_VC
CO1,CO2,CO7,CO8	Demonstrate the application of various prenatal diagnostic techniques, including ultrasound, amniocentesis, chorionic villus sampling (CVS), and non-invasive prenatal testing (NIPT), and explain the embryological rationale for their use in detecting congenital anomalies and genetic disorders.	4	Practical1.3	PSY-GUD	Shows-how	CBL,D,DIS,L&GD
CO1,CO2,CO8	Conduct role-playing exercises to practice effective communication strategies for discussing prenatal screening options and potential results with expectant families.	3	Experiential - Learning1.3	PSY-SET	Does	BS,CBL,DIS,SIM
CO1,CO2,CO6,CO8	Describe the embryological rationale behind the use of prenatal screening tests for detecting congenital anomalies and genetic disorders	1	Lecture	CAP	Knows-how	L&PPT,L_VC

Unit 4 Communication and Counselling

1.4.1. Common embryological conditions and congenital anomalies

1.4.2. Causes and prevalence

1.4.3. Potential impacts on paediatric health.

References: 1,4,8,16,27

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO6,CO8	Describe common embryological conditions and congenital anomalies, including their causes, prevalence, and potential impacts on paediatric health. Discuss the role of genetics and environmental factors in the development of congenital anomalies, helping families understand the multifactorial nature of these conditions.	1	Lecture	CK	Knows-how	CBL,L&PPT
CO1,CO2,CO7,CO8	Demonstrate effective techniques for delivering sensitive information about congenital anomalies to families, including how to frame discussions positively and compassionately.	2	Practical1.4	PSY-MEC	Shows-how	CBL,D,DIS,RP
CO1,CO2,CO6,CO8	Counsel families of children with congenital anomalies, allowing for practice in a supportive environment.	4	Experiential - Learning1.4	AFT-RES	Does	CBL,RLE,RP

Practical Training Activity

Practical 1.1 : Common Congenital Anomalies

Total Learning hours (2 Hours)

1. Teacher will briefly introduce to congenital anomalies and demonstrate the visual aids such as embryological models, imaging studies (ultrasound, MRI, CT), Charts, and photographs of actual cases. **(30 Minutes)**

2. After that setup the stations with different visual aids and imaging studies and each student will participate to examine embryological models or visual aids, analyze imaging studies to identify abnormalities and discuss key features of the anomaly, including clinical significance. Then Case integration by providing a brief case study for each anomaly and students correlate imaging findings and model observations with the case history. **(60 Minutes)**

3. Post-Activity Discussion (30 minutes)

Facilitate a group discussion on:
Challenges faced during identification.
Clinical management and counseling implications.
Importance of early detection and intervention.

Practical 1.2 : Embryonic Development of Major Organs system

Total Learning Hours (2)

1. Teacher will introduce to the importance of visualizing organ system development in understanding pediatric health and brief explanation of embryological milestones highlighted in the videos. **(30 Minutes)**

2. Video Presentation: Play videos for each major organ system sequentially, pausing at critical moments to highlight such as key developmental stages, Structural organization and functional differentiation and Common congenital anomalies and their embryological basis. **(45 minutes)**

3. After each video segment, engage students in discussions about: Observed structural changes and their significance, Clinical correlations, such as implications of abnormal development or any questions or points of clarification. **(15 Minutes)**

4. Divide participants into small groups and assign each group an organ system to summarize the development stages demonstrated in the video and present to the class. Encourage participants to connect visual observations with clinical practice. **(30 Minutes)**

Practical 1.3 : Prenatal diagnostic techniques

Total Leraning Hours (4 Hours)

1. The teacher will provide an overview of prenatal diagnostic techniques, including indications and timing for each test, comparison of invasive versus non-invasive methods, explanation of embryological development and its relevance to diagnostic testing, and safety considerations and ethical aspects of prenatal diagnostics. **(45 Minutes)**

2. Station-Based Demonstration (90 minutes)

Station 1: Demonstrate the use of ultrasound for visualizing fetal development and identify key embryological structures and common anomalies.
Station 2: Use models or video simulations to explain: Procedure techniques for amniocentesis and CVS, timing and risks involved and discuss their roles in detecting genetic disorders.
Station 3: Non-Invasive Prenatal Testing (NIPT): Explain the principles of NIPT using case examples and demonstrate how to interpret sample NIPT reports.

3. Interactive Discussions (60 minutes)

Correlate findings from each technique with embryological knowledge, discuss case studies of congenital anomalies detected through these techniques, highlight decision-making in selecting appropriate diagnostic methods and summarize the key features, advantages, and limitations of each diagnostic technique.

4. Assessment and Feedback (45 Minutes)

Conduct a short quiz or interactive Q&A session to evaluate understanding and provide feedback on participant engagement and clarity in explaining concepts.

Practical 1.4 : Sensitive Information Delivery Techniques

Total learning Hours (2)

1. Pre-Activity Briefing (30 minutes)

Teacher will provide overview of the importance of compassionate communication in pediatric care and discuss how to use positive language while being honest and supportive.

2. Role-Play Demonstrations (60 minutes)

Divide participants into small groups, assign each group a scenario involving a congenital anomaly, students take turns assuming the roles as a Healthcare professional delivering the news, family member receiving the news and observer providing feedback.

3. Group Feedback and Reflection (15 minutes)

Each group discusses: What went well in their role-play scenario, areas for improvement in communication techniques and challenges in maintaining positivity and empathy.

4. Assessment and Feedback (15 minutes)

Use a checklist to evaluate students' ability to: Communicate effectively, compassionately and use positive language without minimizing the situation, address family emotions and concerns and offer constructive feedback on performance.

Experiential learning Activity

Experiential-Learning 1.1 : Prenatal Diagnostic Techniques

Total Activity hours (3 Hours)

1. Step 1: Interactive Demonstration (60 minutes)
Ultrasound Simulation: Demonstrate the use of ultrasound to visualize fetal anatomy, measure gestational age, and assess key developmental features and highlight specific structures, such as the heart, brain, and limbs, at different developmental stages.
Amniocentesis Demonstration: Use models or videos to explain the procedure, including how and why amniotic fluid is collected and analyzed and Discuss its role in diagnosing genetic and chromosomal anomalies.

2. Step 2: Hands-On Practice (30 Minutes)
Divide students into small groups and rotate through stations
Ultrasound Station: Participants use simulation software to identify embryonic structures and assess normal development.

Amniocentesis Station: Participants practice simulated procedures using models and interpret sample results provided.
Facilitate group discussions to connect diagnostic findings with embryological knowledge.

3. Step 3: Case Study Analysis (45 minutes)
Provide students with real-life or simulated case scenarios.
Groups analyze the findings from prenatal diagnostics and discuss: Correlation with developmental stages and clinical implications and recommended next steps.

4. Post-Activity Wrap-Up (45 minutes)

Summarize the significance of prenatal diagnostic techniques in monitoring fetal development and detecting anomalies. Discuss the challenges and limitations associated with these methodologies. Provide an opportunity for students to pose questions and share insights. Evaluate participants' proficiency in identifying and interpreting key findings during the activity.

Experiential-Learning 1.2 : Congenital anomalies

Total activity Hours (3)

1. Station-Based Diagnostics (60 minutes)

Station 1- Cardiovascular Anomalies: Students use echocardiogram images or models to identify defects such as atrial septal defect, ventricular septal defect, or tetralogy of Fallot and discuss associated clinical signs, such as cyanosis and murmurs.

Station 2- Nervous System Anomalies: Review imaging of neural tube defects (e.g., spina bifida, anencephaly) and brain malformations (e.g., hydrocephalus) and Correlate imaging findings with neurological symptoms.

Station 3- Musculoskeletal Anomalies: Examine models or X-rays showing skeletal dysplasias or limb deformities (e.g., clubfoot, cleft palate) and discuss implications for mobility and physical function.

2. Step 2: Case-Based Group Discussion (45 minutes)
Groups analyze pre-prepared case scenarios with patient histories, clinical findings, and diagnostic images and identify anomalies, discuss differential diagnoses, and propose management plans.

3. Step 3: Hands-On Simulation (30 minutes)
Use a diagnostic simulation app or software to interpret imaging findings and make real-time decisions and discuss how to communicate findings to families effectively.

4. Post-Activity Wrap-Up (45 minutes)

Summarize key learning points about recognizing and diagnosing congenital anomalies, Highlight the role of interdisciplinary teams in managing these conditions, Address questions and provide practical tips for accurate diagnosis. Provide feedback on accuracy, diagnostic reasoning, and communication skills demonstrated during the activity.

Experiential-Learning 1.3 : Effective communication strategies on prenatal screening

Total Activity hours (3)

1. Role play activity on effective communication strategies for discussing prenatal screening (2 hours)

Scenario 1: Discussion of Screening Options

A couple is expecting their first child and is anxious about potential genetic conditions. The healthcare professional needs to explain the different prenatal screening options and help them decide which screening to choose based on their concerns.

Scenario 2: Communicating Normal Screening Results

A pregnant woman has just completed her first trimester ultrasound and genetic screening. The results show no abnormalities. The healthcare professional must communicate the results and discuss follow-up care.

Scenario 3: Communicating Abnormal Screening Results

A couple receives the results of their genetic screening, which suggests a high risk of Down syndrome. The healthcare professional needs to discuss the implications of the results and present options for further testing (e.g., amniocentesis) or decision-making.

2. Feedback and Reflection (60 Minutes)

After each role-playing scenario, the group will discuss: The effectiveness of the healthcare professional's communication skills, how well they explained complex medical information, how they addressed the emotional needs of the expectant parents, what could be improved in terms of clarity, empathy, and support and observers will provide constructive feedback using pre-prepared feedback forms, focusing on areas such as:

Clarity: Was the information about screening options and results communicated clearly?

Empathy: Did the healthcare professional show understanding and empathy toward the parents' concerns?

Accuracy: Was the medical information explained accurately without causing unnecessary confusion or fear?

Experiential-Learning 1.4 : Counselling for Families of Children with Congenital Anomalies

Total Activity hours (4)

1. Role-Playing on Counselling Scenarios for Families of Children with Congenital Anomalies (2 hours)

Scenario 1: Counselling parents whose newborn has been diagnosed with cleft lip and palate.

Scenario 2: Discussing the prognosis and treatment for a child with a congenital heart defect (e.g., tetralogy of Fallot).

Scenario 3: Supporting a family after a diagnosis of spina bifida during prenatal screening.

2. Discuss Real-Life Application (1.5 Hours)
Emphasize the relevance of these counseling skills in clinical practice and discuss how these techniques can improve patient and family outcomes by building trust and fostering collaboration.

3. Assessment and Feedback (30 Minutes)
Conduct a short quiz or practical test where participants identify communication technique and Provide feedback on communication skills demonstrated during the activity.

Modular Assessment

Assessment method	**Hour**
Assessment Method **Instructions:** Conduct a structured modular assessment. Assessment will be for **25 marks** for this module. Keep structured marking patten. 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. **T-EW (Theory Essay Writing)** Conduct a theory exam having **one essay writing** question from any unit of this module **(20 Marks)** **P-VIVA (Practical Viva)** Conduct a practical viva **(5 Marks)** Or	2

OSCE (Objective Structured Clinical Examination) (25 Marks) **Instruction:** In OSCE is a structured assessment method used to evaluate students' clinical skills and practical knowledge across different clinical task zone. Each clinical task zone assesses a specific skill, such as history taking, physical examination, diagnosis, or communication, with predefined tasks and checklists. History Taking and Patient Interaction (5 Marks) Physical Examination Skills (5 Marks) Diagnosis and Clinical Reasoning (5 Marks) Management and Treatment Planning (5 Marks) Communication Skills (2.5 Marks) Time Management and Efficiency (2.5 Marks) Or Any practical in converted form can be taken for assessment. (15 Marks) and Any experiential, such as portfolios/ reflection/ presentations can be taken as an assessment. (10 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 2 : امراض اطفال کے بنیادی اصول (Amraze Atfal ke Bunyadi Uṣūl) Unani Principals in Pediatrics						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. Describe the concepts of Umūr Ṭabī'iyya in relation to health and disease, 2. Describe the *Unani* classification of life stages, focusing on *Sinn Namu* 3. Describe the dominant *Mizāj* for each age group during Sinn Namu. 4. Discuss the Uṣūl-i-Tashkhīṣ wa Uṣūl-i-'Ilāj in pediatric diseases. 5. Describe the importance of 'Ilāj bi'l Ghidhā' and immunomodulator in the prevention and management of pediatric disease. 6. Discuss the basic principles of unani Management and perform the various unani procedure in different conditions 7. Discuss the Role of Unani medicine in Child psychology						
Unit 1 اطلاقی امور طبیعیہ (Iṭlaqī Umoor-i-Tabaiyya) Basic Unani Principles 2.1.1. اطلاقی امور طبیعیہ برائے اطفال (Iṭlaqī Umūr Ṭabī'iyya in children) 2.1.2. اطفال میں اخلاط مزاج قوی اور افعال کا منافع الاعضائی و ماہیت مرضی بیان (Consideration of physiology and pathology of Akhlāṭ, Mizāj, Quwā, Af'āl l in Children) 2.1.3. درجات عمر مع مزاج (Darjāt-i-Umar wa Mizāj) Classification of Age and its Temperament **References:** 5,6,7,8,9,10,27,29						
CO1,CO4	Describe principles of Umūr-i Tabi'iyya such as Akhlāṭ, Mizāj, Quwā, Af'āl in pediatric age groups.	1	Lecture	CAN	Knows-how	FC,L&PPT
CO1,CO4	Demonstrate applied Unani principles of Umūr-i Tabi'iyya such as Mizaj, Akhlāt, Quwa and Af'āl	2	Practical2.1	PSY-GUD	Shows-how	D,D-M,DIS

CO1,CO4	Identify Mizaj in different age groups and apply basics of Akhlāt, Quwa and Afʿāl in different diseases	2	Experiential-Learning2.1	PSY-ADT	Shows-how	CBL,D-M
CO1,CO4	Discuss Darjāt-i Umar and stages of Namū	1	Lecture	CAN	Knows-how	BS,L&PPT
CO1,CO4	Demonstrate Darjāt-i Umar and stages of Numū (growth and development)	2	Practical2.2	PSY-GUD	Shows-how	D,D-M,PrBL,SIM
CO1,CO4	Identify Darjāt-i Umar and stages of Namū and correlate with different diseases	2	Experiential-Learning2.2	PSY-ADT	Shows-how	CBL,D-M,SIM

Unit 2 اصول تشخیص واصول علاج (Uṣūl-i-Tashkhīṣ wa Uṣūl-i-Ilaj) Principle of Diagnosis and Treatment

2.2.1. اصول تشخیص برائے اطفال (Uṣūl-i-Tashkhīṣ in Children)

2.2.2 اصول علاج برائے اطفال (Uṣūl-i-Ilaj in Children)

References: 4,10,13,22,27

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe basic principles of Usul-i Tashkhis and Usul-i Ilaj.	2	Lecture	CE	Knows-how	BL,L&PPT
CO1,CO4	Apply Unani principles of Umūr-i Tabiʿiyya such as Mizaj, Akhlāt, Quwa and Afʿāl.	3	Practical2.3	AFT-SET	Shows-how	BS,CBL,DIS,PT
CO1,CO4	Apply Uṣūl-i- Tashkhīṣ and Uṣūl-i-ʿIlāj in managing systemic diseases in different age groups.	4	Experiential-Learning2.3	PSY-ADT	Shows-how	JC,LS,PBL,W

Unit 3 علاج بالغذا و یونانی معدل مناعت (Ilaj bil Taghdhiya wa Unani immunomudulator)

2.3.1. اطفال میں یونانی علاج با لغزاء کی اہمیت (Atfal me unani ilaj bil-gidha ki ahmiat) Role of Unani Dietotherapy in Paediatrics

2.3.2. Diet and Nutritional Evaluation and values of Indian food

2.3.3. اطفال میں یونانی معدل مناعت ادویہ کی اہمیت (Atfal me Unani moaddil-i manat advia ki ahmiat) Unani Immuno modulators and its importance in pediatrics.

References: 5,8,10,13,19,27,29

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Analyze role of Unani dietotherapy and evaluate nutritional values of Indian food	1	Lecture	CAN	Knows-how	FC,L&PPT
CO1,CO4	Demonstrate the application of Al Tadbir bil Ghidha (Unani dietotherapy) principles and the nutritional values of Indian foods in clinical or simulated settings, and dietary recommendations to specific health conditions.	2	Practical2.4	PSY-MEC	Shows-how	CD,CBL,D,DIS,PER
CO1,CO4	Apply Al- Tadbir bil Ghidha' (Unani dietotherapy) and formulate diet plan based on nutritional values of Indian food	2	Experiential-Learning2.4	PSY-ADT	Does	CD,CBL,DIS,PSM
CO1,CO4	Evaluate therapeutic applications and limitations of Unani immunomodulators in managing immunocompromised conditions.	1	Lecture	CE	Knows-how	BS,L&PPT
CO1,CO4	Demonstrate principles of Unani immuno-modulators	3	Practical2.5	PSY-MEC	Shows-how	CBL,D,DIS,SIM
CO1,CO4	Apply the principles of Unani immunomodulators and recommend suitable regimens for immunocompromised children based on clinical scenarios	3	Experiential-Learning2.5	AFT-VAL	Does	DIS,JC,SIM

Unit 4 یونانی طریقہ علاج اور اس میں مستعمل تدابیر (Unani Tariqa Ilaj aur isme mustāmal Tadbīr)

2.4.1. یونانی معالجہ کے بنیادی اصول و مخصوص علاج بالتدابیر (Unani Moalajat ke bunyadi Uṣūl wa makhsus ‘Ilāj bi’l Tadbīr) Fundamentals of Unani treatment and specific procedures

2.4.2. نضج و تنقیہ (اسہال) (Nuḍj *wa* Tanqiya (ishaal)

2.4.3. عمل حقنہ مع اقسام (Amale Huqna and its types)

2.4.4. عمل قاثاطیر و عمل مزاولت (Amale qasateer wa Amale muzawalat) Catheterization and CSF tapping),

2.4.5. عمل کی (Al-kayy) Cauterization

2.4.6. دلک و ریاضت (Dalk wa Riyazat) Massage and Exercise

2.4.7. انبوب انفی و معدی و ادخال القنیہ (Anbub-i anfi wa medi wa idkhalul qunaiyah) Nasogastric Tube & Canulation

References: 7,8,14,26,27,28

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

CO1,CO4	Assess unani principles of treatment and ‘Ilāj bi’l Tadbīr (Regimenal therapy) in different pediatric age groups.	2	Lecture	CE	Knows-how	BS,L&PPT
CO1,CO4	Demonstrate Unani principles of treatment and Ilaj bit tadbir (Regimenal therapy) for specific preventive and therapeutic conditions through clinical scenarios or simulations.	5	Practical2.6	PSY-MEC	Shows-how	CBL,D-BED,D-M,DIS,PL,PBL,SIM
CO1,CO4	Identify the conditions wherein Unani treatment and IBT(Regimenal therapy) can be implemented.	8	Experiential-Learning2.6	PSY-ADT	Does	CBL,JC,LS,SIM

Unit 5 نفسیاتِ اطفال(Nafsiyat-i-Atfal) Child Psychology

2.5.1. بچوں کی نفسیات میں یونانی علاج کی اہمیت (Baccho ki nafsiyat me Unani Tariqua-i-ilaj ki ahmiyat) Role of Unani medicine in Child psychology.

References:

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe importance, historical background, and role of Unani preventive and therapeutic measures in child psychology.	2	Lecture	CE	Knows-how	BL,BS,L,L&GD
CO1,CO4	Demonstrate various integrated psychological measures and manoeuvres in different scenarios.	3	Practical2.7	PSY-MEC	Shows-how	CBL,D,D-M,DIS,PBL
CO1,CO4	Identify the conditions of psychological implications and formulate the management plan.	5	Experiential-Learning2.7	PSY-ADT	Does	CD,CBL,PBL,RP

Unit 6 نفسیاتِ اطفال(Nafsiyat-i-Atfal) Child Psychology

2.6.1. بچوں کی نفسیات میں یونانی علاج کی اہمیت (Baccho ki nafsiyat me Unani Tariqua-i-ilaj ki ahmiyat) Role of Unani medicine in Child psychology.

References: 8,14,26,27,28,29

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

Practical Training Activity

Practical 2.1 : Principles of Umūr-i Tabi‘iyya

Total learning hours (2 hours)

1. The teacher will demonstrate applied Unani principles of Umūr-i Tabi‘iyya such as Mizaj, Akhlāt, Quwa and Af‘āl through models/chart. (45 minutes)

2. Student will learn to apply the applied Unani principles of Umūr-i Tabiʿiyya such as Mizaj, Akhlāt, Quwa and Afʿāl the preventive and therapeutic conditions. (60 minutes)

3. Post-Activity Discussion: facilitate the students for discussion on implication of Mizaj, Akhlāt, Quwa and Afʿāl in pediatric age group. (15 minutes)

Practical 2.2 : Darjāt-i Umar and stages of Numū (growth and development)

Total Learning Hours (2)

1. The teacher will Introduce and demonstrate Unani principles of Darjāt-i Umar and stages of Namū (growth and development) on chart/model. (30 Minutes)

2. Divide students into groups and assign each group a stage of life. (40 minutes)
Ask students to discuss on:

- Physical, emotional, and intellectual changes in that stage.
- Responsibilities and challenges faced during specific stage of life.

Each group should create a visual timeline using images and descriptions.

3. Understanding Numū (Growth Stages) – (30 minutes)
Explain Numū as the biological and psychological growth occurring throughout life.
Discuss the stages of Numū (Growth Stages):

- Physical Growth – Body development, height, and strength.
- Cognitive Growth – Brain development, learning ability.
- Emotional Growth – Handling emotions, relationships.

Show real-life examples (e.g., a baby learning to walk, a teenager developing critical thinking).

4. Ask students to write or share: (20 Minutes)

- One key learning from this activity.
- How understanding life stages can help in real life.

Summarize how Darjāt-i Umar and Numū are interconnected and important in human development.

Practical 2.3 : Unani principles of Umūr-i Tabiʿiyya

Total learning Hours (3)

1. Start with a brainstorming session: Ask students what they know about Umūr-i Tabiʿiyya and how it views Pediatric health. (10 Minutes)
2. Explain Umūr-i Tabiʿiyya as the fundamental Unani principles governing Pediatric health. (60 Minutes)
Introduce the four key principles:

- Mizāj (Temperament) – The balance of hot, cold, moist, and dry properties in the Pediatric age group.
- Akhlāt (Humours) – The four humors (Dam – Blood, Balgham – Phlegm, Safra – Yellow bile, Saudā – Black bile) and their role in health.
- Quwa (Power/s or faculty/ies) – The body's faculties, such as digestive, metabolic, and nervous system functions.
- Afʿāl (Functions) – The physiological and biochemical actions performed by the body.

3. Group Work - Identifying Mizāj (90 minutes)

1. Divide students into groups and assign each a temperament type (Sanguine, Phlegmatic, Choleric, Melancholic).
2. Provide each group with a list of physical appearance and characters of child.
3. Ask them to classify child based on different types temperament in pediatric age group.
4. Each group presents their findings on how specific physical appearance and characters of child influence Mizāj.
5. Assign different Quwa (Powers) to pairs of students, such as Quwwat Ghādiya (Digestive Power), Quwwat Namiya (Growth Power), and Quwwat Muharrika (Motor Power).
6. Each pair explains their assigned power using a real-life example (e.g., Digestion of food = Quwwat Ghāziya).

4. Conclude with a discussion on how Umūr-i Tabiʿiyya helps in diagnosis and treatment of a pediatric age group in Unani medicine and Q&A sessions for students. (20 Minutes)

Practical 2.4 : Al Tadbir bil Ghidha (Unani dietotherapy) and nutritional values of Indian food

Total Learning hours (2)

1. Teacher will begin with a discussion on why pediatric nutrition is important and introduce the pediatric age groups and their dietary needs (30 Minutes)

- Explain how Mizāj (temperament), Akhlāt (humours), and Quwa (powers) influence food choices for children.

2. Group Work – Identifying Age-Specific Foods (20 minutes)
Divide students into groups, assigning each a pediatric age group.
Each group will:

- Identify suitable foods for their assigned age group.
- Classify foods based on Mizāj (hot, cold, moist, dry).

- Discuss the nutritional values and how they support growth and immunity.

3. Each group presents their findings. (20 minutes)

- Distribute case study cards to groups. Examples:
- Malnourished infant with weak digestion
- Toddler with frequent diarrhea
- Anemic school-age child
- Teenager with acne and hormonal imbalance

4. Each group will: (20 minutes)

- Identify the root cause based on Unani principles.
- Recommend age-appropriate foods to balance humours and improve health.
- Explain how these foods provide essential nutrients.

5. Groups present their case analysis. (20 minutes)

- Pair up students – one as a Unani physician, the other as a parent seeking dietary advice for their child.
- The "parent" explains the child's symptoms, and the "physician" recommends an appropriate diet using Unani principles.
- Rotate roles and discuss the scientific basis and Unani rationale behind the recommendations.

6. Students discuss key takeaways, such as: (10 minutes)

- How pediatric nutrition differs across age groups.
- The importance of balancing Mizāj (temperament) and Akhlāt (humors).
- How Al Tadbir bil Ghidha (Unani dietotherapy) can be integrated with modern pediatric nutrition.

Practical 2.5 : Principles of Unani immuno-modulators

Total Learning hours (3)

Teacher will discuss the immuno-modulators in Unani medicine, Concept of Tabi'at (Innate Healing Power), How does Mizāj (temperament) and Akhlāt (humours) influence immunity and why are children more susceptible to infections, and how can we strengthen their immune system naturally. (40 Minutes)
Divide students into groups, assigning each a pediatric age group: Neonates (0-28 days), Infants (1-12 months), Children (1-10 years), Adolescents (11-18 years)
Each group will: (60 Minutes)

- Identify age-appropriate Unani immuno-modulators.
- Classify them based on Mizāj (hot, cold, moist, dry).
- Explain their role in boosting immunity & preventing infections.
- Each group presents their findings.

Distribute case study cards with common pediatric immunity issues: (50 Minutes)
Each group will:

- Analyze the root cause based on Unani principles.
- Recommend natural immuno-modulators and dietary adjustments.
- Explain the scientific and Unani rationale for their choices.
- Groups present their case solutions.

Written Reflection: (30 Minutes)

- How does Unani medicine approach pediatric immunity differently from modern medicine?
- How can they apply these principles in real-life settings?

Practical 2.6 : Ilaj bit tadbir (Regimenal therapy) in children

Total learning Hours (5)

1. The teacher will demonstrate Unani principles of treatment i.e., Ilaj bid Dawa (Mundhiz wa Tanqiya-i Mawad/Mushil etc.) and IBT(Regimenal therapy) like Dalk, Riyazat, Fasd, Hijama, Irsal-i Alaq etc. as per applicability of Usul-i Ilaj, pleural & CSF tapping, canulization, catheter insertion, naso-gastric intubation etc. in preventive and therapeutic conditions through case-based learning/PPT/video. (20 Minutes for each procedure)

2. Students will observe and/or perform the integrated principles of treatment and IBT(Regimenal therapy) in preventive and therapeutic conditions (40 Minutes for each procedute)

Practical 2.7 : Management of Psychological disorders

Total Learning Hours (3)

1. Teacher will introduction to Pediatric Psychological Measures (30 minute)

- Why are psychological approaches important in pediatric care?
- How do children of different age groups (infants, toddlers, school-aged children, adolescents) respond to medical settings?

- What are common fears & anxieties in pediatric patients?

2. Teacher will explain Psychological Techniques & Maneuvers: (60 minute)

- Non-Verbal Communication: Eye contact, smiling, gentle touch.
- Distraction Techniques: Toys, games, storytelling, music therapy.
- Parental Involvement: Holding, soothing, comfort talk.
- Cognitive-Behavioral Strategies: Deep breathing, guided imagery, positive reinforcement.
- Desensitization: Gradual exposure to medical procedures.
- Comfort Positioning: Holding techniques to reduce fear and pain.

3. Group Work – Demonstrating Psychological Measures (60 minutes)

Divide students into groups, assigning each a specific pediatric scenario:

- Group 1: A toddler getting vaccinated.
- Group 2: A preschooler undergoing a blood test.
- Group 3: A school-aged child with separation anxiety in a hospital setting.
- Group 4: An adolescent with anxiety about surgery.

Each group will:

- Identify appropriate psychological interventions based on the child's age.
- Demonstrate at least two techniques to manage anxiety and cooperation.
- Discuss how parental involvement can enhance comfort.
- Groups take turns presenting their approaches, using role-play.

4. Students discuss key takeaways: (30 Minutes)

- The impact of psychological support on pediatric patient cooperation.
- Age-appropriate methods to reduce stress and anxiety.
- How to integrate these measures into clinical practice.

Experiential learning Activity

Experiential-Learning 2.1 : Mizaj, Akhlāt, Quwa and Afʿāl in different age groups in different diseases

Total Activity hours (2) **1.** Student will identify Mizaj of atleast 6 to10 patients of different age groups and apply basics of Akhlāt, Quwa and Af'āl in different diseases as per applicability of Uṣūl-i-Tashkhīṣ and Uṣūl-i-'Ilāj.
Experiential-Learning 2.2 : Usul-i-Ilaj and Ilaj according to darjāt-i Umar
Total Activity Hours (2 Hours) **1.** Student will identify Mizaj of atleast 3 patients followed by stage of chronological development of the patient and will correlate with disease of the patient to formulate Usul-i-Ilaj and Ilaj.
Experiential-Learning 2.3 : Usul-i Tashkhīs and Usul-i Ilaj in childrens
Total activity Hours (4) **1**. Student will apply and formulate Uṣūl-i- Tashkhīṣ and Uṣūl-i-'Ilāj in atleast two systemic diseases of different pediatric age groups. (3 hours) **2.** Student will present in seminar and conduct literature survey on Uṣūl-i- Tashkhīṣ and Uṣūl-i-'Ilāj. (1 hour)
Experiential-Learning 2.4 : Al- Tadbir bil Ghidha (Unani dietotherapy)
Total Activity Hours (2 Hours) 1. Students will formulate diet plan for maintenance of health and management of specific diseases based on Al- Tadbir bil Ghidha' (Unani dietotherapy). (2 to 3 cases)
Experiential-Learning 2.5 : Unani immuno-modulators
Total Activity hours (3) 1. Student will identify Unani immuno-modulators and prescribe in immuno-compromised patients / simulated cases.(6 cases) or 2. Comprehensive literature review on applicability of Unani immuno-modulators in children.
Experiential-Learning 2.6 : Ilaj bit tadbir (Regimenal therapy)
Total Activity Hours (8) 1. Student will identify and formulate Unani treatment and IBT (Regimenal therapy) as per applicability of Usul-i Ilaj (3 to 4 cases) (3 hours)

2. Perform IBT(Regimenal therapy) like Dalk, Riyazat, Fasd, Hijama, Irsal-i Alaq etc. as per applicability of Usul-i Ilaj, pleural & CSF tapping, canulization, catheter insertion, naso-gastric intubation etc through case-based learning/PPT/video. (2 hours)

3. Conduct seminar,or literature survey, journal club and book review on Ghidha from classical Unani literature. (2 hours)

4. Student will teach/demonstrate IBT (Regimenal therapy) and clinical procedures to the interns and UG students. (1 hour)

Experiential-Learning 2.7 : Psychological disorders in childern

Total Activity Hours (5)

1. Students will examine clinical features, evaluate differential diagnoses, reach possible diagnosis and prescribe treatment for psychological conditions through case-based learning/PPT/video.(2 to 3 cases) (3 Hours)

2. Student will teach/demonstrate the psychological conditions in children, to the interns and undergraduate students. (2 Hours)

Modular Assessment

Assessment method	**Hour**
Formative Assessment 4 hours **Instructions:** Conduct a structured modular assessment. Assessment will be for **50 marks** for this module. Keep structured marking patten. 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. **Short Answer Questions (15 marks)** Conduct Three Short Answer Question having 5 Marks each **2. Case-Based Scenarios (10 marks)** **3. Diagram Labeling and Explanation (10 marks)** Task: Provide a diagram of a child with labeled regions, e.g., major organ systems, and ask students to explain the role of each in Unani pediatrics. Additional Task: Students label elements of humoral theory and explain how these relate to common childhood illnesses in Unani practice. **4. Short Essay (15 marks)** Or Any practical in converted form can be taken for assessment. (25 Marks)	4

and Any experiential, such as portfolios/ reflection/ presentations can be taken as an 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 3 : اطلاقی کیمیاء حیویہ وعلم الاحیاء الدقیقیہ (Itlaqi Kimiyae haiwya wa Ilmul hayae daqeeqya) Applied Biochemistry & Microbiology						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. **Describe the Biochemical Basis of Pediatric Diseases** 2. **Analyze and Interpret Biochemical and Metabolic Test Results** 3. **Apply Knowledge of Inborn Errors of Metabolism (IEMs)** 4. **Describe Acid-Base Balance and Its Clinical Implications** 5. **Identify Common Paediatric Pathogens through Microbiological Techniques** 6. **Perform and Interpret Serological and Culture Techniques** 7. **Integrate Biochemistry, Metabolic, and Microbiological Knowledge in Clinical Practice**						
Unit 1 اطلاقی کیمیا حیویہ (Itlaqi kimiya haiwiyah) Applied Biochemistry 3.1.1. Biochemical basis of Nutritional and metabolic diseases in children 3.1.2. Basal Metabolic Rate 3.1.3. Vitamins & Minerals 3.1.4. Metabolic Acidosis & Metabolic Alkalosis 3.1.5. Acid –Base Disorders. **References:** 34,35,36						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**

CO1,CO6,CO7,CO8	Describe the concept of **Basal Metabolic Rate (**BMR) and factors influencing it (age, sex, body composition) and Explain the clinical significance of BMR in paediatric patients, especially in growth and metabolic disorders.	1	Lecture	CC	Knows-how	L,L&GD,L&PPT
CO1,CO7,CO8	Calculate BMR using relevant formulas and tools and analyze BMR values in pediatric patients with metabolic disorders.	2	Practical3.1	PSY-MEC	Shows-how	CBL,DIS,PBL
CO7,CO8	Conduct case-based discussions on the role of BMR in conditions like growth retardation or obesity.	2	Experiential-Learning3.1	AFT-SET	Does	CBL,LRI,PSM,RP,SY
CO1,CO6,CO7,CO8	Describe the pathophysiology of acidosis and alkalosis in paediatric patients and correlate these conditions with diseases such as diarrhoea, renal disorders, or diabetic ketoacidosis	1	Lecture	CE	Knows-how	L,L&PPT
CO1,CO6,CO7,CO8	Interpret results from blood assays related to vitamin D, iron, and calcium levels and discuss case study analysis on children with rickets, anaemia, or scurvy and propose management strategies.	2	Practical3.2	CE	Shows-how	CBL,DIS,PER,SIM
CO1,CO6,CO7,CO8	Demonstrate the process of blood sampling technique for arterial blood gas ABG and interpret (ABG) report to diagnose metabolic acidosis/alkalosis and Conduct simulated cases for diagnosis and management of acid-base disorders.	2	Practical3.3	CAP	Shows-how	D,DIS,LRI,PBL,SIM
CO1,CO7,CO8	Evaluate Arterial Blood Gas (ABG) results to differentiate between metabolic and respiratory acid-base disorders, conduct case studies on paediatric diseases such as cystic fibrosis and renal failure that present complex acid-base disturbances, and explore therapeutic interventions for correcting these disorders in simulation labs.	2	Practical3.4	CE	Shows-how	CBL,PSM,SIM
CO1,CO7,CO8	Organize field visits to paediatric nutritional units to observe clinical manifestations of vitamin and mineral deficiencies and participate in dietary assessment of paediatric patients and create supplement plans.	2	Experiential-Learning3.2	PSY-MEC	Does	CBL,LRI,SIM
CO7,CO8	Revise acidosis/alkalosis and their management. and discussions with multidisciplinary teams on treatment strategies for correcting acid-base imbalances.	3	Experiential-Learning3.3	PSY-ADT	Shows-how	CBL,LRI,PAL,PBL,PSM
CO1,CO7,CO8	Plan a management for complex acid-base disorders.	3	Experiential-Learning3.4	CS	Does	CD,CBL,LRI,SIM

CO1,CO7,CO8	Apply standard clinical and diagnostic techniques to suit the unique presentations of Inborn errors of metabolism in pediatric patients	2	Experiential-Learning3.5	PSY-ADT	Does	LRI,SIM
CO1,CO7,CO8	Demonstrate a consistent commitment to patient-centered care by actively participating in the creation and monitoring of individualized dietary plans and in the prompt management of metabolic crises in pediatric patients, reflecting empathy, responsibility, and professional ethics.	3	Experiential-Learning3.6	AFT-CHR	Does	CBL,SIM
CO1,CO6,CO7,CO8	Describe the biochemical role of key vitamins (A, D, K, B-complex) and minerals (calcium, iron, zinc) in children and explain the symptoms and biochemical markers of vitamin and mineral deficiencies or excess. Explore and interpret the relationship between malnutrition, micronutrient deficiencies, and metabolic diseases in children.	1	Lecture	CE	Knows-how	L,L&PPT
CO1,CO6,CO7,CO8	Describe the principles of acid-base balance, including the Henderson-Hasselbalch equation, explain the biochemical basis of different acid-base disorders (e.g., respiratory and metabolic), and recognize the clinical implications of mixed acid-base disorders in pediatrics.	1	Lecture	CC	Knows-how	L,L&GD

Unit 2 Metabolic Disorders

3.2.1. Approach to Inborn Errors of Carbohydrate , amino acids and Fat Metabolism

3.2.2. Disorders of Purine and pyrimidine metabolism

References: 35,36,37

3A	3B	3C	3D	3E	3F	3G
CO1,CO7,CO8	Describe Glycolysis, Gluconeogenesis, Glycogenolysis and Glycogenesis, biochemical Tests: Blood glucose, lactate, pyruvate, and ketone body levels, enzyme Assays: Specific testing for enzyme deficiencies in suspected carbohydrate metabolism disorders, genetic Testing: Role of genetic testing for diagnosing inborn errors such as GSDs and galactosemia.	1	Lecture	CC	Knows-how	L,L&GD,L&PPT
CO1,CO7,CO8	Describe Amino Acid Catabolism, Transamination, Deamination and Diagnostic Approach in diagnosing metabolic disorders of Animo acids.	1	Lecture	CC	Knows-how	L&PPT ,L_VC

CO1,CO7,CO8	Describe Fatty Acid Oxidation Disorders (FAOD): Understanding disorders like Medium-Chain Acyl-CoA Dehydrogenase Deficiency (MCADD), clinical presentation (e.g., hypoketotic hypoglycemia), diagnostic markers (acylcarnitine profile), and management. Describe Carnitine Deficiency: Pathophysiology of carnitine transport defects, clinical manifestations (muscle weakness, hypoglycemia), diagnosis, management and the use of carnitine supplementation.	1	Lecture	CC	Knows-how	L,L&GD,L&PPT
CO1,CO7,CO8	Demonstrate the clinical Interpretation, laboratory tests and Diagnosis of Glycogen storage disease (GSD), galactosemia, and hereditary fructose intolerance.	3	Practical3.5	PSY-MEC	Shows-how	CBL,D,PSM,SIM
CO1,CO7,CO8	Identify symptoms, interpret relevant investigation, Management, complication, long-term monitoring, genetic counselling of Phenylketonuria	4	Practical3.6	PSY-GUD	Shows-how	CBL,D,DIS,PT,PER,PBL
CO1,CO7,CO8	Interpret symptoms, diagnostic tests, Management, Complication, long-term monitoring, genetic counselling of Medium-Chain Acyl-CoA Dehydrogenase Deficiency (MCAD)	2	Practical3.7	PSY-GUD	Shows-how	CBL,D,PBL
CO1,CO7,CO8	Revise the clinical examination, diagnostic approch and managemenet of Glycogen Storage Diseases (GSD) and Galactosemia	3	Experiential-Learning3.7	PSY-ADT	Does	CBL,DIS,SIM
CO1,CO7,CO8	Interpret clinical features, diagnostic techniques, dietary and crisis Management, Phenylketonuria (PKU), Maple Syrup Urine Disease (MSUD), and Tyrosinemia.	5	Experiential-Learning3.8	CE	Does	CBL,DIS,SIM
CO1,CO7,CO8	Identify clinical features, diagnosis techniques, management, of fatty acid oxidation disorders	2	Experiential-Learning3.9	PSY-ADT	Does	CBL,DIS,LRI,SIM
CO1,CO7,CO8	Disscus the importance of genetic counselling in Inborn errors of Carbohydrate metabolism and educate caregivers on disease management and follow-up care.	3	Practical3.8	AFT-RES	Shows-how	CBL,RP
CO1,CO6,CO7,CO8	Describe Glycogen Storage Diseases (GSD), Types (I, II, III, V, etc.), enzyme defects, clinical features (e.g., hypoglycaemia, hepatomegaly), diagnostic methods (liver biopsy, enzyme assays), and management (e.g., dietary modifications).	1	Lecture	CE	Knows-how	L,L&PPT

CO1,CO6,CO7,CO8	Describe Galactosemia, Deficiency of galactose-1-phosphate uridyltransferase, neonatal presentation (jaundice, cataracts), diagnostic screening, and management (galactose-free diet).	1	Lecture	CE	Knows-how	L,L&PPT
CO1,CO6,CO7,CO8	Describe Phenylketonuria (PKU): Genetic mutations, clinical features (developmental delay, intellectual disability), dietary phenylalanine restriction, and long-term management. Describe Maple Syrup Urine Disease (MSUD): Enzyme deficiency, presentation (acute neonatal encephalopathy), management including diet and potential liver transplantation. Describe Homocystinuria: Pathophysiology, clinical spectrum (ocular, skeletal, neurological involvement), enzyme defects, treatment with vitamin B6, folate, and dietary modification.	1	Lecture	CC	Knows-how	L,L&PPT

Unit 3 اطلاقی علم الاحیاء الدقیقیہ (Itlaqi Ilmul ahya-ul daqqiyah) Applied Microbiology

3.3.1. Clinical Microbiology applied to investigations for diseases in childhood.

3.3.2. Bacterial Morphology, Virology, Parasitology and Mycology

3.3.3. Serology staining, culture

References: 38,39,40

3A	3B	3C	3D	3E	3F	3G
CO1,CO7,CO8	Describe Structure of Bacteria and differentiate Gram-positive and Gram-negative bacteria. Discuss virulence factors such as toxins, and enzymes that contribute to bacterial pathogenesis in pediatric diseases.	1	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO7,CO8	Describe Structure of Fungus and Classification into yeasts, molds and dimorphic fungi, Diagnosis and Treatment of fungal infections in pediatric age groups.	1	Lecture	CAP	Knows-how	L,L&GD,L&PPT ,L_VC

CO1,CO7,CO8	Display the principles and clinical significance of Gram staining and Ziehl-Neelsen staining for tuberculosis. and interpret bacterial cultures from different specimens (blood, CSF, urine) and antibiotic susceptibility testing (e.g., Kirby-Bauer disk diffusion) to support clinical decision-making in outpatient or simulated settings.	2	Practical3.9	PSY-MEC	Shows-how	CBL,D,LRI,PER,RP,SIM
CO1,CO7,CO8	Perform KOH mount, fungal cultures, and lactophenol cotton blue stain for identifying fungal elements in clinical specimens (e.g., Candida, Aspergillus). Interpret skin scrapings for superficial fungal infections.	2	Practical3.10	PSY-GUD	Shows-how	D,LRI
CO1,CO7,CO8	Motivate in hands-on microscopy sessions to observe and identify different bacterial shapes and arrangements after performing Gram staining and other staining techniques.	3	Experiential-Learning3.10	AFT-CHR	Does	DL,LRI,W
CO1,CO7,CO8	Demonstrate proficiency in performing fungal culture techniques, including media preparation and inoculation, and apply diagnostic findings to discuss and contribute to the management of pediatric fungal infections using relevant case studies.	3	Experiential-Learning3.11	PSY-MEC	Does	CD,CBL,DIS
CO1,CO7,CO8	Demonstrate professional behavior and communication to effectively engage in simulated viral outbreak scenarios and real-time laboratory settings, demonstrating a growing commitment to public health responsibility, teamwork, and the ethical application of virological knowledge in clinical practice.	2	Experiential-Learning3.12	AFT-VAL	Does	LRI,PT,SIM
CO1,CO7,CO8	Apply field and clinical skills by participating in community health surveys on parasitic infections and by responding to diverse clinical scenarios through appropriate diagnostic testing and tailored management planning, demonstrating flexibility and competence in real-world public health and clinical settings.	3	Experiential-Learning3.13	PSY-ADT	Does	CBL,LRI,PT
CO1,CO6,CO7,CO8	Conduct serological tests, such as ELISA and agglutination assays, on patient samples to diagnose infections like HIV, hepatitis, and streptococcal infections.	3	Experiential-Learning3.14	PSY-SET	Does	LRI,PT
CO1,CO7,CO8	Interpret viral diagnostic tests such as PCR, ELISA, and viral cultures and identify cytopathic effects of viruses in cell cultures.	2	Practical3.11	CE	Shows-how	CBL,LRI,PBL,SIM

CO1,CO7,CO8	Demonstrate stool samples under microscopy for helminths, protozoa (e.g., Giardia, Entamoeba).,Blood smears for malarial parasites and interpretation of species (e.g., P. falciparum, P. vivax).	2	Practical3.12	PSY-MEC	Shows-how	DL,FV,LRI
CO1,CO7,CO8	Describe Structure and Classification of Virus and understand the viral replication cycle	1	Lecture	CE	Knows-how	L,L&PPT
CO1,CO7,CO8	Describe Parasite Classification and Life Cycles, with examples relevant to pediatric infections (e.g., Plasmodium, Ascaris). Demonstrate the clinical presentation of parasitic infections in children, including malnutrition, anemia, and growth retardation. Discuss the principles of antiparasitic therapies and their use in pediatric practice.	1	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO7,CO8	Describe ELISA (enzyme-linked immunosorbent assay), Rapid diagnostic tests (e.g., lateral flow assays), Agglutination tests, Immunofluorescence. Discuss the Staining Techniques Gram stain, Acid-fast stain (e.g., Ziehl-Neelsen for Mycobacterium tuberculosis),Giemsa stain (malaria, other parasites). and Special Stains in Pediatrics: Periodic acid-Schiff (PAS) for fungal infections, Wright stain for blood smears. Discuss the types of Culture Media Nutrient agar, blood agar, and chocolate agar (general bacterial culture), Sabouraud agar (fungal culture), Lowenstein-Jensen (LJ) medium (mycobacterial culture).	1	Lecture	CAP	Knows-how	L,L&PPT
CO7,CO8	Demonstrate the principles and clinical significance of enzyme-linked immunosorbent assay (ELISA) for detecting specific antibodies or antigens in serum samples and interpret results and calculate titer for conditions like viral hepatitis, HIV, and autoimmune disorders and interpret results of Western blotting for confirmation of viral infections (e.g., HIV)	2	Practical3.13	PSY-ADT	Shows-how	CBL,DIS,LRI,SIM

Practical Training Activity

Practical 3.1 : Role of BMR in pediatric growth and metabolism

Total Learning Hours (2)

Teacher will discuss about BMR in pediatric age group, factors affecting BMR, and how to calculate BMR of pediatric age group. (30 Minutes)

Divide students into small groups, providing each with a patient data sheet containing (30 Minutes)

- Age, weight, height, gender
- Physical activity level

Each group will:

- Calculate the BMR using the Schofield or Harris-Benedict equation.
- Compare it to pediatric BMR reference values.
- Discuss whether the BMR is normal, low, or high for that age group.

Groups will present their findings.
Clinical Case Studies – BMR in Pediatric Disorders (30 minutes)
Distribute case study cards to each group. Examples:

- Case 1: Hypothyroidism (low BMR, weight gain, fatigue).
- Case 2: Malnutrition (very low BMR, muscle wasting).
- Case 3: Childhood Obesity (high or normal BMR, excess calorie intake).
- Case 4: Hyperthyroidism (high BMR, weight loss, hyperactivity).

Each group will:

- Calculate BMR for the case using the provided weight, height, and age.
- Identify deviations from normal values.
- Discuss the clinical significance of altered BMR in the disorder.
- Groups will present their case analysis, explaining how BMR changes in the condition.

Interpretation & Treatment Discussion (15 minutes)
Compare BMR results across groups:

- Which disorders showed low BMR?
- Which conditions had high BMR?

- What dietary & lifestyle changes could modify BMR?

Discuss Pediatric Management Strategies:

- For Low BMR (Hypothyroidism, Malnutrition): Nutrient-dense diet, thyroid hormone therapy.
- For High BMR (Hyperthyroidism, Growth Spurts): High-calorie diet, stress management.
- For Obesity (BMR may be normal but excess intake): Controlled diet, increased activity.

Students discuss (15 Minutes)

- How BMR is used in pediatric nutritional assessment.
- The impact of hormonal & metabolic disorders on BMR.
- The role of diet and exercise in modifying BMR.

Practical 3.2 : Role of vitamins and minerals

Total Learning Hours (2)

Teacher will Brief Explanation of Key Biomarkers for Vitamin D Deficiency, Iron Deficiency Anemia, Vitamin C Deficiency (Scurvy) and Clinical Importance of Early Diagnosis. (30 Minutes)

Divide students into small groups and provide each group with simulated or real lab reports of Vitamin D Deficiency, Iron Deficiency Anemia, Vitamin C Deficiency (20 Minutes)
Each group will: Interpret the lab results based on normal reference ranges and correlate findings with clinical symptoms and Discuss underlying causes.

Group Presentation: Explain findings, probable diagnosis, and further investigations if needed.

Assign Clinical Cases to Groups: (30 Minutes)

- Case 1: A 2-year-old child with bowed legs, delayed walking, and irritability ⟶ Suspected rickets.
- Case 2: A 5-year-old girl with pale skin, fatigue, and poor appetite ⟶ Suspected iron-deficiency anemia.
- Case 3: A 3-year-old boy with swollen, bleeding gums, joint pain, and bruises ⟶ Suspected scurvy.

Each group will: Identify the likely deficiency based on history and lab findings and propose a management plan, including: Dietary modifications, Pharmacological treatment, Lifestyle recommendations, Follow-up and prevention strategies. (20 Minutes)

Group Presentation & Discussion: Each group presents their case analysis and management plan and peer review and instructor feedback on accuracy and feasibility of recommendations. (20 Minutes)

Practical 3.3 : Metabolic acidosis and alkalosis

Total Learning Hours (2)

Teacher will introduce arterial blood gases (ABG) and demonstrate the blood sampling technique for ABG through Video or simulator. (20 Minutes)

Students perform guided simulated ABG sampling on mannequins or practice arms. (30 Minutes)
Instructor assesses technique and provides feedback.

Each student receives a simulated ABG report and identifies the disorder (10 minutes)

Presentation & Discussion (40 Minutes)
Explain the findings (cause of acid-base disorder).
Determine the primary problem vs. compensatory mechanisms.
Discuss common clinical conditions associated with these disorders.

Each student receives a simulated case for diagnosis and management. (20 Minutes)

Practical 3.4 : Various pediatric acid-base disorders

Total Learning Hours (2 Hours)

1. Teacher will discuss to differentiate between metabolic and respiratory acid-base disorders and demonstrate the procedure of ABG. (30 miutes)

2. Analyze cases of mixed acid-base disorders and perform stepwise interpretation of ABG results. (15 Minutes)

3. Perform practical exercises on the assessment of buffer systems, respiratory compensation, and renal regulation in acid-base balance. (15 Minutes)

4. Practice using clinical algorithms to approach common pediatric acid-base disorders (e.g., lactic acidosis, respiratory acidosis in asthma, renal compensation in chronic kidney disease). (30 Minutes)

5. Utilize case-based discussions to integrate the management of acid-base disorders into broader pediatric clinical care (e.g., in neonates, children with chronic illnesses). (30 Minutes)

Practical 3.5 : Inborn errors of carbohydrate metabolism

Total Learning Hours (3)

Teacher will briefly introduced Glycogen Storage Disease (GSD), Galactosemia, Hereditary Fructose Intolerance (HFI) through chart or video presentation (60 Minutes)

Case Study Review (Clinical Interpretation)

Divide students into 3 groups, each assigned one of the following disorders:

- Glycogen Storage Disease (GSD)
- Galactosemia
- Hereditary Fructose Intolerance (HFI)

Each group will review a simulated patient case that includes: (40 Minutes)

- Age of onset, Symptoms, Dietary history, Family history
- Students should analyze the symptoms and formulate a differential diagnosis based on metabolic pathways.
- Students determine the subtype based on lab findings.
- Management Strategies for these metabolic disorders.

Each group make a poster/video clip of there assinged case (40 Minutes).

Assessment & Reflection (40 Minutes)

- Quiz on metabolic pathways and laboratory markers
- Group discussion: Challenges in diagnosing metabolic disorders

Practical 3.6 : Inborn errors of amino acid metabolism

Total Learning Hours (4)

Teacher will Briefly Discuss about PKU and importance of early detection through newborn screening through poster/video demonstration (30 Minutes)
Divide students into 3 groups, assigning each a patient scenario: (45 Minutes)

- Group 1: Newborn with abnormal screening results.
- Group 2: Toddler with developmental delay and behavioral issues.

- Group 3: Untreated adolescent with cognitive impairment.

Each group will:

- Identify clinical symptoms (e.g., musty odor, eczema, seizures, intellectual disability).
- Analyze lab reports (elevated serum phenylalanine >6 mg/dL, genetic mutations in PAH gene).
- Discuss differential diagnoses and confirm PKU.

Presentation: Each group presents their findings and how they reached a diagnosis. (30 Minutes)
Students develop a stepwise management plan, including: Dietary Management, Pharmacological Therapy (if applicable), Neurodevelopmental Support (45 Minutes)

- Discuss possible complications if untreated
- Plan for long-term monitoring

Pair up students – one as a genetic counselor, the other as a parent of a child diagnosed with PKU.
The counselor explains: (60 Minutes)

- The autosomal recessive inheritance pattern.
- Risk of recurrence in future pregnancies.
- Prenatal testing options (chorionic villus sampling, amniocentesis).

Rotate roles and discuss ethical considerations in genetic counseling.
Discussion and Q&A session (30 minutes)

Practical 3.7 : Inborn errors of fat metabolism

Total Learning Hours (2)

Teacher will discuss case of Medium-Chain Acyl-CoA Dehydrogenase Deficiency (MCAD) through video demonstration. (30 Minutes)

Each student will: (60 Minutes)

- Recognize clinical presentations of patients with fatty acid oxidation disorders.
- Identify diagnostic evaluations and genetic testing for mutations in enzymes related to fat metabolism.
- Engage in case discussions on emergency management of metabolic crises using glucose infusions and avoiding fasting.
- Explore dietary modifications and medical management of these conditions to prevent metabolic decompensation.

Simulate counseling sessions with families regarding the prevention of fasting and triggers for metabolic crises in fat metabolism disorders. (30 Minutes)

Practical 3.8 : Genetic counselling in Inborn errors of Carbohydrate metabolism

Total Learning Hours (3)

Teacher will discuss the importance of genetic counselling in Inborn errors of Carbohydrate metabolism and disscuss a real or simulated case through poster or video (60 Minutes)

Case-based discussions on dietary management, enzyme replacement, and other therapeutic strategies for managing carbohydrate metabolism disorders. (40 minutes)

Role play for genetic Counselling in Case of inborn erros of carbohyderate metabolism. (80 minutes)

Practical 3.9 : Bacterial morphology

Total Learning Hours (2 Hours)

1. Teacher will briefly introduce the diagnostic techniquies of tuberculosis in children. (30 Minutes)

2. Demonstration of Stained Slide Images (Physical or Digital) and students observe and describe the color, shape, and arrangement of bacteria. (10 Minutes)
3. Divide students into groups and provide them with simulated culture reports llfrom different pediatric specimens: Blood culture (Sepsis case), CSF culture (Bacterial meningitis case), Urine culture (UTI case) (40 minutes)
Each group will:

- Identify the pathogen from the culture report.
- Classify it as Gram-positive or Gram-negative.
- Correlate with clinical symptoms of infection.
- Suggest an initial empirical antibiotic.

4. Group Presentation: Explain findings and initial treatment plan.
Assign Case Scenarios: (20 Minutes)

- Case 1: 2-month-old infant with fever, lethargy, and irritability ⟶ Suspected meningitis (CSF analysis provided).
- Case 2: 6-year-old child with dysuria, fever, and flank pain ⟶ Suspected UTI (Urine culture results provided).
- Case 3: 3-year-old with persistent cough, weight loss, and night sweats ⟶ Suspected TB (Ziehl-Neelsen stain and GeneXpert results provided).

Students Analyze:

- Staining results (Gram-positive, Gram-negative, acid-fast bacilli).
- Culture report (Causative organism).

- Antibiotic susceptibility report (Effective treatment choices).
- Clinical correlation and next steps in management.

5. Role-Playing in a Simulated OPD: (20 Minutes)

- One student acts as the pediatrician, another as the caregiver, explaining the diagnosis and treatment plan.
- Feedback from peers and instructor on clinical reasoning and communication.

Practical 3.10 : Pediatric fungal infections

Total Learning Hours (2 Hours)

1. Teacher will demontrate how to perform KOH mount and how to take specimen from patients for fungal culture. (30 Minutes)

2. Fungal Culturing Techniques: (30 Minutes)

Perform fungal cultures on Sabouraud dextrose agar and other selective media, observing colony characteristics.

3. Microscopic Identification: (30 Minutes)

Prepare KOH mounts and examine under a microscope to identify fungal elements (e.g., hyphae, spores) from clinical samples.

4. Clinical Correlation: (30 Minutes)

Analyze clinical cases involving fungal infections in pediatric patients, focusing on diagnosis and therapeutic approaches.

Practical 3.11 : Virus identification techniques

Total Learning Hours (2)

1. Teacher will give Overview of Viral Diagnostic Tests through poster. (30 Minutes)
2. Divide students into small groups and give each group a set of simulated reports. (30 Minutes)

- Reports include PCR, ELISA, and viral culture results for different viral infections.
- Compare diagnostic approaches for different viruses.
- Highlight limitations and accuracy of each test.

3. Identification of Cytopathic Effects (CPE) in Viral Cultures (30 Minutes)

- Instructor presents microscopic images of CPE from different viral infections
- Identify characteristic CPE patterns in viral cultures.
- Correlate findings with specific viral infections.

4. Case-Based Diagnosis and Management (30 Minutes)

- Assign clinical cases with lab reports
- Each group interprets results and proposes:
- Diagnosis of the viral infection.
- Further investigations (if needed).
- Management strategies.

Practical 3.12 : Parasitic infections

Total Learning Hours (2)

1. Teacher will give Overview regaring laboratory stool examination and its interpretation (30 Minutes)

2. Microscopic Examination: (30 Minutes)

- Student will perform stool examinations for intestinal parasites (e.g., Giardia, Entamoeba) using wet mounts and stained preparations (e.g., trichrome stain).
- Examine blood smears for malaria parasites and identify species using appropriate staining techniques.

3. Clinical Case Analysis (60 Minutes)

Discuss cases of parasitic infections, focusing on clinical presentation, diagnosis, and management.

Or

4. Field Studies (2 Hours)

Student will participate in field visits to understand the epidemiology of parasitic infections in the community, including sample collection and health education.

Practical 3.13 : ELISA and Western Blotting for viral infections

Total Learning Hours (2)

Teacher will Brief Discussion on ELISA and Western Blotting for viral infections (20 Minutes)

Divide students into small groups and assign each group a simulated ELISA test result: (30 Minutes)

- Group 1: Hepatitis B (HBsAg positive, Anti-HBs negative) – Active infection
- Group 2: HIV (High OD value, positive ELISA) – Requires Western blot confirmation
- Group 3: Autoimmune disorder (ANA positive, RF positive) – Possible autoimmune disease

Each group will:

- Interpret positive, negative, and borderline results.
- Calculate titer based on OD values (optical density) and compare with cutoff values.
- Decide on next steps (confirmatory tests, treatment, counseling).

Group Presentation: Explain the ELISA findings and their clinical significance. (20 Minutes)

Provide Simulated Western Blot Images: (30 minutes)

- HIV Confirmed Case: Presence of gp120, gp41, p24 bands.
- Indeterminate HIV Case: Incomplete band pattern.
- False-Positive HIV ELISA Case: No confirmatory bands.

Each group will:

- Determine whether the HIV test is truly positive, indeterminate, or false positive.
- Discuss the importance of confirmatory testing before diagnosing HIV.
- Explain when a repeat test is needed in infants born to HIV-positive mothers.

Assign Clinical Cases to Students: (20 Minutes)

- Case 1: A 10-year-old with jaundice, abnormal liver function tests, and positive HBsAg.
- Case 2: A 5-year-old child exposed to an HIV-positive mother; ELISA shows positive HIV antibodies.
- Case 3: A 12-year-old girl with joint pain, ANA positive, RF positive – suspected autoimmune disorder.

Students Will:

- Analyze ELISA and Western blot results.
- Identify false positives, false negatives, and confirmatory steps.
- Discuss clinical management (referral, further testing, treatment options).

Experiential learning Activity

Experiential-Learning 3.1 : Clinical relevance of BMR

Total Activity Hours (2)

Objective: Understand the clinical relevance of BMR and its application in pediatric growth, nutrition, and metabolism.

Measurement of BMR: Participate in the practical measurement of BMR using indirect calorimetry or predictive equations (e.g., Harris-Benedict or Schofield formulas), adapted for different age groups in pediatric patients.

Clinical Case Simulations: Engage in case-based discussions involving pediatric patients with metabolic disorders (e.g., hyperthyroidism or malnutrition) where altered BMR is clinically relevant.

Nutritional Planning: Apply BMR calculations in designing dietary plans for children with varying metabolic needs, such as growth disorders or obesity.

Practical Sessions: Simulate BMR evaluation and discuss adjustments in caloric requirements for infants, children, and adolescents with conditions affecting metabolism.

Experiential-Learning 3.2 : Deficiencies and toxicities of vitamins and minerals

Total Activity Hours (2)

1. Clinical Diagnosis of Deficiencies: Perform clinical assessments to recognize signs of vitamin (e.g., Vitamin D, Vitamin A) and mineral (e.g., iron, calcium, zinc) deficiencies in pediatric patients through physical exams and laboratory evaluations (e.g., serum levels). (30 Minutes)

2. Nutritional Supplementation Practice: Participate in hands-on sessions on how to prescribe vitamin and mineral supplements, including dosage calculations for various age groups based on clinical needs. (30 Minutes)

3. Case-Based Learning: Discuss clinical cases on diseases caused by deficiencies (e.g., rickets, scurvy, anemia) and toxicities (e.g., hypervitaminosis A or D). (30 Minutes)

4. Dietary Interventions: Plan and simulate the dietary management of children suffering from vitamin and mineral deficiencies or toxicities, emphasizing the practical use of dietary supplements. (30 Minutes)

Experiential-Learning 3.3 : Metabolic acidosis and alkalosis
Total Activity Hours (3) 1. Recognition of Clinical Signs: Participate in simulations where students identify signs and symptoms of metabolic acidosis (e.g., Kussmaul breathing, lethargy) and metabolic alkalosis (e.g., muscle twitching, irritability). (45 Minutes) 2. Blood Gas Analysis: Perform and interpret arterial blood gas (ABG) results to identify the presence of metabolic acidosis or alkalosis, with an emphasis on compensation mechanisms. (45 minutes) 3. Case-Based Learning: Discuss cases involving common causes such as diabetic ketoacidosis (DKA), renal tubular acidosis, vomiting, or diarrhea, and simulate the management of these conditions. (45 Minutes) 4. Emergency Management: Engage in practical exercises for the immediate management of severe acidosis or alkalosis in a clinical setting, focusing on fluid resuscitation, electrolyte correction, and addressing the underlying cause. (45 Minutes)
Experiential-Learning 3.4 : Acid-base imbalances
Total Activity Hours (3) 1. Practical Diagnosis: Interpret blood gas results to distinguish between different types of acid-base disorders (e.g., respiratory acidosis, respiratory alkalosis, metabolic acidosis, metabolic alkalosis) in pediatric patients. (45 Minutes) 2. Clinical Case Simulations: Participate in simulation exercises where students manage complex acid-base disorders in patients with conditions such as sepsis, respiratory distress, or chronic kidney disease. (45 Minutes) 3. Correlation with Electrolytes: Learn to interpret the relationship between acid-base disorders and electrolyte imbalances, especially focusing on potassium and bicarbonate levels. (45 Minutes) 4. Therapeutic Interventions: Engage in hands-on practice for the management of acid-base disturbances, including the use of intravenous fluids, bicarbonate therapy, and respiratory support. (45 Minutes)
Experiential-Learning 3.5 : Inborn errors of metabolism
Total Activity Hours (2 Hours)

1. Case Briefing (20 mins):
Instructor provides students with a pediatric case scenario involving suspected IEM, including age, history, and presenting symptoms (e.g., vomiting, lethargy, seizures, developmental delay).

2. Pediatric Assessment (30 mins):
Students perform a physical examination, adapting techniques to the child's age and condition (e.g., measuring head circumference, checking for hypotonia, identifying dysmorphic features).

3. Diagnostic Workup (20 mins):
Students review and select appropriate investigations from a list, such as:

Blood glucose, ammonia, lactate

Urine ketones, reducing substances

Tandem mass spectrometry (MS/MS)

Genetic screening panels

They must interpret provided simulated results and connect findings to a likely diagnosis.

4. Adaptation Discussion (40 mins):
Students explain how they modified their clinical and diagnostic approach for the pediatric context and the specific IEM presented.

5. Debrief and Feedback (10 mins):
Review of key findings, proper adaptation strategies, and areas of improvement.

Experiential-Learning 3.6 : Empathetic Care Planning and Crisis Response

Total Activity Time (3)

1. Introduction & Case Assignment (15 mins):
Students are divided into small groups and assigned a pediatric case (e.g., a child with GSD prone to hypoglycemia or a newborn diagnosed with Galactosemia).

2. Diet Plan Development (60 mins):
Each group develops a personalized dietary plan, incorporating:

Nutritional needs

- Cultural and family preferences
- Medical restrictions (e.g., cornstarch therapy, lactose/galactose avoidance)
- They must explain their reasoning and demonstrate sensitivity to the patient and family's background.
- Simulated Crisis Management (20 mins):
- Students participate in a simulation of a metabolic crisis (e.g., acute hypoglycemia), where they must:
- Recognize signs and symptoms
- Administer appropriate interventions (e.g., IV glucose)
- Communicate calmly and empathetically with caregivers (played by SPs or instructors)

3. Reflective Practice (60 mins):
Students complete a short reflective journal entry on:

- Their emotional response to the patient scenario
- How they demonstrated empathy and professional responsibility
- What they would improve in future real-life situations

4. Group Debrief & Feedback (45 mins):
Facilitator-led discussion focusing on affective behaviors, patient-centered thinking, and ethical practice.

Experiential-Learning 3.7 : Inborn errors of carbohydrate metabolism

Total Activity Hours (3)

Clinical Case Simulations: Engage in clinical case simulations focusing on disorders of glycogen storage diseases (GSD), galactosemia, and hereditary fructose intolerance atleat 2 cases of both disorders and discuss the management plan for GSD and galactosemia.

Experiential-Learning 3.8 : Inborn errors of amino acid metabolism

Total Activity Hours (5)

1. Newborn Screening and Testing: Participate in mock newborn screening programs for at least 2 cases of each conditions like phenylketonuria (PKU) and maple syrup urine disease (MSUD). Conduct serum amino acid testing and interpret the results using tandem mass spectrometry. (2 Hours)

2. Dietary Planning: Practice designing restrictive diets (e.g., low-phenylalanine diets for PKU) and monitoring patient adherence through biochemical markers and clinical symptoms.(1 Hours)

3. Long-Term Monitoring: Simulate long-term care management, focusing on preventing neurodevelopmental delays and monitoring patients through routine tests like amino acid levels and clinical assessments. (1 Hours)

4. Case Discussions: Review case studies illustrating untreated or poorly managed amino acid metabolic disorders, examining outcomes like cognitive impairment and movement disorders. (1 Hours)

Experiential-Learning 3.9 : Approach to inborn errors of fat metabolism

Total Activity Hours (2)

Recognition of Clinical Signs: Engage in case-based discussions involving patients with fatty acid oxidation disorders such as medium-chain acyl-CoA dehydrogenase deficiency (MCADD). Identify symptoms triggered by fasting, including muscle weakness and hypoglycemia.

Laboratory Diagnostics: Conduct and interpret tests such as plasma acylcarnitine profiles, serum fatty acid levels, and enzyme activity assays to diagnose disorders.

Dietary and Medical Interventions: Practice creating dietary plans that emphasize avoiding fasting and supplementing with medium-chain triglycerides (MCT) for long-chain fatty acid oxidation disorders.

Acute Management: Simulate emergency management strategies during metabolic decompensation, including glucose administration and electrolyte correction in children with fat metabolism disorders.

Experiential-Learning 3.10 : Aapplied microbiology

Total Activity Hours (3)

1. Microscopy Skills: Conduct practical sessions using light and electron microscopes to examine bacterial morphology, identifying shapes (cocci, bacilli, spirilla) and arrangements (chains, clusters). (60 minutes)

2. Staining Techniques: Perform Gram staining, acid-fast staining, and other differential staining techniques to differentiate bacterial types and observe structural characteristics. (30 minutes)

3. Culture Techniques: Engage in the culture and isolation of bacteria from clinical specimens using appropriate media and conditions, including aerobic and anaerobic growth. (60 minutes)

4. Laboratory Identification: Use biochemical tests (e.g., catalase, oxidase, urease tests) and molecular methods (e.g., PCR) for the identification of bacterial species. (30 minutes)

Or

5. Attend workshops that correlate specific bacterial infections with clinical presentations, including discussion of real patient cases and microbiological findings.

Experiential-Learning 3.11 : Fungal infections

Total Activity Hours (3)

1. Fungal Identification: Collect and culture clinical specimens suspected of fungal infections, utilizing selective media and incubating under appropriate conditions. (60 Minutes)

2. Microscopic Techniques: Use microscopic techniques (e.g., wet mounts, KOH preparations) to identify fungal morphology, including yeasts and molds. (60 Minutes)

3. Clinical Correlations: Participate in case-based discussions on the clinical manifestations, diagnosis, and management of fungal infections in pediatric populations. (60 Minutes)

Experiential-Learning 3.12 : Public Health Response and Laboratory Practice in Virology

Total Activity Hours (2 Hours)

1. Simulation Briefing (20 mins):
Students are briefed on a fictional viral outbreak (e.g., an enterovirus in a school or a novel respiratory virus in a community). They are assigned roles (e.g., health officer, lab technician, contact tracer).

2. Outbreak Response Simulation (30 mins):
Students:

- Track cases and contacts on a map
- Collect and label simulated samples
- Apply correct PPE and follow safety protocols
- Communicate findings professionally within a team
- Identify ethical concerns during the response (e.g., sharing of patient information)

3. Clinical Laboratory Visit/Module (40 mins):
Students observe:

- Real-time virological diagnostic procedures (e.g., PCR, ELISA)
- Lab protocols for handling infectious samples
- Data reporting and ethical handling of patient results

4. Reflection & Group Discussion (15 mins):
Students reflect on:

- How their behavior adapted in a high-stakes, public health setting
- Challenges faced in maintaining professionalism and ethics
- Team dynamics and their role in public health responsibility

5. Feedback & Evaluation (15 mins):
Instructors provide feedback on student behavior using a structured rubric focusing on:

- Adaptability
- Professional communication
- Ethical sensitivity
- Team participation

Experiential-Learning 3.13 : Applied microbiology for parasitic infections

Total Activity Hours (3)

1. Microscopic Examination: Perform stool examinations and blood smears to identify parasitic infections (e.g., Giardia, Plasmodium) using appropriate staining techniques. (45 Minutes)

2. Life Cycle Studies: Participate in hands-on activities to study the life cycles of common parasites, understanding transmission routes and developmental stages. (45 Minutes)

3. Diagnostic Techniques: Conduct serological tests and molecular diagnostics for parasitic infections and evaluate laboratory findings. (45 Minutes)

4. Case Management: Engage in case discussions focusing on the clinical management of parasitic infections in pediatric patients, including treatment options and preventive measures. (45 Minutes)

Experiential-Learning 3.14 : Serological tests and culture techniques	
Total Activity Hours (3) Conduct hands-on sessions for serological tests such as ELISA, agglutination tests, and Western blotting to identify specific antibodies and antigens related to infectious diseases in pediatric patients. **Sample Collection and Handling:** Learn proper techniques for collecting, handling, and storing serum samples to ensure the integrity of serological assays.ppp **Interpreting Results:** Analyze serological test results and discuss their clinical significance in diagnosing infections, including viral, bacterial, and autoimmune conditions. **Case Studies:** Review case studies where serological testing played a crucial role in the diagnosis and management of pediatric infections, emphasizing follow-up and treatment plans.	
Modular Assessment	
Assessment method	**Hour**
Formative Assessement 6 hours **Instructions:** Conduct a structured modular assessment. Assessment will be for **75 marks** for this module. Keep structured marking patten. 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. **Short Answer Questions (SAQs) (5 questions, 5 marks 5X5= 25 Marks)** **Case-Based Questions (1 Question, 10 Marks, 1X10= 10 Marks)** Componants of case based quesions with marks distributions as follows Case identification amd management (5 Marks) Concept Mapping (2.5 Marks) Diagram and Pathway Labeling (2.5 Marks) **Practical Viva (10 Marks)** **OSCE (Objective Structured Clinical Examination) (25 Marks)** **Instruction:** In OSCE is a structured assessment method used to evaluate students' clinical skills and practical knowledge across different clinical task zone. Each clinical task zone assesses a specific skill, such as history taking, physical examination, diagnosis, or communication, with predefined tasks and	6

checklists. History Taking and Patient Interaction (5 Marks) Physical Examination Skills (5 Marks) Diagnosis and Clinical Reasoning (5 Marks) Management and Treatment Planning (5 Marks) Communication Skills (2.5 Marks) Time Management and Efficiency (2.5 Marks) **Multiple Choice Questions (MCQs) (5 Questions, 1 Marks, 5X1= 5 Marks)** Or Any practical in converted form can be taken for assessment. (40 Marks) AND Any experiential, such as portfolios/ reflection/ presentations can be taken as an assessment. (35 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 4 : اطلاقی ماہیت مرضی (Itlaqi Mahiyate Marzi) Applied Pathology						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. Describe the aetiology and pathogenesis of common paediatric diseases such as congenital anomalies, infections, and metabolic disorders with special reference to Unani Medicine. 2. Discuss the pathological mechanisms underlying paediatric diseases affecting major organ systems. 3. Analyse laboratory, Histopathology, and imaging findings to identify key pathological changes associated with paediatric diseases 4. Demonstrate proficiency in performing common paediatric diagnostic procedures, such as biopsy or blood sample collection for pathological evaluation. 5. Interpret histopathological slides and tissue samples to diagnose paediatric diseases. 6. Interpret pathological findings in clinical decision-making, focusing on treatment planning for paediatric conditions based on the pathology report. 7. Participate in case discussions or multidisciplinary team meetings to collaborate with pathologists in managing complex paediatric cases. 8. Engage in simulated scenarios involving paediatric pathology, practicing communication of diagnostic information and treatment options with patients and families						
Unit 1 اطلاقی ماہیت مرضی (Iṭlaqī Mahiyate Marzi) Applied Pathology 4.1.1. Ilmul Aḥwāl 4.1.2. Aḥwāl badan 4.1.3. Sabab, Marz and Arz 4.1.4. AsbābĀmma 4.1.5. Asbāb Juz'iyya **References:** 7,8,10						

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO7,CO8	Describe the Sabab, Marz and Arz in paediatrics	2	Lecture	CC	Knows-how	L&PPT
CO1,CO4,CO7,CO8	Display Aḥwāl badan with special reference to paediatrics	4	Practical4.1	PSY-MEC	Shows-how	CBL,DIS
CO1,CO4,CO7,CO8	Illustrate the Effect of Asbāb Āmma, and Asbāb Juz'iyya in Childrens	4	Experiential-Learning4.1	CAN	Does	PER

Unit 2 Marzi Munafiyati Khususiyat (Applied Pathophysiology)

4.2.1. Aza-i-Nafsani

4.2.2. Aza-i-Haiwani

4.2.3. Aza-i-Tabbiyya

References: 5,6,7,8,9,10

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO7,CO8	Describe the Marzi Munafiyati Khususiyat of Aza-i-Nafsani, Aza-i-Haiwani, and Aza-i-Tabbiyya with special reference to paediatrics	2	Lecture	CC	Knows-how	L&PPT
CO1,CO4,CO7,CO8	Demonstrate effect of Sū'i Mizāj, Sū'i Tarkib in children	4	Practical4.2	PSY-SET	Shows-how	CBL,D,D-M
CO1,CO4,CO7,CO8	Identify the Sū'i Mizāj with the help of Alāmat	4	Experiential-Learning4.2	CAN	Does	DIS,RP,SIM

Unit 3 Pathogenesis

4.3.1. Acute Vs. Chronic inflammation

4.3.2. Regeneration vs repair

References: 32

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

CO1,CO4,CO7,CO8	Differentiate the pathogenesis of Acute Vs. Chronic Inflammation, regeneration, and Repair.	3	Lecture	CAN	Knows-how	DIS,L&PPT
CO1,CO4,CO7,CO8	Demonstrate the components of laboratory findings with clinical correlation	6	Practical4.3	PSY-ADT	Shows-how	CBL,D,LRI
CO1,CO4,CO7,CO8	Interpret the Laboratory findings of case and then explain the management in OPD and IPD	9	Experiential-Learning4.3	PSY-GUD	Does	CD,LRI,PAL

Unit 4 Basic Histopathology

4.4.1. Primary vs secondary intention of healing

4.4.2. Phases of wound healing

4.4.3. Factors affecting wound healing

4.4.4. Cellular components

References: 48,50

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO7,CO8	Describe the Primary vs secondary intention of healing, Phases of wound healing, Factors affecting wound healing, Cellular components	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO4,CO7,CO8	Demonstrate the importance of Histopathological examination (HPE) in neoplasia	6	Practical4.4	AFT-VAL	Shows-how	CBL,D
CO1,CO4,CO7,CO8	Identify normal tissue architecture and cellular structures Vs. Abnormal tissue architecture cellular structure	9	Experiential-Learning4.4	CAN	Does	DIS,PER
CO1,CO4,CO7,CO8	Describe the pathological changes seen in tissues affected by common diseases (e.g., inflammation, necrosis, neoplasia).	2	Lecture	CE	Knows-how	L&GD,L&PPT

Practical Training Activity

Practical 4.1 : Understanding Aḥwāl badan with special reference to paediatrics

Total Learning Hours (4 Hours)

1. Teacher will discuss Aḥwāl badan with special reference to paediatrics (40 Minutes)

2. Group Activity: Case Study Discussions

Step 1: Group Division (10 Minutes)

- Students are divided into small groups; each assigned a pediatric case study reflecting different *Aḥwā / Badan*.

Step 2: Case Analysis (40 minutes)

- Each group reviews their assigned case, which may involve scenarios such as:
  - A child with malnutrition and stunted growth.
  - A paediatric patient recovering from a febrile illness.
  - A newborn with signs of developmental delays or growth issues.

Step 3: Discussion Points (1 hours)

- Groups discuss how the child's *Aḥwā / Badan* is affected in their case study, focusing on:
  - The underlying causes of physical state changes (e.g., illness, poor nutrition, infections).
  - Signs and symptoms that indicate an imbalance in *Aḥwā / Badan*.
  - Impact on the child's growth, immunity, and overall development.
  - Traditional and modern approaches to restoring balance in the body's physical state (treatment options, dietary changes, rest, etc.).

Step 4: Presentation (90 minutes)

- Each group presents their findings to the class, explaining the child's condition, how *Aḥwā / Badan* is affected, and proposed interventions to restore balance.

Practical 4.2 : Effect of Sū'i Mizāj, Sū'i Tarkib

Total Learing Hours (4)

1. Teacher will discuss and demonstrate effect of Sū'i Mizāj, Sū'i Tarkib in children (1 Hours)

2. Hands-On Activity: Paediatric Health Assessment

- Step 1: Practical Demonstration (60 minutes)
  - Instructor demonstrates how to assess both temperamental imbalances and structural abnormalities in children using available tools:
    - **For Sū'i Mizāj**: Physical examination techniques to assess skin texture, body temperature, behaviour patterns, and response to stimuli (e.g., cold vs. heat).
    - **For Sū'i Tarkib**: Using anatomical models or imaging techniques to assess and identify structural defects (e.g., skeletal deformities, organ irregularities).
- Step 2: Group Assessment (60 minutes)
  - Students, in their respective groups, assess simulated paediatric cases or models:
    - **For Sū'i Mizāj**: Measure and interpret signs of temperamental imbalances (e.g., hot/cold temperament, dry/moist constitution).
    - **For Sū'i Tarkib**: Use growth charts, imaging studies, or physical examinations to assess structural abnormalities.
  - Groups discuss how to diagnose and manage the identified conditions, considering both the traditional Unani perspective and modern medical interventions. (60 minutes)

Practical 4.3 : components of laboratory findings with clinical correlation

Total Learning Hours (6 Hours)

1. Teacher will discuss and demonstrate the components of laboratory findings with clinical correlation. (60 Minutes)

2. Group Activity: Case Study and Laboratory Analysis (90 minutes)

Step 1: Group Division and Case Assignment (5 cases/ Student)

- Students are divided into small groups; each assigned a paediatric case study with corresponding laboratory reports. Cases may include:
  - A child with anaemia and related blood test results.
  - A case of dehydration with electrolyte imbalances.
  - A child with a suspected infection and elevated white blood cell count.
  - A newborn with jaundice and liver function test abnormalities.

Step 2: Analysing Laboratory Findings (2 hours)

- Each group will review the laboratory reports and answer the following questions:
  - **What are the abnormal findings?** Identify flagged values outside the normal paediatric reference range.
  - **How do these findings correlate with the clinical presentation?** Connect lab abnormalities with the child's symptoms, physical examination findings, and possible diagnoses.

- **What additional tests may be required?** Suggest further diagnostic tests or follow-up labs based on initial findings.
- Groups will interpret the lab data using reference charts and clinical guidelines to ensure accurate diagnosis.

Step 3: Formulating a Clinical Diagnosis (90 minutes)

- Based on the lab results and the clinical presentation, groups will:
  - **Propose a diagnosis** or differential diagnosis.
  - **Explain the pathophysiology** behind the lab abnormalities (e.g., why elevated bilirubin leads to jaundice, or why low haemoglobin indicates anaemia).
  - **Discuss treatment options** and how lab findings influence the treatment plan.

Practical 4.4 : importance of Histopathological examination (HPE) in neoplasia

Total Learning Hours (6 Hours)

1. Teacher will discuss and demonstrate the importance of Histopathological examination (HPE) in neoplasia. (90 Minutes)

2. Practical Slide Review and Analysis

Step 1: Examination of Histopathology Slides (10 different slides each group) (90 minutes)

- Students are divided into small groups and provided with histopathological slides or digital images of tissue samples from different paediatric neoplasms. The slides may include:
  - Benign neoplasms (e.g., haemangiomas, fibromas).
  - Malignant neoplasms (e.g., Wilms tumour, neuroblastoma, leukaemia infiltrates).
- Each group will use microscopes or digital viewers to examine the slides, focusing on:
  - Cellular morphology: Size, shape, and structure of cells.
  - Tissue architecture: Arrangement of cells and any abnormal tissue growth.
  - Mitotic figures: Presence and frequency of cell division, which is often higher in malignant neoplasms.
  - Necrosis or invasion: Presence of necrotic tissue or invasion into surrounding tissues, indicating malignancy.

Step 2: Identifying Key Features of Neoplasia (90 minutes)

- Students will document their observations:
  - What features suggest the neoplasm is benign or malignant?
  - Are there any indicators of aggressive behaviour, such as high mitotic activity or tissue invasion?
  - How does the appearance of the tissue correlate with the clinical diagnosis?

Step 3: Correlation with Clinical Case Studies (90 minutes)

- Each group is given a corresponding paediatric clinical case study. They will correlate the histopathological findings with the case details, answering:
    - How does the histopathological appearance confirm or refine the clinical diagnosis?
    - What is the prognosis based on the histological findings?
    - How might the treatment plan change have based on the HPE results (e.g., more aggressive treatment for high-grade tumours)?

Experiential learning Activity

Experiential-Learning 4.1 : Effect of Asbāb Āmma and Asbāb Juz'iyya

Total Activity Hours (4 Hours)

1. Poster Presentation: Illustrating the Effect of Asabāb Āmma and Asabāb Juz'iyya in Children (2.5 Hours)

2. Student will prepare and present poster on the following and then group discussion (90 Minutes)

- Impact of malnutrition (Asbāb Āmma) combined with specific genetic conditions (Asbāb Juz'iyya) such as cystic fibrosis affecting a child's growth and development.
- The role of air pollution (Asbāb Āmma) exacerbating asthma (Asbāb Juz'iyya) in children living in urban areas.
- Exposure to toxins in water (Asbāb Āmma) leading to neurological effects in children with existing congenital disorders (Asbāb Juz'iyya).

Experiential-Learning 4.2 : Sū'i Mizāj and its Alāmat

Total Activity Hours (4 Hours)

Simulated or Real Patient Diagnosis (atleast 10 cases each students)

Step 1: Scenario Assignments (60 minutes)

- Students are divided into small groups, and each group is assigned a simulated pediatric patient case. These cases involve children with different Sū'i Mizāj, such as:
    - A child with Hot Mizāj showing signs of frequent fevers, irritability, and skin redness.
    - A child with Cold Mizāj displaying lethargy, cold hands and feet, and slow growth.
    - A child with Dry Mizāj experiencing dry skin, constipation, and reduced appetite.
    - A child with Moist Mizāj showing excessive sweating, lethargy, and soft skin.

Step 2: Observing Alāmat (90 Minutes)

- Physical Examination: Students use diagnostic tools and physical examination techniques to observe the Alāmat in the simulated patient or actor. They assess:
    - Skin texture (dry or moist)
    - Body temperature (hot or cold)
    - Pulse rate (fast or slow)
    - Emotional behavior (irritability or lethargy)

Step 3: Identifying Sū'i Mizāj (90 minutes)

- Based on their observations of **Alāmat**, students will:
    - Identify the type of Sū'i Mizāj present in the child.
    - Document their findings, noting specific signs that indicate the imbalance in Mizāj.
    - Discuss possible causes of the temperamental imbalance, such as diet, environmental factors, or illness.

Experiential-Learning 4.3 : **Interpreting Lab Findings**

Total Activity Hours (9 Hours)

Case-Based Activity: Interpreting Lab Findings of cases (30 minutes for each case)

Step 1: Assigning Case Studies (10 cases each group)

- Students are divided into groups and assigned atleast 10 different pediatric case studies to each group. Each case includes detailed clinical information and corresponding laboratory results, such as:
    - A child with dehydration and abnormal electrolyte levels.
    - A newborn with jaundice and elevated bilirubin levels.
    - A child with anemia and abnormal hemoglobin counts.

Step 2: Interpreting Laboratory Findings (10 Minutes for each case)

- Each group will review the lab reports and:
    - Identify abnormal values (e.g., high bilirubin, low hemoglobin, elevated white blood cell count).
    - Interpret the lab results based on the child's clinical presentation.
    - Establish a diagnosis or differential diagnosis using the lab data in correlation with symptoms.

Step 3: OPD Management Plan (10 Minutes for each case)

- Each group will develop an Outpatient (OPD) management plan based on the lab results. They will consider:

- What treatments can be given in OPD (e.g., oral medications, follow-up testing, dietary changes).
- Monitoring and follow-up: How will the child be monitored? When should they return for further tests or review?
- Patient and family education: What information should be shared with the family regarding the lab results and home care (e.g., signs of worsening condition, hydration tips)?

Step 4: IPD Management Plan (10 Minutes for each case)

- The group will then develop an Inpatient (IPD) management plan for the same case, assuming the patient requires admission. Consider:
  - Admission criteria: Why would this child need hospitalization? What are the signs of severity?
  - Initial treatments and interventions: What immediate treatments (e.g., IV fluids, antibiotics, phototherapy) should be started in the IPD setting based on the lab findings?
  - Monitoring and diagnostic follow-ups: What parameters need to be monitored continuously (e.g., electrolytes, vital signs)? What additional tests might be needed?
  - Discharge criteria and follow-up: When can the child be safely discharged, and what follow-up steps should be arranged after discharge?

Experiential-Learning 4.4 : Normal and abnormal tissue architecture

Total Activity Hours (9 Hours)

Group Discussion and Comparative Analysis different types of slides having normal and abnormal tissue architecture cellular structure (10 slides each group)

Step 1: Group Presentation (25 mintes each slides)

- Each group will present their findings, focusing on:
  - Key differences between normal and abnormal tissue architecture.
  - How specific abnormal features (e.g., dysplasia, hyperplasia, neoplasia) correlate with underlying pathological processes.
  - Clinical implications of these abnormalities in terms of disease progression and treatment.

Step 2: Class-Wide Discussion (30 minutes each slide)

- The instructor will guide a discussion on:
  - How identifying abnormal tissue architecture is essential for early diagnosis of diseases such as cancer.
  - The role of histopathological analysis in deciding treatment options and predicting patient outcomes.
  - Differences in recognizing subtle abnormalities (e.g., mild dysplasia) versus severe pathologies (e.g., invasive carcinoma).

Modular Assessment

Assessment method	Hour
Formative Assessemnt 4 hours **Instructions:** Conduct a structured modular assessment. Assessment will be for **50 marks** for this module. Keep structured marking patten. 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. **T-EW (Theory Essay Writing)** Conduct a theory exam having **one essay writing** question from any unit of this module **(20 Marks)** **P-VIVA (Practical Viva)** Conduct a practical viva **(5 Marks)** 25 marks, **OSCE (Objective Structured Clinical Examination) (25 Marks)** **Instruction:** In OSCE is a structured assessment method used to evaluate students' clinical skills and practical knowledge across different clinical task zone. Each clinical task zone assesses a specific skill, such as history taking, physical examination, diagnosis, or communication, with predefined tasks and checklists. History Taking and Patient Interaction (5 Marks) Physical Examination Skills (5 Marks) Diagnosis and Clinical Reasoning (5 Marks) Management and Treatment Planning (5 Marks) Communication Skills (2.5 Marks)	4

Time Management and Efficiency (2.5 Marks) Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential, such as portfolios/ reflection/ presentations can be taken as an 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 5 : اطلاقی علم الادویہ برائے امراض اطفال (Itlaqi Ilmul Advia baraye Amraze Atfal) Applied Pharmacology used in pediatrics						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. Describe different types of oral and local medicines used in AmrazeAtfal. 2. Evaluate dosage and advice the timing and methods of application of locally used medicines. 3. Demonstrate when to use and how to use Tiryaq e samoom in the case of poisoning *Sammiyat.* 4. Describe various drug interactions, and ADRs. 5. Plan and carry out rational drug therapy to avoid resistance of drug and proper usage of medicinal resources.						
Unit 1 اندرونی و بیرونی ادویات (Andrūnī wa Bayrūnī Adviāt) External and internal drugs 5.1.1. اطفال کیلئے مستعمل اندرونی و بیرونی ادویات (Atfal ke liye mustamal Andrūnī wa Bayrūnī Adviāt) External and Internal drugs used for paediatric diseases **References:** 10,11						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**
CO1,CO2,CO4,CO6	Discuss Mufrad(Single) and Murakkab (Compound) unani drugs, their indications and contraindications that are usually used in pediatric disease.	2	Lecture	CC	Knows-how	L,L&PPT
CO1,CO2,CO4,CO6	Preparation of basic Unani formulations and pediatric dosage adjustmets.	4	Practical5.1	PSY-GUD	Knows-how	CBL,D,PBL
CO1,CO2,CO4,CO6	Design external therapeutic applications—such as massage, fomentation, and Zimad (herbal paste)—for common pediatric diseases, and systematically document the therapeutic uses of each ingredient along with its traditional applications in pediatric care.	5	Experiential-Learning5.1	PSY-ORG	Does	CBL,D,D-BED,PT

Unit 2 اشکال ادویہ و مقدار خوراک (Ashkal-i-Adviā wa Miqdar-i-Khurak) Drug doses Forms

5.2.1. امراض اطفال میں مستعمل ادویہ اور انکی مقدار خوراک (Amraze Atfal me Mustaamal Advia aur Unki Miqdar-e-khuraak) Dosage forms and its pediatric doses

References: 10,11,25,27

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO6	Describe unani drug formulations and their classification based on humoral theory	3	Lecture	CC	Knows-how	L,L&GD
CO1,CO2,CO4,CO6	Calculate the appropriate dosages for the various forms of unani drugs based on the child's age, weight, surface area and the severity of the condition.	6	Practical5.2	PSY-GUD	Knows-how	CBL,DA,PBL
CO1,CO2,CO4,CO6	Demonstrate a responsible attitude towards the preparation of Unani medicines by valuing the importance of clinical reasoning in selecting appropriate formulations, and show enthusiasm in sharing knowledge through effective teaching of various Unani drug forms and their dosages	8	Experiential-Learning5.2	AFT-RES	Shows-how	PER,RP,W

Unit 3 تریاق سموم (Tiryāq-i-Sumūm) Antidote

5.3.1. Consideration of Tiryāq-i-Sumūm for children

References: 11,12

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO6	Describe the properties ,mechanism of action, indications contraindications of tiryaaq samoom for different paediatrics age groups.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO2,CO4,CO6	Demonstrate the preparation of tiryaag samoom , its ingredient selection process,safety measures and its application.	2	Practical5.3	PSY-GUD	Knows-how	D,PT,TBL,W
CO1,CO2,CO4,CO6	Discuss real or hypothetical cases of poisoning that can be treated using Tiryaq Samoom. Students should develop treatment plans and discuss the benefts of using this Unani therapy in clinical practice,	3	Experiential-Learning5.3	AFT-RES	Knows-how	D,DIS,FV,IBL,RLE

Unit 4 Clinical pharmacology

5.4.1. Clinical pharmacology: Therapeutics of childhood diseases,

5.4.2. Drug interactions,

5.4.3. Rational drug therapy,

5.4.4. Adverse Drug Reactions,

References: 16,47

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO6	Describe pharmacokinetics and pharmacodynamics in children along with drug interactions.	2	Lecture	CC	Knows-how	L&GD,L&PPT
CO1,CO2,CO4,CO6	Demonstrate dosage adjustments in neonates, infants, and children based on organ development; evaluate alternatives in cases of harmful drug interactions; and review clinical cases to discuss evidence-based drug choices.	8	Practical5.4	PSY-MEC	Shows-how	CBL,D,D-BED,PBL,SIM
CO1,CO2,CO4,CO6	Create a therapeutic plan for childhood diseases (eg. pneumonia asthma), including drug choice, dosage, and monitoring. Review case studies for potential drug interactions in pediatric patients and suggest management strategies. Recognize ADRs in clinical cases, report them, and adjust therapy accordingly.	10	Experiential-Learning5.4	CS	Shows-how	CBL,D-BED,PBL,RP,SIM
CO1,CO2,CO4,CO6	Describe the types of Adverse drug reactions along with their mechanisms.	2	Lecture	CC	Knows-how	L,L&GD

Practical Training Activity

Practical 5.1 : Unani formulations preparations

Total Learning Hours (4 Hours)

1. Teacher will discuss basic Unani formulations and pediatric dosage adjustmets (60 minutes)

2. Identification and Preparation of Unani Drugs (90 minutes)

Activity: Internal Drugs: Trainees can be instructed on how to prepare and administer internal Unani medicines (such as Majoon, Habb, Sharbat) based on specific pediatric diseases. They can be taught how to prepare these drugs in correct dosages.

External Drugs: Demonstrate how to prepare external Unani formulations like ointments, oils, and pastes for pediatric conditions like rashes, eczema, or mild infections.

3. Clinical Case Studies (90 minutes)

Activity: Review pediatric cases where Unani medicine has been used for specific diseases (e.g., gastrointestinal disorders, respiratory conditions, etc.). Discuss the selection of internal and external Unani remedies, evaluating their efficacy and safety for pediatric use.

Practical 5.2 : Dose calculation of Unani drugs

Total Learning Hours (6 Hours)

1. Teacher will discuss how to calculate the appropriate dosages for the various forms of unani drugs based on the child's age, weight, surface area and the severity of the condition. (60 Minutes)

2. Preparation and Dosage Calculation of Unani Drug Forms (3 hours)

Activity: Provide trainees with a list of Unani drugs commonly used in pediatrics and their standard adult doses. Ask trainees to calculate pediatric doses using weight-based formulas and adjust for age.Demonstrate the preparation of these drugs in correct dosages (e.g., syrups, powders, or decoctions). Trainees practice making the correct dosages of each formulation for children of different age groups (e.g., infants, toddlers, and school-aged children).

3. Case Study Discussion and Dose Adjustment (2 hours)

Activity: Present a series of case studies involving pediatric patients with different conditions (e.g., respiratory infection, gastrointestinal disorders).Trainees discuss and determine which Unani drug form is most suitable for each condition (e.g., syrup, powder, or decoction).Calculate and adjust doses based on the child’s age, weight, and clinical condition. Trainees then present their findings and rationalize their choices, emphasizing safe pediatric dosing and treatment.

Practical 5.3 :

Triyaq samooom

Total Learning Hours (2 Hours)

1. Teacher will demonstrate the preparation of tiryaag samoom , its ingredient selection process,safety measures and its application. (40 Miutes)

2. Preparation and Dosage Calculation Exercise (80 Minutes)

Activity: Trainees will be given the ingredients required to prepare Tiryaaq Samoom (as per Unani texts). Under supervision, they will prepare the formulation (e.g., powder, syrup, or other forms) in small batches.

Trainees will then calculate the appropriate pediatric doses of the formulation based on the child's age and weight.

The instructor will guide them on the factors influencing the dosage (such as the severity of the condition and the age of the child).

The trainees will present their prepared formulation and calculated doses, explaining how they arrived at the pediatric dosage and any adjustments made.

Practical 5.4 : Adverse drug reactions management

Total Learning Hours (8 Hours)

1. Teacher will discuss and demonstrate dosage adjustments in different pediatric age group. (1 Hours)

2. Clinical Pharmacology: Drug Administration and Monitoring (3 Hours)

Activity: Trainees will simulate drug administration in pediatric patients using various drug forms (oral, injectable, topical) in a clinical setting (e.g., mannequins or patient simulators).

They will monitor the patient's response to the drug, focusing on parameters such as vital signs, clinical symptoms, and side effects.

They will interpret lab results and adjust dosages based on the patient’s age, weight, and clinical condition.

3. Adverse Drug Reactions (ADRs): Case Study and Management (4 Hours)

Activity: Trainees will be presented with 3-4 different clinical case scenarios where the pediatric patients develops adverse drug reactions (e.g., rash from antibiotics, GI disturbances from NSAIDs).

They will identify the possible cause of the ADR, assess its severity, and propose management strategies, including discontinuation of the offending drug, dose adjustments, or switching to an alternative drug.

The trainees will practice documenting ADRs and reporting them according to pharmacovigilance protocols.

Experiential learning Activity

Experiential-Learning 5.1 : External and internal administration of Unani drugs
Total Activity hours (5 Hours) 1. Clinical Case-Based Discussions: (5 Cases each student) (3 hours) **Activity:** Analyze patient cases involving common pediatric diseases (e.g., gastrointestinal issues, respiratory conditions, skin disorders).Discuss the rationale for selecting specific internal and external Unani drugs, evaluating their effectiveness, safety, and possible side effects. 2. Hands-On Drug Preparation and Administration: (2 hours) **Activity:**Internal Drugs: Prepare different forms of internal Unani drugs such as syrups, decoctions, and capsules. Teach appropriate pediatric dosages.External Drugs: Demonstrate the preparation of topical oils, pastes, and ointments. Allow trainees to apply these preparations on simulated or real patients in a clinical setting.
Experiential-Learning 5.2 : Patient Counseling
Total Activity Hours (8 Hours) 1. Role-Play of Patient Counseling (3 hours) **Activity:** Trainees take turns playing the roles of healthcare providers and parents. The healthcare provider (trainee) explains to the "parent" (another trainee) how to administer the prescribed Unani drug form to a child. The "parent" will ask questions related to the drug form, dosage, and administration techniques. Trainees will practice explaining the drug form (syrup, oil, powder, etc.) in simple terms, addressing concerns like safety, frequency of administration, and the correct dosing. 2. Unani Drug Formulation Workshop (4 hours) **Activity:** Trainees participate in a practical workshop where they are provided with the raw ingredients to prepare Unani drug formulations like syrups, powders, or oils. They will prepare small batches of these formulations, following guidelines for pediatric dosages based on age and weight. Trainees discuss the various factors that influence dosage adjustments, such as age, weight, and the child's specific health 3. Engage the students in delivering teaching skills (1 hours)
Experiential-Learning 5.3 : Field Visit to Unani Pharmacy/Dispensary

Total Activity Hours (3 Hours)

1. Field Visit to Unani Pharmacy/Dispensary:

Activity: Trainees will visit an Unani pharmacy or dispensary where Tiryaaq Samoom is manufactured or dispensed.

During the visit, they will observe the process of formulating Tiryaaq Samoom, including the selection of raw materials, preparation methods, and quality control measures.

The trainees will interact with Unani practitioners to learn about the traditional methods used in preparing the formulation and how they ensure proper dosages and therapeutic effectiveness.

Afterward, the trainees will reflect on their experiences, discussing how the preparation aligns with their theoretical knowledge and any insights they gained about patient care practices in Unani medicine.

Experiential-Learning 5.4 : Pharmacotherapy and ADR management

Total Activity Hours (10 Hours)

1. Clinical Pharmacology: Drug Selection and Dosing Simulation (5 Hours)

Activity: Students will engage in a simulation where they are required to choose the correct drug and calculate dosages based on age, weight, and in at least 10 clinical condition each students.

The students will use patient simulators or standardized patients to apply these calculations and administer drugs in a controlled clinical setting.

2. Adverse Drug Reactions (ADRs): Real-World ADR Detection and Management (3 Hours)

Activity: Students will role-play scenarios where pediatric patients develop ADRs from common medications (e.g., a rash from antibiotics, gastrointestinal disturbance from NSAIDs).

They will use patients case data to identify potential ADRs and discuss the clinical management options, such as discontinuing the offending drug, adjusting the dose, or switching therapies.

3. Rational Drug Therapy: Formulating a Pediatric Treatment Plan (2 Hours)

Activity: In this activity, trainees will be given at least 10 clinical vignettes representing common pediatric conditions (e.g., asthma, otitis media, pneumonia) and will formulate treatment plans. They will assess the child's condition, select appropriate drugs based on clinical guidelines, calculate correct dosages, and determine monitoring strategies. Students will then present their treatment plans to a small group or instructor, justifying their choices with evidence-based reasoning, considering factors like drug efficacy, safety, and cost-effectiveness.

Modular Assessment	
Assessment method	**Hour**
Formative Assessement 4 Hours **Instructions:** Conduct a structured modular assessment. Assessment will be for **50 marks** for this module. Keep structured marking patten. 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. **Case-Based Discussion (25 Marks)** Case Presentation (5 Marks) Clinical Reasoning / Differential Diagnosis (5 Marks) Investigation & Interpretation (5 Marks) Management Plan (5 Marks) Communication & Professionalism (5 Marks) **2. Oral Viva (10 Marks)** Evaluate understanding of pharmacology, especially the effects and metabolism of commonly used Unani drugs in children. (5 Marks) Students explain the differences in drug forms and dosage calculations for pediatrics. (5 Marks)	4

Areas Assessed: Knowledge of drug actions, pharmacokinetics, and safety in pediatric dosage. (5 Marks) **3. Practical Skill Demonstration (5 Marks)** Students demonstrate preparing and administering a simple Unani pediatric formulation, like a syrup or ointment. (2.5 Marks) Areas Assessed: Technical skill, adherence to safety procedures, and confidence in administering pediatric Unani treatments. (2.5 Marks) **4. Reflective Journal Entry (10 Marks)** A short written reflection (100-150 words) on a clinical experience where a specific Unani drug was considered or used for a pediatric condition. (5 Marks) Areas Assessed: Insight, ability to relate theoretical knowledge to practice, reflective thinking on learning outcomes. (5 Marks) Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential, such as portfolios/ reflection/ presentations can be taken as an 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 6 : اطلاقی طبی اخلاقیات و حفظی وسماجی طب Applied Social, Preventive, Medicolegal and Ethical Medicine						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. Explain the principles of social and preventive medicine specifically related to pediatric populations, including strategies for promoting child health and preventing illness. 2. Describe key legal frameworks and regulations that affect pediatric care, including child protection laws, mandatory reporting of child abuse, and consent issues in minors. 3. Identify ethical dilemmas unique to pediatrics, such as the rights of children versus parental authority, and apply ethical principles to resolve these dilemmas in clinical scenarios. 4. Perform a medicolegal examination in pediatric cases, ensuring accurate documentation and adherence to legal standards in cases of suspected abuse or neglect. 5. Collaborate with multidisciplinary teams (e.g., pediatricians, social workers, legal experts) to address complex cases involving social, legal, and ethical issues affecting children.						
Unit 1 Pediatric Health Care Systems and National Child Health Programs 6.1.1. Health care delivery system 6.1.2. Structure and function of Pediatric Health Care Systems 6.1.3. National Programme related to children **References:** 6,16,53						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**
CO2,CO3,CO5	Describe the structure and components of the paediatric healthcare delivery system, including primary, secondary, and tertiary levels of care.	1	Lecture	CE	Knows-how	FC

CO2,CO3,CO5	Discuss the pediatric health care databases.	1	Lecture	CAP	Knows-how	FC
CO2,CO3,CO5	Evaluate national health programs and policies designed for improving child health, such as immunization, nutrition programs, and child welfare services	1	Lecture	CE	Knows-how	FC,L&GD,L&PPT
CO2,CO3,CO5	Demonstrate the referral process within the paediatric healthcare system, moving a patient from primary to tertiary care, including proper documentation and communication	2	Practical6.1	PSY-GUD	Shows-how	RP,SIM
CO2,CO3,CO5	Enhance the importance of national health programs in addressing paediatric health disparities and develop strategies for their effective implementation at the local level.	5	Experiential-Learning6.1	AFT-CHR	Shows-how	D,DIS

Unit 2 Health Statistics and Global Child Health

6.2.1. Health Statistics

6.2.2. Global Child Health Indicators

6.2.3. Global Child Health Initiatives

References: 16,53

3A	3B	3C	3D	3E	3F	3G
CO2,CO3,CO5	Interpret health data and statistics related to child health and present findings in a clear and actionable manner for healthcare planning.	3	Practical6.2	PSY-MEC	Shows-how	IBL,JC,RP,SIM
CO2,CO3,CO5	Analyse the ethical use of health data, particularly in vulnerable paediatric populations, considering privacy and data protection issues	4	Experiential-Learning6.2	CAN	Shows-how	DIS,IBL
CO2,CO3,CO5	Describe the significance of health statistics in tracking and improving child health outcomes at local, national, and global levels.	1	Lecture	CE	Knows-how	L&GD,L&PPT
CO2,CO3,CO5	Summarize international child health initiatives and organizations (e.g., WHO, UNICEF, GAVI) and their roles in improving global child health.	1	Lecture	CC	Knows-how	BL
CO2,CO3,CO5	Describe key global health indicators related to child health, such as infant mortality rate, under-five mortality rate, and malnutrition prevalence.	1	Lecture	CC	Knows-how	L,L&GD
CO2,CO3,CO5	Adapt health informatics tools to track and analyse child health trends over time and develop evidence-based recommendations for intervention.	2	Practical6.3	PSY-ADT	Does	PBL,PrBL

CO2,CO3,CO5	Create visual representations of health data (e.g., graphs, charts) to effectively communicate child health trends and disparities to healthcare professionals and policymakers.	3	Practical6.4	PSY-ORG	Does	D,PER
CO2,CO3,CO5	Investigate the global challenges in addressing child health inequities and propose strategies for improving outcomes in resource-limited settings.	4	Experiential-Learning6.3	AFT-SET	Does	PL

Unit 3 Pediatric care: Screening, Disability, and Rehabilitation

6.3.1. Child Screening

6.3.2. Child Disability and Rehabilitation

6.3.3. Role of Unani in Child care

References: 16,53

3A	3B	3C	3D	3E	3F	3G
CO2,CO3,CO5	Discuss the criteria for selecting appropriate pediatric screening programs, including the significance of early intervention and cost-effectiveness, and analyze their outcomes in reducing childhood morbidity and mortality.	1	Lecture	CE	Knows-how	BS
CO2,CO3,CO5	Illustrate various rehabilitation approaches for children with disabilities, including physical therapy, occupational therapy, speech therapy, assistive technologies, and Unani therapies, emphasizing preventive care through dietary recommendations, lifestyle modifications, and herbal treatments for common childhood ailments.	1	Lecture	CAP	Knows-how	BS
CO2,CO3,CO5	Display the ability to perform routine paediatric screening tests, such as measuring growth parameters, conducting vision and hearing assessments, and developmental evaluations.	3	Practical6.5	PSY-MEC	Shows-how	D
CO2,CO3,CO5	Design and implement individualized rehabilitation plans tailored to a child's specific disability, in collaboration with a multidisciplinary team of healthcare professionals.	2	Practical6.6	PSY-ORG	Shows-how	CBL,D,DIS,RP
CO2,CO3,CO5	Organize role-playing scenarios to practice communicating with families about their child's disability, offering support, and explaining rehabilitation options	4	Experiential-Learning6.4	PSY-MEC	Shows-how	RP
CO2,CO3,CO5	Organize role-playing exercises that simulate interactions with abused or neglected children, practicing communication skills that are compassionate and supportive	4	Experiential-Learning6.5	PSY-MEC	Shows-how	RP,SIM

CO2,CO3,CO5	Evaluate the role of Unani therapies in promoting preventive care, including dietary recommendations, lifestyle modifications, and herbal treatments for common childhood ailments.	1	Lecture	CE	Knows-how	L,L&PPT

Unit 4 Child Rights, Protection, and Medicolegal Considerations in Pediatric Care

6.4.1. Rights and Protection of Children

6.4.2. Basic Principles of Ethics and Impact of Violence on Children (Child labour & Consumer Protection Act)

6.4.3. Abused and Neglected children

References: 16,52

3A	3B	3C	3D	3E	3F	3G
CO2,CO3,CO5	Investigate the impact of violence and negligence on children's development, and participate in community outreach programs aimed at child protection and rehabilitation.	4	Experiential-Learning6.6	AFT-SET	Shows-how	D,SIM
CO2,CO3,CO5	Demonstrate the ability to issue MLC forms, Fitness Certificates, Medical Certificates, and Handicap/Differently Abled Certificates in accordance with legal and institutional guidelines.	5	Experiential-Learning6.7	PSY-SET	Shows-how	D
CO2,CO3,CO5	Counsel families on dietary and lifestyle recommendations based on Unani principles, tailored to enhance child health and well-being	3	Practical6.7	AFT-CHR	Shows-how	DIS,RP,SIM
CO2,CO3,CO5	Demonstrate the ability to recognize signs of abuse or neglect in children during physical examinations or consultations, using a systematic approach	3	Practical6.8	PSY-MEC	Shows-how	D,SIM
2,3,5	Describe the fundamental rights of children as outlined in national and international frameworks, including the UN Convention on the Rights of the Child. Explain the ethical principles governing child protection in healthcare and legal settings, focusing on preventing violence, exploitation, and neglect	1	Lecture	CK	Knows-how	BS
CO2,CO3,CO5	Analyse the legal provisions related to child labour and consumer protection (Child Labour Act and Consumer Protection Act) and their implications for children's health and safety.	1	Lecture	CAN	Knows-how	BL,L&GD,L&PPT

CO2,CO3,CO5	Illustrate the short- and long-term effects of abuse and neglect on a child's physical, emotional, and psychological development	1	Lecture	CAN	Knows-how	L,L&GD,L&PPT
Unit 5 Ethical Considerations in Pediatrics care 6.5.1. Medicolegal case (MLC), Fitness Certificate, Medical Certificate, Person with Disability certificate, Referral letter. **References:** 52						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**
CO2,CO3,CO5	Define the key components of a Medico-Legal Case (MLC) in pediatric care, emphasizing the importance of accurate documentation in legal proceedings, and explain the criteria and procedures for issuing Fitness Certificates for children, including assessments for school, sports, and other activities.	1	Lecture	CAN	Knows-how	C_L
CO2,CO3,CO5	Explain the requirements and ethical considerations for issuing a Medical Certificate for various paediatric conditions, ensuring accuracy and confidentiality.	1	Lecture	CE	Knows-how	CBL
CO2,CO3,CO5	Adapt procedures documenting and reporting cases of suspected child abuse or neglect, adhering to legal and ethical guidelines for child protection.	3	Practical6.9	PSY-ADT	Shows-how	D,RP,SIM
CO2,CO3,CO5	Design a comprehensive Referral Letter for paediatric patients, including relevant clinical information, diagnosis, and the reason for referral.	3	Practical6.10	PSY-ORG	Shows-how	D
CO2,CO3,CO5	Anticipate in simulated case studies to practice issuing Medicolegal Cases (MLCs) and certificates, enhancing decision-making skills and learning to communicate appropriately with families regarding medico-legal and certification matters.	5	Experiential-Learning6.8	AFT-SET	Shows-how	PBL,PSM
CO1,CO2,CO4,CO6	Justify the ethical responsibilities involved in issuing certificates and referral letters, ensuring fairness, accuracy, and empathy when dealing with sensitive cases, especially for children with disabilities	4	Experiential-Learning6.9	AFT-CHR	Shows-how	CBL
CO2,CO3,CO5	Describe the process for issuing a Handicap/Differently Abled Certificate in paediatric care, and the legal implications for children with disabilities.	1	Lecture	CC	Knows-how	L,L&GD
CO2,CO3,CO5	Demonstrate the Process for Issuing a Person with Disability Certificate in Pediatric Care & Understanding Legal Implications Objective	3	Practical6.11	PSY-ADT	Does	DIS,KL,RP,SIM
Practical Training Activity						

Practical 6.1 : Referral process

Total Learning Hours (2 Hours)

1. Teacher will introduce the Pediatric Referral System through flow chart and Indications for Referral through poster. (20 Minutes)
2. Role-Playing the Referral Process (60 Minutes)

- Divide students into groups, assigning roles:
- Primary care pediatrician (initiating referral).
- Receiving specialist (secondary/tertiary care provider).
- Parent/guardian (concerned caregiver).
- Administrative staff (handling referral documentation).

Simulation Steps: Primary Care Visit:

- Pediatrician evaluates a 6-month-old with severe pneumonia not responding to oral antibiotics.
- Determines need for hospital admission in a tertiary care facility.
- Documentation & Referral Letter Writing.
- Phone call or electronic referral to the hospital.
- Discussion of patient's status and need for advanced care.

Patient Handover at Tertiary Care:

- Verbal summary to the receiving doctor.
- Transfer of medical documents (lab reports, imaging).

3. Analyzing Referral Outcomes (40 minutes)

- Group Discussion on Challenges in Pediatric Referrals
- Best Practices for Effective Pediatric Referrals

Practical 6.2 : Health data and statistics

Total Learning Hours (3 Hours)

1. Teacher will introduce to Common Child Health Metrics and Importance of Data Interpretation in Pediatric Healthcare Planning. (60 Minutes)
2. Group Assignment of Data Sets: Each group receives a different dataset related to child health. (60 Minutes)
Analysis Task:

- Calculate trends, percentages, and comparisons.
- Identify patterns, risk factors, and geographic disparities.
- Visualize data using tables, graphs, and pie charts.
- Each group presents findings using graphs and key statistics.

3. Discussion on policy implications: (60 Minutes)

- Which health interventions should be prioritized?
- How should healthcare resources be distributed?
- What strategies can improve child health outcomes?

Practical 6.3 : Leveraging Health Informatics

Total Learning Hours (2 Hours)

1. Teacher will Introduce to Health Informatics in Pediatrics (15 minutes)

- Definition & Importance of Health Informatics
- Key Pediatric Health Indicators to Track

2. Hands-On Data Entry & Tracking Exercise (30 minutes)

- Students work with a dataset containing pediatric health records.
- Example: A dataset of 100 children with their weight, height, vaccination records, and incidence of common illnesses.
- Students enter and organize data in health informatics tools or spreadsheets.
- Tasks: Identify trends, Compare child health outcomes against WHO standards and Generate basic charts and reports.

3. Data Analysis & Identifying Trends (30 minutes)

- Group Work on Case Studies
- Interpretation & Discussion:
- What does the data reveal about child health in the community?

- What risk factors contribute to identified health issues?

4. Developing Evidence-Based Recommendations (45 minutes)

- Based on the data analysis, students propose interventions:
- Improve vaccination outreach strategies.
- Nutritional programs for high-risk children.
- Early screening and referral systems for childhood diseases.
- Each group presents their findings and action plans.

Practical 6.4 : Visualizing Pediatric Health Data for Effective Communication and Strategic Decision-Making

Total Learning Hour (3 Hours)

1. Teacher will introduce the Role of Data Visualization (30 minutes)

- Why Visualize Health Data?
- Types of Data Visualizations.

2. Hands-on Data Visualization Exercise (60 minutes)

- Students receive a pediatric dataset (e.g., childhood obesity rates, anemia prevalence, vaccine coverage).
- Each group selects a health metric and creates at least two visual representations.
- Example: Childhood Anemia Rates Over 5 Years
- Line Graph: Change in anemia prevalence over time.
- Bar Chart: Comparison across different socioeconomic groups.
- Use Excel, Google Sheets, or Tableau to generate graphs.

3. Interpretation & Infographic Creation (30 minutes)

- Analyze and interpret what the data visualization reveals.
- What disparities or trends are visible?
- What factors might be contributing?
- Convert findings into an infographic using Canva or PowerPoint.
- Add headlines, key statistics, and simple explanations.

4. Presentation & Policy Discussion (20 minutes)

- Each group presents their visual findings to the class.

5. Role-play scenario: Some students act as healthcare policymakers, and others as pediatricians presenting data-driven recommendations. (40 Minutes)

- How should policymakers address child health disparities?
- What resources or interventions should be prioritized?

Practical 6.5 : Routine pediatric screening tests

Total Learning Hours (3 Hours)

Teacher will introduce the importance of pediatric screening tests and demonstrate how to take Anthropometric measurements of pediatric age group. (60 Minutes)

Students will demonstrate the ability to perform routine pediatric screening tests, including measuring growth parameters (such as height and weight), conducting vision and hearing assessments, and executing developmental evaluations. This hands-on activity will emphasize proper techniques, accuracy in measurements, and the importance of early detection in promoting optimal child health and development. (120 Minutes)

Practical 6.6 : Individualized rehabilitation plans

Total Learning Hours (2 Hours)

1. Teacher will give overview of implement individualized rehabilitation plans tailored to a child's specific disability (15 Minutes)
2. Case-Based Team Assignment (15 minutes)

- Students are divided into multidisciplinary teams, with each member assuming a specific healthcare role (pediatrician, physiotherapist, occupational therapist, speech therapist, psychologist, special educator, social worker).
- Each team is given a pediatric case scenario
- The team reviews the child's medical history, functional limitations, and rehabilitation goals.

3. Designing an Individualized Rehabilitation Plan (30 minutes)

4. Assessment Phase: (10 Minutes)

- Identify the child's strengths and limitations.
- Determine required therapies (physical, occupational, speech, behavioral).

- Recognize psychosocial and educational needs.

5. Developing the Rehabilitation Plan: (20 Minutes)

- Short-term & long-term goals (e.g., improve mobility, enhance communication, foster social skills).
- Therapy interventions
- Parental Education & Family Involvement

6. Implementation & Role-Play (20 minutes)
Role-play a team discussion and Simulation of Rehabilitation Techniques

7. Group Discussion: (10 Minutes)

- What were the challenges in creating the plan?
- How did the multidisciplinary approach improve patient outcomes?
- What factors affect long-term adherence to rehabilitation plans?

Practical 6.7 : Counselling families on dietary and lifestyle

Total Learning Hours (3 Hours)

1. Teacher will discuss the Key Dietary Concepts in Unani Medicine, effect of Nutrition on Akhlāt (Humors) and Unani Lifestyle Recommendations for Children. (60 Minutes)
2. Role-Playing Family Counseling Sessions (90 minutes)

Group Assignment of Pediatric Case Scenarios
Counseling Session Simulation: Student (as Unani physician) evaluates the child's Mizaj & Akhlāt.
Discussion with the "family" (played by peers): Identify wrong dietary practices, Suggest food modifications Recommend Unani remedies & lifestyle practices and address parental concerns & feasibility of dietary changes.

2. Feedback by the teacher and peers. (30 Minutes)
What were the challenges in counseling families?
How did Unani dietary principles improve health understanding?
What modifications are needed for modern lifestyles?

Practical 6.8 : Recognize signs of abuse or neglect in children during physical examinations

Total Learning Hours (3 Hours)

1.Teacher will discuss the Types of Child Abuse and Red Flags in History & Behavior. (60 Minutes)
2. Student will do Systematic Physical Examination Head-to-Toe Assessment Using a Checklist (60 Minutes)
3. Student will do Case-Based Examination & Documentation Exercise of a simulated case and proper Documentation of Findings (30 Minutes)

4. Reporting & Referral (30 minutes)
Understanding Legal & Ethical Responsibilities: Mandatory reporting laws for child abuse and Referral pathways.
Creating an Action Plan: When to observe, intervene, or escalate a case and developing a safety plan for at-risk children.

Practical 6.9 : Child abuse or negligence

Total Learning Hours (3 Hours)

1. Teacher will introduce Types & Indicators of Child Abuse (30 minutes).
2. Simulated Case Documentation (30 minutes)

- Students receive a case scenario involving a pediatric patient suspected of being abused or neglected.
- Perform a simulated interview and physical exam (role-play with peers or standardized patients).
- Document findings in a structured format.

3. Writing a Mandatory Report (30 minutes)
Students complete a Child Protection Reporting Form, including:

- Objective facts vs. subjective concerns.
- Immediate safety concerns and referrals needed.
- Legal requirements for reporting based on local laws.

4. Discussion on confidentiality & ethical obligations: (30 Minutes)

- What information can be shared?
- How to communicate concerns to parents/guardians?
- Reporting & Referral Process.

5. Simulated Role-Play: (30 Minutes)

- One student acts as a pediatrician reporting to child protective services.
- Another plays the social worker or law enforcement officer receiving the report.

- Others observe and critique the clarity, accuracy, and professionalism of the report.

6. Discussion on follow-up responsibilities: (30 Minutres)

- Coordinating with social workers, legal authorities, and therapists.
- Ensuring child safety during and after the investigation.

Practical 6.10 : Writing a comprehensive Referral Letter

Total Learning Hours (3 Hours)

1. Teacher will introduce the Key Components of a Referral Letter (60 minutes)
2. Case-Based Writing Exercise: Students are given different pediatric case scenarios and must write a referral letter based on the case and Each student follow structured format to writes a referral letter. (90 Minutes)
3. Peer Review & Feedback (30 minutes)
Students exchange referral letters and review each other's work using a checklist.
Key aspects to assess:

- Completeness: Are all relevant details included?
- Clarity: Is the letter concise and to the point?
- Professional tone: Does it maintain proper medical language?
- Justification for referral: Is the reason clearly stated?

Practical 6.11 : Person with Disability Certificate

Total Learning Hours (3 Hours)

1.Teacher will discuss the Eligibility, Types of Pediatric Disabilities and Explain disability percentage calculations using WHO & national grading scales. (40 Minutes)
2. Simulated Medical Board Evaluation (60 minutes)
Students role-play as a Medical Disability Board (pediatrician, neurologist, psychologist).
Each group evaluates a case scenario using assessment forms:

- Conducts a mock clinical examination (motor skills, IQ tests, sensory function).
- Reviews diagnostic reports (MRI, audiometry, psychological tests).
- Assigns a disability percentage based on guidelines.

3. Issuing the Disability Certificate (30 minutes)
Students fill out a sample certificate with: Child's diagnosis & severity, Permanent or temporary status and recommended interventions.
Discussion: When should reassessment be done?
4. Legal & Social Benefits Discussion (20 minutes)

- Students discuss real-life applications of the certificate:
- Educational Rights: Special schools, exam accommodations.
- Healthcare Benefits: Free therapy, assistive technology.
- Social Security: Disability pensions, travel concessions.

5. Group debate on challenges in accessibility and inclusion. (30 Minutes)

Experiential learning Activity

Experiential-Learning 6.1 : National health programs

Total Activity Hours (5)

Students will enhance the significance of national health programs in reducing paediatric health disparities and develop actionable strategies for their effective implementation at the local level. Through discussions and case studies (3 cases each students), they will identify barriers and opportunities within their communities, fostering a deeper understanding of how these programs can improve children's health outcomes.

Experiential-Learning 6.2 : Ethical use of health data

Total Activity Hours (4 Hours)

Students will engage in discussions on the ethical use of health data, with a focus on vulnerable pediatric populations. These discussions will explore critical issues such as privacy, data protection, and the responsible handling of sensitive information, ensuring ethical standards in healthcare data management.

Experiential-Learning 6.3 : Global Child Health Inequities

Total Activity Hours (4 Hours)

Students will investigate global challenges related to child health inequities, examining factors such as socioeconomic disparities, access to care, and cultural barriers. They will work collaboratively to propose actionable strategies aimed at improving health outcomes in resource-limited settings. This activity encourages critical thinking and innovation in addressing complex health issues faced by children worldwide, fostering a deeper understanding of how to implement effective solutions in challenging environments.

Experiential-Learning 6.4 : Communication with families in child's disability

Total Activity Hours (4 Hours) Students will engage in role-playing scenarios to practice effective communication with families regarding their child's disability. This activity will focus on offering emotional support, conveying empathy, and clearly explaining available rehabilitation options. By simulating real-life situations, participants will enhance their skills in providing compassionate care and fostering trust with families navigating challenging circumstances.
Experiential-Learning 6.5 : Interactions with abused or neglected children
Total Activity Hours (4 Hours) Students will engage in role-playing exercises that simulate interactions with abused or neglected children. This activity will focus on practicing compassionate and supportive communication skills, enabling participants to effectively convey empathy and understanding. By navigating various scenarios, they will enhance their ability to create a safe space for children to express themselves and develop strategies for building trust in challenging situations.
Experiential-Learning 6.6 : Violence and negligence of child
Total Activity Hours (4 Hours) Students will investigate the impact of violence and neglect on children's development, exploring the psychological, emotional, and social consequences. They will then engage in community outreach programs focused on child protection and rehabilitation, applying their insights to support vulnerable children and families. This activity fosters a deeper understanding of community needs and empowers participants to contribute positively to child welfare initiatives.
Experiential-Learning 6.7 : Medical documentation
Total Activity Hours (5 Hours) Students will demonstrate the ability to complete and issue various medical documentation, including MLC forms, Fitness Certificates, Medical Certificates, and Handicap/Differently Abled Certificates. This activity will focus on adhering to legal and institutional guidelines, ensuring accuracy and clarity in documentation while understanding the significance of each form in paediatric care and patient advocacy.
Experiential-Learning 6.8 : Medicolegal Case
Total Activity Hours (5 Hours) Students will participate in simulated case studies to practice issuing Medicolegal Cases (MLCs) and various medical certificates. This activity will enhance decision-making skills and provide opportunities to learn how to communicate effectively and compassionately with families regarding medico-legal and certification matters. By navigating realistic scenarios, participants will develop confidence and proficiency in handling sensitive situations in paediatric care
Experiential-Learning 6.9 : Medical certificates and referral letters

Total Activity Hours (4 Hours) Students will reflect on the ethical responsibilities involved in issuing certificates and referral letters, focusing on fairness, accuracy, and empathy. This activity will involve discussing sensitive cases, particularly those involving children with disabilities, and exploring the implications of their decisions. By engaging in group discussions and case analyses, participants will deepen their understanding of ethical considerations in pediatric care and develop strategies to uphold these values in practice	
Modular Assessment	
Assessment method	**Hour**
Formative Assessment 4 Hours **Instructions:** Conduct a structured modular assessment. Assessment will be for **75 marks** for this module. Keep structured marking patten. 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. **1. T-EW (Theory Essay Writing)** Conduct a theory exam having **one essay writing** question from any unit of this module **(1 Question, 20 Marks, 1X20= 20 Marks)** **P-VIVA (Practical Viva) (5 Marks)** **2. CL-PR (Class Presentation) (25 Marks)** Content of the presentation (5 marks) Organisation: Structure and Coherence (2.5X2= 5 Marks) Delivery: Engagement and Clarity (2.5X2= 5 Marks) Visual Aids: Design and Relevance (2.5X2= 5 Marks) Question and Answer session (5 Marks) **3. DEB (Debate) (25 Marks)** Content Knowledge and Evidence (5 Marks)	6

Argument Structure and Cohesion (5 Marks) Counterarguments and Rebuttals (5 Marks) Presentation and Communication Skills (5 Marks) Team Collaboration and Engagement (5 Marks) Or Any practical in converted form can be taken for assessment. (35 Marks) and Any experiential, such as portfolios/ reflection/ presentations can be taken as an assessment. (40 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 : سریریاتِ اطفال (Sareeriyat-i-Atfal) Pediatrics Clinical Method						
Module Learning Objectives **(At the end of the module, the students should be able to)** 1. Describe the history taking, general physical & systemic examination, applied aspects of surgery and radiology related to paediatrics 2. Conduct history taking, general physical and systemic examination; make provisional diagnosis demonstrate surgical as well as radiological findings to the students, and design treatment plan based on Unani principles 3. Identify the surgical condition of paediatric problems, justify and interpret the indication and contraindication of imaging and diagnostic findings, and integrate evidence-based guidelines in the practice in accordance with Unani principles						
Unit 1 رودادوعمومی امتحان مریض (Rudad wa Umūmī Imteḥān-e-Marīz) History taking and general Examination 7.1.1. استفسارات مریض (Istafsarat Mariz) Basic information 7.1.2. موجودہ شکایات (Maujudah Shikayat) Presenting Complain 7.1.3. روداد شکایت موجودہ (Rudad Shikayat Maujudah) History of present illness 7.1.4. روداد سابقہ (Rudad Sabiqa) History of past illness 7.1.5. روداد ولادت (Rudad wiladat) Birth History 7.1.6. روداد بعد الولادت (Rudad bād-al-wiladat) Post Natal History 7.1.7. روداد مناعت (Rudad Manaat) Immunization history						

7.1.8. روداد غذاء (Rudad Ghiza) Diet/Feeding History

7.1.9. روداد نشو ونما (Rudad Nashwo Numa) Developmental History

7.1.10. روداد دواء (Rudad Dawa)Drug history

7.1.11 روداد حساسیت (Rudad Hassasiat)Allergic history

7.1.12. روداد خاندان (Rudad Khandan) Family History and Pedigree chart

7.1.13. روداد سماجی و معاشی حالت (Rudad samaji wa Mashi halat) Socioeconomic history

7.1.14. امتحان عمومی (Imteḥān-i-Umūmī) General Examination

7.1.15. اہم عضو کا امتحان (Aham Uzw Ka IImteḥān) Vital Examination

7.1.16. امتحان نومولود (Imteḥān-i-Naumaulud) Examination of Newborn Baby

7.1.17. امتحان راس و عنق (Imteḥān-i-Ras wa Unuq) Examination of Head & Neck

7.1.18. امتحان عین اذن انف و حلق (Imteḥān-i-ain, uzn, anaf wa halaq)Examination of Eye ear Nose and Throat

7.1.19. امتحان جلد (Imteḥān-i-Jild) Examination of Skin surface

7.1.20. امتحان طرف علوی و اسفل (Imteḥān-i-Tarf ulwi wa asfal) Examination of upper limb& Lower limb

7.1.21. امتحان قیاسۃ الجسم البشری (Imteḥān-i-Qayasatul jism al bashri) Anthropometric Examination

7.1.22. امتحان عمومی و نظامی (Imteḥān-i-Umumi wa Nezami) General & Systemic examination

7.1.23. تفتیشات و تشخیص (Taftishat wa Tashkhees) Investigation & Diagnosis

7.1.24. اصول علاج و علاج (Usul ilaj wa Ilaj) Management/ Treatment

References: 45,46

3A	3B	3C	3D	3E	3F	3G
CO1,CO6	Evaluate history taking, general and systemic examination of child	1	Lecture	CE	Knows-how	L&PPT ,PAL
CO1,CO6	Evaluate general examination in paediatric age group.	2	Lecture	CE	Knows-how	L&PPT
CO1,CO6	Interpret systemic examination of paediatric age group.	5	Lecture	CE	Knows-how	L&PPT ,L_VC
CO1,CO6	Demonstrate history taking in different pediatric age group	2	Practical7.1	PSY-GUD	Shows-how	D,RP
CO1,CO6	Demonstrate the general examination in pediatric age group.	2	Practical7.2	PSY-MEC	Shows-how	D
CO1,CO6	Demonstrate systemic examination of Respiratory and Cardiovascular system child and differential diagnosis and diagnosis.	4	Practical7.3	PSY-MEC	Shows-how	D
CO1,CO6	Conduct systemic examination of Gastrointestinal system ,differential diagnosis and diagnosis	2	Practical7.4	PSY-MEC	Shows-how	D,KL
CO1,CO6	Demonstrate systemic examination of Genitourinary system child and differential diagnosis and diagnosis.	2	Practical7.5	PSY-GUD	Shows-how	D
CO1,CO6	Organize systemic examination of Central nervous system (CNS) child and differential diagnosis and diagnosis	2	Practical7.6	PSY-MEC	Shows-how	D,KL
CO1,CO6	Differentiate systemic examination of musculoskeletal system in child and differential diagnosis and diagnosis.	2	Practical7.7	CAN	Shows-how	D
CO1,CO6	Arrange history taking in paediatric age group.	2	Experiential-Learning7.1	PSY-ORG	Shows-how	D-BED
CO1,CO6	Demonstrate complete general physical examination in Paediatric age group.	4	Experiential-Learning7.2	PSY-MEC	Shows-how	D-BED
CO1,CO6	Discuss challenges in systemic examination of paediatric age group.	5	Experiential-Learning7.3	AFT-RES	Shows-how	DIS
CO1,CO6	Enhance the procedure of clinical examination in children.	5	Experiential-Learning7.4	AFT-CHR	Shows-how	D,DIS

CO1,CO6	Contruct diagnosis after systemic examination for musculoskeletal system in child.	4	Experiential-Learning7.5	PSY-ORG	Shows-how	D

Unit 2 اطلاقی جراحت (Itlaqi Jarahat) Applied Surgery

7.2.1. Recognizing and Referring of surgical conditions in Pediatrics.

7.2.2. Identifing Optimal timing of surgery for common pediatric surgical condition

References: 50,51

3A	3B	3C	3D	3E	3F	3G
CO1,CO6	Describe common surgical problems of neonates and explain optimal timing of surgery	2	Lecture	CE	Knows-how	L&PPT
CO1,CO6	Demonstrate proficiency in interpreting diagnostic imaging and laboratory findings related to neonatal surgical emergencies.	4	Practical7.8	PSY-GUD	Shows-how	D,DIS,LRI,SIM
CO1,CO6	Engage in case discussions or simulations to develop decision-making skills in managing neonatal surgical emergencies.	6	Experiential-Learning7.6	CE	Shows-how	D,DIS

Unit 3 اطلاقی ریڈیولوجی Applied Radiology

7.3.1. X-Rays

7.3.2. Ultra sonography (USG)

7.3.3. Echocardiogram (ECG)

7.3.4. Electroencephalogram (EEG)

7.3.5. Computed Tomography (CT-scan)

7.3.6. Magnetic Resonance Imaging (MRI).

References: 48,49

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

CO1,CO6	Enumerate principles and applications of different imaging technique including X-ray, CT scan, MRI, Ultrasonography, ECG, and EEG, Barium meal, Laryngoscopy, Voiding cystourethrography (VCUG), ERCP, Echo, Colour doppler.	5	Lecture	CK	Knows-how	L&PPT
CO1,CO6	Discuss the indication and interpretation of different imaging technique including X-ray, Barium meal, CT scan, MRI,	3	Practical7.9	AFT-REC	Shows-how	D,LRI
CO1,CO6	Display the indication and interpretation Ultrasonography, Echo and Colour doppler.	3	Practical7.10	PSY-MEC	Shows-how	D
CO6	Demonstrate the indication and interpretation of Laryngoscopy, Voiding cystourethrography, and ERCP.	2	Practical7.11	PSY-GUD	Shows-how	D,DIS
CO1,CO6	Demonstrate the indication and interpretation ECG, and EEG in disorders of cardiovascular and central nervous system.	2	Practical7.12	PSY-GUD	Shows-how	D,DIS
CO1,CO6	Interpret different imaging technique including X-ray, Computed Tomography (CT scan), Magnetic Resonance Imaging (MRI), Ultrasonography (USG).	6	Experiential-Learning7.7	AFT-RES	Does	D,DIS,LRI
CO1,CO6	Counsel parents regarding radiological examination in paediatrics age.	4	Experiential-Learning7.8	AFT-CHR	Shows-how	RP
CO1,CO6	Interpret ECG, and EEG in different Pediactric age group.	3	Experiential-Learning7.9	CE	Does	DIS,LRI

Practical Training Activity

Practical 7.1 : History taking

Total Learning Hours (2)

Teacher will introduce the importance of history taking and key factors to be remembered during history taking in pediatric cases. (30 Minutes)

Students practice taking a thorough patient history for a pediatric case. Working in pairs, one student assumes the role of a healthcare provider while the other role-plays as a parent or caregiver. Students focus on age-specific questions, covering areas like birth history, immunization status, developmental milestones, current symptoms, and family medical history. Emphasis is placed on building rapport with both the child and caregiver, asking clear, concise questions, and gathering relevant details for accurate diagnosis. (60 Minutes)

Each student document history taking in the form of case sheets and feedback from the teacher and peers. (30 Minutes)

Practical 7.2 : General Examination

Total Learning Hours (2)

1. Teacher will introduce the steps for general examination in pediatric cases and demonstrate the process of examination. (30 Minutes)

2. Students practice performing a comprehensive general examination on a pediatric patient. Working in small groups, they review and demonstrate key steps, including assessing vital signs (temperature, pulse, respiration), observing growth parameters (height, weight, head circumference), and evaluating general appearance and behavior. Students practice examining for signs of hydration, skin color, and responsiveness, while adapting their approach to make the child comfortable. (60 Minutes)

3. Discuss and document the clinical finding. (30 Minutes)

Practical 7.3 : Respiratory and cardivascular examination

Total Learning Hours (4)

1. Teacher will introduce and demonstrate the examination process of cardiovascular system. (90 Minutes)

2. Students will work in small groups to conduct a focused examination of the respiratory and cardiovascular systems in a pediatric patient. They will begin with inspection, palpation, percussion, and auscultation of the chest, observing for respiratory rate, rhythm, use of accessory muscles, and abnormal heart sounds. Students will learn to detect signs like wheezing, crackles, or murmurs and interpret findings in the context of possible conditions such as asthma, pneumonia, congenital heart disease, or heart murmurs. (90 minutes)

3. Following the examination, each group will discuss potential differential diagnoses based on their findings and formulate a likely diagnosis. (60 Minutes)

Practical 7.4 : Evaluation of gastrointestinal system

Total Learning Hours (2)

Teacher Will demontrate the examination process of gastrointestinal system. (40 Minutes)

Student practice examining the gastrointestinal system in a pediatric patient. They begin with inspection, noting abdominal shape and distension, then proceed with palpation for tenderness, masses, or organ enlargement, and percussion to assess for abnormal fluid or gas. Auscultation is performed to evaluate bowel sounds. Based on their findings, students discuss potential differential diagnoses, such as appendicitis, constipation, or gastroenteritis, and work towards a probable diagnosis. (80 Minutes)

Practical 7.5 : Genitourinary system examination

Total Learning Hours (2)

Teacher will demonstrate the examination process of Genitourinary system examination. (40 Minutes)

Students perform a structured examination of the genitourinary system in a pediatric patient. They begin by inspecting for any visible abnormalities, such as swelling or discoloration, followed by palpation of the abdomen to check for kidney enlargement or bladder distension. Urinalysis and hydration assessment may also be included if indicated. Based on findings, students discuss possible differential diagnoses, such as urinary tract infection, nephrotic syndrome, or congenital abnormalities, and determine a probable diagnosis. (80 Minutes)

Practical 7.6 : Central Nervous system Examination

Total Learning Hours (2)

1. Teacher will demontrate the examination process of Central Nervous system Examination. (40 Minutes)

2. Sudents perform a comprehensive CNS examination on a pediatric patient. They assess cognitive function, level of alertness, and behavior, followed by cranial nerve testing, motor strength, muscle tone, and reflexes. Sensory function and coordination, including balance and fine motor skills, are also evaluated. After interpreting the findings, students discuss differential diagnoses such as developmental delay, infection (e.g., meningitis), or neurological disorders like epilepsy. They work towards identifying a probable diagnosis based on clinical presentation. (80 Minutes)

Practical 7.7 : Musculoseletal system examination

Total Learning Hours (2)

Teacher will demonstrate examination process of Musculoseletal system examination. (40 Minutes)

Students perform a focused musculoskeletal examination on a pediatric patient. They begin by inspecting posture, limb alignment, and gait, then proceed with palpation to assess for tenderness, swelling, or deformities in the joints and bones. Range of motion is evaluated for each joint, noting any limitations or discomfort. Special tests may be used to identify conditions like hip dysplasia or scoliosis. Based on the findings, students discuss differential diagnoses such as juvenile arthritis, fractures, or congenital deformities, and work towards a probable diagnosis. (80 Minutes)

Practical 7.8 : Common surgical problems of neonates

Total Learning Hours (4)

1. Teacher will identify the surgical case and then demonstrate to the students through case based-learning or will demonstrate through video/L&PPT. (60 Minutes)

2. Case-Based Diagnostic Interpretation (60 minutes)
Students are divided into groups, each given a neonatal case with imaging and lab results.
Tasks:

- Interpret the imaging findings – Identify key diagnostic features.
- Analyze laboratory reports – Identify deviations from normal values.
- Correlate clinical symptoms with imaging/lab results.

- Present differential diagnoses and recommend further tests if needed.

3. Hands-on Image & Lab Report Interpretation (40 minutes)

- Live demonstration by instructor using real or simulated imaging studies.
- Students practice reading and annotating key features in imaging results.
- Small group activity: Students compare normal vs. abnormal imaging findings.

4. Clinical Decision-Making & Management Discussion (20 Minutes)
5. Each group presents their case analysis, answering: (60 Minutes)

- What is the most likely surgical emergency?
- What are the next steps in management?
- Which cases require urgent surgical intervention vs. conservative management?

Practical 7.9 : Electrocardiogram (ECG), and Electroencephalogram (EEG)

Total Leraning Hours (2)

1. Students learn the indications and interpretation of Electrocardiogram (ECG) and Electroencephalogram (EEG) in pediatric patients. They will explore when to use ECG for detecting cardiac arrhythmias, congenital heart defects, or electrolyte imbalances, and EEG for evaluating neurological conditions such as seizures or sleep disorders. Students will practice analyzing sample ECG and EEG recordings, identifying normal and abnormal patterns such as heart rate irregularities or brain wave activity. This activity strengthens students' skills in interpreting these vital diagnostic tools and understanding their clinical applications in pediatrics.

Practical 7.10 : Imaging techniques

Total Learning Hours (3)

1. Teacher will give Overview of Imaging Modalities & Indications. (30 Minutes)
Interpretation of Pediatric Imaging: Hands-on Interpretation Session of X-ray Interpretation,

2. Barium Meal Interpretation, CT Scan Interpretation, MRI Interpretation. (45 min)
3. Case-Based Group Discussion: Students will be given 5 pediatric cases and will discuss which imaging modality is most appropriate and why.(30 min)
Advanced Case Scenarios & Clinical Application
4. Case Study Presentations: Students analyze imaging reports, correlate with clinical signs, and propose a management plan.(30 min)
5. Panel Discussion & Q&A: Expert insights on choosing the right imaging test in real-world pediatric scenarios.(30 min)
6. Quiz: Identify key findings in sample images (15 min)

Practical 7.11 : Ultrasonography, Echo and Colour doppler

Total Learning Hours (3)

1. Teacher will give Introduction & Indications of Imaging Modalities of Ultrasonography (USG), Echocardiography (Echo), and Color Doppler. (60 Minutes)
Interpretation of Pediatric Imaging Findings
Hands-on Interpretation Session: Provide a simulated images of Ultrasonography (USG),

2. Echocardiography (Echo), and Color Doppler for interpretation. (60 min)
Clinical Application & Case Scenarios
3. Case Study Presentations: Groups analyze imaging reports, correlate with clinical symptoms, and suggest management plans. (30 min)
4. Panel Discussion & Q&A: Expert discussion on choosing the right imaging test for different pediatric conditions. (30 min)

Practical 7.12 : Laryngoscopy

Total Learning Hours (2)

1. Students are introduced to the clinical indications and interpretation of Laryngoscopy, Voiding Cystourethrography (VCUG), and Endoscopic Retrograde Cholangiopancreatography (ERCP). They will learn when to use Laryngoscopy to assess upper airway conditions like laryngeal abnormalities or airway obstruction, VCUG for evaluating urinary tract abnormalities such as vesicoureteral reflux, and ERCP for investigating biliary or pancreatic issues. Students will observe or analyze images or video recordings of these procedures, interpreting findings like anatomical anomalies, obstructions, or infections. This activity enhances understanding of diagnostic techniques and their clinical relevance in pediatric care.

Experiential learning Activity

Experiential-Learning 7.1 : History Taking

Total Activity Hours (2)

Students practice taking a comprehensive history from a caregiver or parent of a pediatric patient. They will focus on age-appropriate questions, including prenatal and birth history, developmental milestones, immunization status, current health concerns, and family medical history. Students will also learn how to gather information from both the child (when appropriate) and the caregiver in a manner that is clear, empathetic, and non-threatening. This activity helps students develop communication skills, ensure accurate data collection, and enhance their ability to conduct thorough assessments in pediatric care.

Experiential-Learning 7.2 : General Physical Examination in Pediatric age group

Total Activity Hours (4)

Students perform a complete general examination on a pediatric patient, assessing all aspects of health. They will evaluate vital signs (heart rate, respiratory rate, temperature), inspect the child for signs of illness, and assess growth parameters (height, weight, head circumference). Students will examine the skin, eyes, ears, mouth,

and lymph nodes, as well as assess neurological function and developmental milestones. This hands-on practice enhances students' skills in conducting a thorough, systematic general examination tailored to pediatric patients and prepares them to identify common health issues in children.

Experiential-Learning 7.3 : Challenges in systemic examination

Total Activity Hours (5)

Students explore the challenges of conducting a systemic examination in pediatric patients. They will simulate different clinical scenarios, such as assessing uncooperative or anxious children, working with non-verbal infants, and adapting techniques for children of varying ages. Students will focus on overcoming these challenges by using age-appropriate communication, establishing rapport, and employing creative techniques to ensure a comprehensive examination. This activity highlights the importance of flexibility, patience, and effective communication skills in performing systemic exams on pediatric patients, preparing students for real-world clinical challenges.

Experiential-Learning 7.4 : Clinical examination in children

Total Activity Hours (5)

Students practice demonstrating empathy while conducting a clinical examination on pediatric patients. They role-play different scenarios where the child may be anxious, frightened, or in discomfort. Students learn how to create a calm, supportive environment by using gentle communication, reassuring gestures, and explaining each step of the examination to both the child and the caregiver. The goal is to enhance the student’s ability to recognize emotional cues and respond with compassion, making the examination process less stressful for the child and fostering trust between the healthcare provider, child, and family.

Experiential-Learning 7.5 : Musculosystemic examination

Total Activity Hours (4 Hours)

Students design and practice a systematic musculoskeletal examination for pediatric patients. They will begin by inspecting the child for visible abnormalities such as posture, limb alignment, and any deformities. Students will then proceed to palpate the joints and bones for tenderness, swelling, or warmth, followed by assessing the range of motion in different joints. Special tests, such as checking for hip dislocation or scoliosis, may also be included. This activity helps students develop a structured approach for evaluating musculoskeletal health in children, preparing them to identify conditions such as fractures, juvenile arthritis, or congenital deformities.

Experiential-Learning 7.6 : Surgical problems of neonates

Total Activity Hours (6 Hours)

1. Student will identify the 10 common surgical problems of neonates and communicate to the guardians about the optimal timing of surgery (4 hours)

2. Student will discuss the common surgical problems of neonates with interns and undergraduate students (2 hours)

Experiential-Learning 7.7 : Radiological Scaning

Total Activity Hours (6) 1. Students explore the indications and interpretation of various imaging techniques used in pediatric care, including X-ray, CT scan, MRI, Ultrasonography. They will learn when each technique is appropriate, such as using X-rays for bone fractures, CT for head trauma, MRI for soft tissue and neurological conditions, Ultrasonography for abdominal or heart assessment. Students will review sample images or recordings, discussing how to interpret normal versus abnormal findings. This activity enhances their ability to select and interpret imaging modalities effectively in clinical practice.	
Experiential-Learning 7.8 : Counselling in radiological examination	
Total Activity Hours (4) 1. Students practice counseling parents or caregivers about the need for radiological examinations in pediatric patients. They will discuss the purpose of common imaging techniques such as X-rays, CT scans, and MRIs, explaining the benefits, risks, and the child's safety during the procedure. Students will also address concerns about radiation exposure and the comfort of the child during the examination. The goal is to help students develop clear communication skills and provide empathetic, informed guidance to parents, ensuring they feel confident and well-informed about the radiological process for their child.	
Experiential-Learning 7.9 : Electrocardiogram And Electroencephalogram	
Total Activity Hours (3 Hours) 1. Students practice interpreting ECG and EEG recordings for pediatric patients. They will learn the key features of an ECG, such as heart rate, rhythm, and waveforms, to identify common cardiac conditions like arrhythmias or congenital heart defects. For EEG, students will review brain wave patterns to identify abnormalities, such as seizure activity or sleep disorders. The activity includes analyzing sample ECG and EEG tracings, followed by group discussions to interpret normal versus abnormal findings. This hands-on experience enhances students' ability to understand and interpret these critical diagnostic tools in pediatric care.	
Modular Assessment	
Assessment method	**Hour**
Formative Assessment 6 hours **Instructions:** Conduct a structured modular assessment. Assessment will be for **75 marks** for this module. Keep structured marking patten. 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. 1. Direct Observation of Skills (20 Marks) History Taking and General Physical Examination (10 Marks)	6

Students will conduct a comprehensive history-taking and general physical examination on a simulated or real pediatric patient. Assessment will be based on the thoroughness of the history, clarity of questions, approach to examination, and organization. Key Areas Assessed: Patient rapport, structure of history, accuracy, and identification of critical physical signs. Applied Surgery (10 Marks) Students will perform a basic surgical skill, such as wound dressing, suturing, or sterile draping, under observation. Assessment will focus on technique, adherence to aseptic principles, and confidence in handling instruments. 20 Marks 2. Practical Viva (20 Marks) Applied Radiology (10 Marks) Students will review radiological images (X-ray, ultrasound, etc.) and answer questions on image interpretation, identifying normal vs. abnormal findings. Key Areas Assessed: Diagnostic interpretation, knowledge of anatomy, and ability to correlate findings with clinical conditions. Applied Surgery (10 Marks) Students will explain the steps and indications for a common pediatric surgical procedure, such as appendectomy or incision and drainage. 20 Marks 3. Structured Case Presentation (20 Marks) History Taking and General Physical Examination Students will be given a case study involving a pediatric patient with a specific complaint. Students will present their findings from a hypothetical patient interview and examination, identifying major symptoms and physical signs.	

Key Areas Assessed: Presentation skills, clinical reasoning, organization, and ability to formulate differential diagnoses. Applied Radiology Students will present a short case based on radiographic findings (e.g., a chest X-ray showing pneumonia). They will explain their interpretation of the findings, possible diagnoses, and suggest further diagnostic steps. Key Areas Assessed: Interpretation accuracy, diagnostic clarity, and justification for additional investigations. 20 Marks 4. Reflective Essay (15 Marks) Students will write a brief essay (200-300 words) reflecting on one clinical experience, focusing on a challenge they encountered during history-taking, physical examination, surgical procedure, or radiology interpretation. They should include what they learned, how they managed the situation, and what they would do differently next time. 15 Marks Or Any practical in converted form can be taken for assessment. (40 Marks) and Any experiential, such as portfolios/ reflection/ presentations can be taken as an assessment. (35 Marks)	

Table 4 : Practical Training Activity

(*Refer table 3 of similar activity number)

Practical No*	Practical name	Hours
1.1	Common Congenital Anomalies	2
1.2	Embryonic Development of Major Organs system	2
1.3	Prenatal diagnostic techniques	4
1.4	Sensitive Information Delivery Techniques	2
2.1	Principles of Umūr-i Tabiʿiyya	2
2.2	Darjāt-i Umar and stages of Numū (growth and development)	2
2.3	Unani principles of Umūr-i Tabiʿiyya	3
2.4	Al Tadbir bil Ghidha (Unani dietotherapy) and nutritional values of Indian food	2
2.5	Principles of Unani immuno-modulators	3
2.6	Ilaj bit tadbir (Regimenal therapy) in children	5
2.7	Management of Psychological disorders	3
3.1	Role of BMR in pediatric growth and metabolism	2
3.2	Role of vitamins and minerals	2
3.3	Metabolic acidosis and alkalosis	2
3.4	Various pediatric acid-base disorders	2
3.5	Inborn errors of carbohydrate metabolism	3
3.6	Inborn errors of amino acid metabolism	4
3.7	Inborn errors of fat metabolism	3
3.8	Genetic counselling in Inborn errors of Carbohydrate metabolism	2
3.9	Bacterial morphology	2

3.10	Pediatric fungal infections	2
3.11	Virus identification techniques	2
3.12	Parasitic infections	2
3.13	ELISA and Western Blotting for viral infections	2
4.1	Understanding Aḥwāl badan with special reference to paediatrics	4
4.2	Effect of Sū'i Mizāj, Sū'i Tarkib	4
4.3	components of laboratory findings with clinical correlation	6
4.4	importance of Histopathological examination (HPE) in neoplasia	6
5.1	Unani formulations preparations	4
5.2	Dose calculation of Unani drugs	6
5.3	Triyaq samooom	2
5.4	Adverse drug reactions management	8
6.1	Referral process	2
6.2	Health data and statistics	3
6.3	Leveraging Health Informatics	2
6.4	Visualizing Pediatric Health Data for Effective Communication and Strategic Decision-Making	3
6.5	Routine pediatric screening tests	3
6.6	Individualized rehabilitation plans	2
6.7	Counselling families on dietary and lifestyle	3
6.8	Recognize signs of abuse or neglect in children during physical examinations	3
6.9	Child abuse or negligence	3
6.10	Writing a comprehensive Referral Letter	3
6.11	Person with Disability Certificate	3

7.1	History taking	2
7.2	General Examination	2
7.3	Respiratory and cardivascular examination	4
7.4	Evaluation of gastrointestinal system	2
7.5	Genitourinary system examination	2
7.6	Central Nervous system Examination	2
7.7	Musculoseletal system examination	2
7.8	Common surgical problems of neonates	4
7.9	Electrocardiogram (ECG), and Electroencephalogram (EEG)	2
7.10	Imaging techniques	3
7.11	Ultrasonography, Echo and Colour doppler	3
7.12	Laryngoscopy	2

Table 5 : Experiential learning Activity

(*Refer table 3 of similar activity number)

Experiential learning No*	Experiential name	Hours
1.1	Prenatal Diagnostic Techniques	3
1.2	Congenital anomalies	3
1.3	Effective communication strategies on prenatal screening	3
1.4	Counselling for Families of Children with Congenital Anomalies	4
2.1	Mizaj, Akhlāt, Quwa and Afʿāl in different age groups in different diseases	2
2.2	Usul-i-Ilaj and Ilaj according to darjāt-i Umar	2
2.3	Usul-i Tashkhīs and Usul-i Ilaj in childrens	4
2.4	Al- Tadbir bil Ghidha (Unani dietotherapy)	2
2.5	Unani immuno-modulators	3
2.6	Ilaj bit tadbir (Regimenal therapy)	8
2.7	Psychological disorders in childern	5
3.1	Clinical relevance of BMR	2
3.2	Deficiencies and toxicities of vitamins and minerals	2
3.3	Metabolic acidosis and alkalosis	3
3.4	Acid-base imbalances	3
3.5	Inborn errors of metabolism	2
3.6	Empathetic Care Planning and Crisis Response	3
3.7	Inborn errors of carbohydrate metabolism	3
3.8	Inborn errors of amino acid metabolism	5

3.9	Approach to inborn errors of fat metabolism	2
3.10	Aapplied microbiology	3
3.11	Fungal infections	3
3.12	Public Health Response and Laboratory Practice in Virology	2
3.13	Applied microbiology for parasitic infections	3
3.14	Serological tests and culture techniques	3
4.1	Effect of Asbāb Āmma and Asbāb Juz'iyya	4
4.2	Sū'i Mizāj and its Alāmat	4
4.3	Interpreting Lab Findings	9
4.4	Normal and abnormal tissue architecture	9
5.1	External and internal administration of Unani drugs	5
5.2	Patient Counseling	8
5.3	Field Visit to Unani Pharmacy/Dispensary	3
5.4	Pharmacotherapy and ADR management	10
6.1	National health programs	5
6.2	Ethical use of health data	4
6.3	Global Child Health Inequities	4
6.4	Communication with families in child's disability	4
6.5	Interactions with abused or neglected children	4
6.6	Violence and negligence of child	4
6.7	Medical documentation	5
6.8	Medicolegal Case	5
6.9	Medical certificates and referral letters	4

7.1	History Taking	2
7.2	General Physical Examination in Pediatric age group	4
7.3	Challenges in systemic examination	5
7.4	Clinical examination in children	5
7.5	Musculosystemic examination	4
7.6	Surgical problems of neonates	6
7.7	Radiological Scaning	6
7.8	Counselling in radiological examination	4
7.9	Electrocardiogram And Electroencephalogram	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
UNIPG-AB-AA	1	100	200	300

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

Credit frame work

UNIPG-AB-AA consists of 7 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. جنین کی اطلاقی تشریح ومنافع الاعضائی بیان (Janeen ki Iṭlaqī Tashrīḥ wa Manāfi‘ al-A‘ḍā’ bayan) Applied Anatomy & Physiology of Embryo	1	30		25		
M2. امراض اطفال کے بنیادی اصول (Amraze Atfal ke Bunyadi Uṣūl) Unani Principals in Pediatrics	2	60		50		
M3. اطلاقی کیمیاء حیویہ وعلم الاحیاء الدقیقیہ (Itlaqi Kimiyae haiwya wa Ilmul hayae daqeeqya) Applied Biochemistry & Microbiology	3	90		75		
M4. اطلاقی ماہیت مرضی (Itlaqi Mahiyate Marzi) Applied Pathology	2	60		50		
M5. اطلاقی علم الادویہ برائے امراض اطفال (Itlaqi Ilmul Advia baraye Amraze Atfal) Applied Pharmacology used in pediatrics	2	60		50		
M6. اطلاقی طبی اخلاقیات و تحفظی و سماجی طب Applied Social, Preventive, Medicolegal and Ethical Medicine	3	90		75		
M7. سریریات اطفال (Sareeriyat-i-Atfal) Pediatrics Clinical Method	3	90		75		
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.جنین کی اطلاقی تشریح ومنافع الاعضائی بیان(Janeen ki Iṭlaqī Tashrīḥ wa Manāfi' al-A'ḍā' bayan) Applied Anatomy & Physiology of Embryo	C 1
2	M2.امراض اطفال کے بنیادی اصول(Amraze Atfal ke Bunyadi Uṣūl) Unani Principals in Pediatrics	C 2
3	M3.اطلاقی کیمیاء حیویہ وعلم الاحیاء الدقیقیہ(Itlaqi Kimiyae haiwya wa Ilmul hayae daqeeqya) Applied Biochemistry & Microbiology	C 3
4	M4.اطلاقی ماہیت مرضی(Itlaqi Mahiyate Marzi) Applied Pathology	C 4
5	M5.اطلاقی علم الادویہ برائے امراض اطفال(Itlaqi Ilmul Advia baraye Amraze Atfal) Applied Pharmacology used in pediatrics	C 5
6	M6.اطلاقی طبی اخلاقیات و حفظی وسماجی طبApplied Social, Preventive, Medicolegal and Ethical Medicine	C 6
7	M7.سریریات اطفال(Sareeriyat-i-Atfal) Pediatrics Clinical Method	C 7
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7) / Number of modules(7)

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
UNIPG-AB-AA
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) جنین کی اطلاقی تشریح ومنافع الاعضائی بیان (Janeen ki Iṭlaqī Tashrīḥ wa Manāfi‘ al-A‘ḍā’ bayan) Applied Anatomy & Physiology of Embryo (Marks: Range 5-20)				
1	**(U-1)** اطلاقی تشریح (Iṭlaqī Tashrīḥ) Applied Anatomy	No	Yes	Yes
2	**(U-2)** جنین کی اطلاقی منافع الاعضائی بیان (Janīn ki Iṭlaqī Manāfi‘ al-A‘ḍā’ bayan) Applied Physiology	Yes	Yes	Yes
3	**(U-3)** تشخیص وتنظیر بین الحمل (Tashkhis wa Tanzeer bainal hamal) Prenatal Diagnosis and Screening	Yes	Yes	Yes
4	**(U-4)** Communication and Counselling	No	Yes	Yes
(M- 2) امراض اطفال کے بنیادی اصول (Amraze Atfal ke Bunyadi Uṣūl) Unani Principals in Pediatrics (Marks: Range 5-20)				
1	**(U-1)** اطلاقی امور طبعیہ (Iṭlaqī Umoor-i-Tabaiyya) Basic Unani Principles	Yes	Yes	Yes
2	**(U-2)** اصول تشخیص واصول علاج (Uṣūl-i-Tashkhīṣ wa Uṣūl-i-Ilaj) Principle of Diagnosis and Treatment	Yes	Yes	No
3	**(U-3)** علاج بالغذا و یونانی معدل مناعت (Ilaj bil Taghdhiya wa Unani immunomudulator)	Yes	Yes	No
4	**(U-4)** یونانی طریقہ علاج اور اس میں مستعمل تدابیر (Unani Tariqa Ilaj aur isme mustāmal Tadbīr)	Yes	Yes	Yes
5	**(U-5)** نفسیات اطفال (Nafsiyat-i-Atfal) Child Psychology	Yes	Yes	Yes
6	**(U-6)** نفسیات اطفال (Nafsiyat-i-Atfal) Child Psychology	Yes	Yes	No
(M- 3) اطلاقی کیمیاء حیویہ وعلم الاحیاء الدقیقیہ (Itlaqi Kimiyae haiwya wa Ilmul hayae daqeeqya) Applied Biochemistry & Microbiology (Marks: Range 5-20)				
1	**(U-1)** اطلاقی کیمیا حیویہ (Itlaqi kimiya haiwiyah) Applied Biochemistry	Yes	Yes	Yes
2	**(U-2)** Metabolic Disorders	Yes	Yes	No
3	**(U-3)** اطلاقی علم الاحیاء الدقیقیہ (Itlaqi Ilmul ahya-ul daqqiyah) Applied Microbiology	Yes	Yes	Yes
(M- 4) اطلاقی ماہیت مرضی (Itlaqi Mahiyate Marzi) Applied Pathology (Marks: Range 5-20)				
1	**(U-1)** اطلاقی ماہیت مرضی (Iṭlaqī Mahiyate Marzi) Applied Pathology	No	Yes	Yes
2	**(U-2)** Marzi Munafiyati Khususiyat (Applied Pathophysiology)	No	Yes	No
3	**(U-3)** Pathogenesis	No	Yes	Yes
4	**(U-4)** Basic Histopathology	Yes	Yes	Yes
(M- 5) اطلاقی علم الادویہ برائے امراض اطفال (Itlaqi Ilmul Advia baraye Amraze Atfal) Applied Pharmacology used in pediatrics (Marks: Range 5-20)				
1	**(U-1)** اندرونی وبیرونی ادویات (Andrūnī wa Bayrūnī Adviāt) External and internal drugs	Yes	Yes	No
2	**(U-2)** اشکال ادویہ ومقدار خوراک (Ashkal-i-Adviā wa Miqdar-i-Khurak) Drug doses Forms	No	Yes	Yes
3	**(U-3)** تریاق سموم (Tiryāq-i-Sumūm) Antidote	Yes	Yes	No
4	**(U-4)** Clinical pharmacology	Yes	Yes	Yes
(M- 6) اطلاقی طبی اخلاقیات و حفظی و سماجی طب Applied Social, Preventive, Medicolegal and Ethical Medicine (Marks: Range 5-20)				

1	**(U-1)** Pediatric Health Care Systems and National Child Health Programs	Yes	Yes	Yes
2	**(U-2)** Health Statistics and Global Child Health	No	Yes	Yes
3	**(U-3)** Pediatric care: Screening, Disability, and Rehabilitation	Yes	Yes	Yes
4	**(U-4)** Child Rights, Protection, and Medicolegal Considerations in Pediatric Care	Yes	Yes	No
5	**(U-5)** Ethical Considerations in Pediatrics care	No	Yes	No
(M- 7) سریریات اطفال (Sareeriyat-i-Atfal) Pediatrics Clinical Method (Marks: Range 5-20)				
1	**(U-1)** روداد و عمومی امتحان مریض (Rudad wa Umūmī Imteḥān-e-Marīz) History taking and general Examination	Yes	Yes	Yes
2	**(U-2)** اطلاقی جراحت (Itlaqi Jarahat) Applied Surgery	Yes	Yes	No
3	**(U-3)** اطلاقی ریڈیولوجی Applied Radiology	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	M1.U2 **Or** M1.U3 **Or** M2.U1 **Or** M2.U2 **Or** M2.U3 **Or** M2.U4 **Or** M2.U5 **Or** M2.U6 **Or** M6.U1 **Or** M6.U3 **Or** M6.U4 **Or** M7.U1 **Or** M7.U2 **Or** M7.U3 **Or** M4.U4 **Or** M5.U1 **Or** M5.U3 **Or** M5.U4 **Or** M3.U1 **Or** M3.U2 **Or** M3.U3
Q2	**Short answer Questions** Eight Questions 5 Marks Each All compulsory	1. M2.U1 **Or** . M6.U1 **Or** . M7.U1 **Or** . M4.U1 **Or** . M5.U1 **Or** . M3.U1 **Or** . M1.U1 2. M1.U2 **Or** . M2.U3 **Or** . M6.U2 **Or** . M7.U2 **Or** . M4.U2 **Or** . M5.U2 **Or** . M3.U2 3. M1.U3 **Or** . M2.U4 **Or** . M6.U3 **Or** . M2.U4 **Or** . M7.U3 **Or** . M4.U3 **Or** . M5.U3 **Or** . M3.U3 4. M1.U4 **Or** . M2.U5 **Or** . M6.U4 **Or** . M7.U1 **Or** . M4.U4 **Or** . M4.U1 **Or** . M5.U4 **Or** . M3.U2

		5. M1.U1 **Or** . M2.U6 **Or** . M6.U5 **Or** . M7.U3 **Or** . M4.U2 **Or** . M5.U2 **Or** . M3.U1 6. M2.U3 **Or** . M6.U1 **Or** . M7.U1 **Or** . M4.U1 **Or** . M5.U4 **Or** . M3.U2 7. M1.U3 **Or** . M2.U6 **Or** . M6.U4 **Or** . M7.U1 **Or** . M3.U1 8. M3.U2 **Or** . M1.U2 **Or** . M6.U2 **Or** . M7.U1 **Or** . M5.U4 **Or** . M4.U3
Q3	**Analytical Based Structured Long answer Questions** Four Questions 10 marks each All compulsory	1. M7.U1 **Or** . M1.U1 **Or** . M2.U5 **Or** . M4.U3 **Or** . M4.U1 **Or** . M5.U2 **Or** . M3.U1 2. M6.U1 **Or** . M1.U2 **Or** . M2.U1 **Or** . M7.U3 **Or** . M5.U4 **Or** . M3.U3 3. M6.U3 **Or** . M2.U5 **Or** . M1.U3 **Or** . M7.U1 **Or** . M4.U1 **Or** . M3.U3 4. M2.U4 **Or** . M1.U1 **Or** . M6.U2 **Or** . M7.U1 **Or** . M3.U3

6 H : Distribution of Practical Exam (University Examination)

S.No	Heads	Marks
1	Long case or procedure/Major practical as applicable (2 number, Total Duration 1 hours X 40 Marks/each) 1. History Taking and Clinical Examination 2. Pediatric Xray,and ECG, CT,MRI,EEG 3. Consideration of physiology and pathology of akhlat, Mizaj, Quwa and Afaal in Children 4. Nutritional Assessment and Counseling 5. Ilaj bil ghida 6. Unani Immuno modulators 7. Fundamentals of Unani treatment and specific procedures 8. Biochemical basis of diseases in children 9. Pediatric Drug Dosage Calculation 10. Approach to Inborn Errors of Metabolism	80
2	Short case or procedure/Minor practical *as applicable (6 number, Total hours 01 X 10 Marks/each) 1. Identification of Darjaat-i-Umar and Mijaz 2. UsooleTashkhees wa Usoole Ilaj of pediatric cases 3. Identification of intravenous Cannulation and Fluid Calculation 4. Stages of wound healing 5. Image of embryonic development 6. Diagram of fetal circulation. 7. Image of foods lebels and its implication on child health. 8. Image of a glucose tolerance test curve. 9. Histopathological slide of any pediatric diseases 10. Image of a child abuse. 11. Immunization schedule chart. 12. Image of child labor. 13. Growth chart with plotted points.	60
3	Viva (2 examiners: 20 marks/each examiner)	40
4	Logbook (Activity record)	10
5	Practical/Clinical Record (10 Practical/clinical records, 1 Marks each)	10
Total Marks		**200**

Reference Books/ Resources

S.No	References
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2	Inderbir Singh's Textbook of Human Embryology, 14th Edition (2024)
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4	T.L. Gomella, F.G. Eyal, F. B. Mohammad. Gomella's Neonatology, 8th edition. Mac Graw, Hill. 2020
5	Ibn Rushd Abūl al-walīd Muḥammad. Kitāb al-Kulliyyāt(Urdu Translationby CCRUM).New Delhi: CCRUM;1980:
6	Syed ishtiyaq ahmed. Kulliyat asri .New Delhi, New public press ;1983.pg no 62-64.
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10	Hamdani Syed K. Usool e Tib. 6th ed. New Delhi: Qaumi Council Farokh Urdu Zaban; 2018.
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13	Khan A. Al Akseer. Vol. II (Urdu Translation by Kabīr al-Dīn).
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16	Kleigman RM. Nelson's Textbook of Pediatrics. 22nd ed. Vol. II. Elsevier
17	Qamri Abu Mansoorul Hasan. Gana Mana, Minhajul Ilaj. CCRUM
18	Rāzī Abū Bakr Muḥammad ibn Zakariyyā. Al-Ḥāwī (Translated by CCRUM). New Delhi: CCRUM
19	Rāzī Abū Bakr Muḥammad ibn Zakariyyā. Kitab-ul Fakhir. CCRUM, New Delhi; 2007.
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22	Shah MH. The General Principles of Avicenna's Canon of Medicine. Karachi: Naveed Clinic; 1966.
23	CCRUM. Standard Unani Treatment Guidelines for Common Diseases. Vol. I-II. New Delhi: CCRUM; 2016
24	Tabri Abul Hasan Ali Bin Sahal. Firdaus Al-Hikmat Fit-Tib (Translated by Hakeem Rasheed Ashraf Nadvi). CCRUM; 2010
25	Hakeem Kabeeruddin, "Bayaz-i-Kabir, Idara Kitabul Shifa Koocha Chilan Daryaganj New Delhi
26	Arzani M. A., "Akseer-ul-Quloob Urdu Translation of Mufarreh-ul-Quloob", CCRUM, New Delhi, 2010
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28	Akbar Arzani. Tibbe Akbar (Urdu translation by Hussain M). New Delhi: Idara Kitabul Shifa;
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52	Subrahmanyam BV, Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology for Classrooms and Courtrooms, 9th Ed., CBS Publishers and Distributors Pvt. Ltd., 2023
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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		