

**RYK MEDICAL COLLEGE**

Department of Medical Education



**Study Guide for M.B.B.S (First Professional)**

**Module 5: Respiratory Module (Block - 3)**

(5 Weeks & 3 Days)

Academic Year 2024/25

Integrated and Modular

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| LIST OF ABBREVIATIONS | | | |
| A | Anatomy | **HCL** | Hydrochloric acid |
| ABG | Arterial blood gas | **H&E** | Hematoxylin and eosin |
| Ag | Aging | **HL** | Hematopoietic and lymphatic |
| AKI | Acute kidney injury | **HMP** | Hexose monophosphate |
| ALT | Alanine transaminase | **HNSS** | Head & neck special senses |
| AMP | Adenosine Monophosphate | **ICF** | Intra cellular fluid |
| ANS | Autonomic nervous system | **IL** | Interleukin |
| AST | Aspartate transaminase | **IN** | Inflammation |
| AV | Atrioventricular | **INR** | International normalized ratio |
| B | Biochemistry | **IUD** | Intrauterine device |
| Bhs | Behavioral sciences | **IUGR** | Intra uterine growth restriction |
| C | Civics | **JVP** | Jugular venous pressure |
| CBC | Complete blood count | **LDH** | Lactate dehydrogenase |
| C-FRC | Clinical-Foundation Rotation Clerkship | **M** | Medicine |
| CK | Creatine kinase | **MALT** | Mucosa associated lymphoid tissue |
| CM | Community medicine | **MCH** | Mean corpuscular hematocrit |
| CNS | Central nervous system | **MCV** | Mean corpuscular volume |
| CO | Carbon monoxide | **MRI** | Magnetic resonance imaging |
| CO2 | Carbon dioxide | **MS** | Musculoskeletal |
| COPD | Chronic obstructive pulmonary disease | **MSD** | Musculoskeletal disorders |
| COX | Cyclooxygenase | **NEAA** | Non essential amino acids |
| CPR | Cardio pulmonary resuscitation | **NMJ** | Neuromuscular junction |
| CT | Computed tomography | **NS** | neurosciences |
| CV | Cardiovascular | **O** | Ophthalmology |
| CVA | Cerebral vascular accident | **Or** | Orientation |
| DALY | Disability adjusted life year | **P** | Physiology |
| DCMLS | Dorsal column medial lemniscus system | **Pa** | Pathology |
| DLC | Differential leukocyte count | **PAF** | Platelet activating factor |
| DNA | Deoxy ribonucleic acid | **PBL** | Problem based learning |
| ECF | Extra cellular fluid | **PCR** | Polymerase chain reaction |
| ECG | Electrocardiography | **PDGF** | Platelet derived growth factor |
| ECP | Emergency contraceptive pill | **Pe** | Pediatrics |
| EEG | Electroencephalogram | **PEM** | Protein energy malnutrition |
| EnR | Endocrinology and reproduction | **PERLs** | Professio Ethic Research Leadership |
| ENT | Ear Nose Throat | **PH** | Pharmacology |
| ER | Emergency room | **PNS** | Peripheral nervous system |
| F | Foundation | **Psy** | Psychiatry |
| FEV1 | Forced expiratory volume 1 | **PVC** | Premature ventricular contraction |
| FM | Forensic medicine | **QALY** | Quality adjusted life years |
| FVC | Forced vital capacity | **QI** | Quran & Islamiat |
| GFR | Glomerular filtration rate | **R** | Renal |
| GIT | Gastrointestinal tract | **Ra** | Radiology |
| GMP | Guanosine monophosphate | **RBCs** | Red blood cells |
| GO | Gynecology and obstetrics | **SA** | Sinoatrial |
| RDA | Recommended dietary allowance | **TCA** | Tricarboxylic acid cycle |
| Re | Respiratory | **TNA** | Tumor necrosis factor |
| RFLP | Restriction fragment length polymorphism | **USG** | Ultrasonography |
| RMP | Resting membrane potential | **UTI** | Urinary tract infection |
| RNA | Ribonucleic acid | **WBCs** | White blood cells |
| S | Surgery |  |  |

**CURRICULUM FRAMEWORK**

The University of Health Sciences Lahore has designed a five year modular framework For integrated curriculum based on specific systems, clinical clerkships, Quran and Professionalism.

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| **Curriculum framework** | | | | | | |
| **Year 01** | **Modules** | **Block 1** | | | **Block 2** | **Block 3** |
| * Foundation -1 * Hematopoietic & Lymphatic | | | * Musculoskeletal and locomotion - 1 | * Cardiovascular - * Respiratory - 1 |
| PERLS-1, Quran-1, Islamiat, Civics, Pakistan Studies & English | | | | |
| C-FRC -1(Clinical-Foundation, Rotation, Clerkship) | | | | |
|  | | | | | | |
| **Year 02** | **Modules** | **Block 4** | | | **Block 5** | **Block 6** |
| * GIT & Nutrition – * Renal – 1 | | | * Endocrinology & Reproduction – 1 * Head & Neck, Special senses | * Neurosciences –1 * Inflammation - 1 |
| PERLS-2, Quran Pak-2, Islamiat, Civics,Pakistan Studies & English | | | | |
| C-FRC -2(Clinical-Foundation, Rotation, Clerkship) | | | | |
|  | | | | | | |
| **Year 03** | **Modules** | **Block 7** | | **Block 8** | | **Block 9** |
| * Foundation – 2 * Infectious Diseases * Neoplasia * Musculoskeletal & Locomotion - 2 | | * Hematopoietic, Immunity & Transplant * Cardiovascular - 2 | | * Respiratory – 2 * Forensic Medicine * Community Medicine & Family Health -1 |
| PERLS - 3, Quran Pak – 3 | | | | |
| C-FRC -3 (Clinical-Foundation, Rotation, Clerkship) | | | | |
|  |  |  | | | | |
| **Year 04** | **Modules** | **Block 10** | **Block 11** | | | **Block 12** |
| * Renal – 2 * Endocrinology & Reproduction – 2 * GIT & Nutrition – * Neurosciences - 2 | * Maternal & Child Health * Ophthalmology * Otorhinolaryngology | | | * Community Medicine & Family Health -2 * Psychiatry & Behavioral Sciences |
| PERLS – 4, Quran Pak – 4, Electives & BLS Workshops | | | | |
| C-FRC - 4 (Clinical-Foundation, Rotation, Clerkship) | | | | |
|  | | | | | | |
| **Year 05** | **Modules** | * Gynecology & Obstetrics * Pediatrics * Medicine & Allied * Surgery & Allied | | | | |
| C-FRC -5 (Clinical-Foundation, Rotation, Clerkship) | | | | |

**INTRODUCTION TO STUDY GUIDE**

**WHAT IS A STUDY GUIDE?**

It is an aid to:

* Inform students how student learning program module has been organized
* Help students organize and manage their studies throughout the module
* Guide students on assessment methods, rules and regulations

**THE STUDY GUIDE:**

* Communicates information on organization and management of the module. This will help the student to contact the right person in case of any difficulty.
* Defines the objectives which are expected to be achieved at the end of the module.
* Identifies the learning strategies such as lectures, small group teachings, clinical skills, demonstration, tutorial and case based learning that will be implemented to achieve the module objectives.
* Provides a list of learning resources such as books, computer assisted learning programs, web- links, and journals for students to consult in order to maximize their learning.
* Highlights information on the contribution of continuous and Term examinations on the student’s overall performance.
* Includes information on the assessment methods that will be held to determine every student’s achievement of objectives.
* Focuses on information pertaining to examination policy, rules and regulations.

**MODULE INTRODUCTION**

**Module/ course Name:** Respiratory (Block-3)

**Block duration:** 13 weeks

**Module duration**: 05 weeks & 3 Days

**Year:** 1st

**Start Date:** --/--/2024-25

**End Date:** --/--/2024-25

**Departments** = Anatomy, Physiology, Biochemistry, pharmacology, pathology, community medicine, clinical skill foundation (hospital), medicine, surgery, gynecology & obstetrics, pediatrics, behavioral sciences, Quran/Islamiat & Pakistan studies.

**Daily timings:** 8:00 AM to 4:00 PM

**No. of hours:** 5 hours per day (1 Hour for prayer / Quran / Lunch) break)

**Teaching hours:** 07 per day/35 hours per week

**Test dates:** ----/----/2024/25

**Active learning session’s detail**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Subjects** | **TBL/PBL** | **Dissection** | **CBL** | **SGD** | **Tutorial** | **Demo** |
| **Anatomy** | 00 | 02 | 00 | 00 | 00 | 04 |
| **Physiology** | 00 | 00 | 00 | 01 | 00 | 00 |
| **Biochemistry** | 00 | 00 | 00 | 01 | 01 | 00 |
| **Pharmacology** | × | × | × | × | × | × |
| **Pathology** | × | × | × | × | × | × |
| **Com medicine** | × | × | × | × | × | × |
| **Beh sciences** | × | × | × | × | × | × |

**THEMES**

 Rib cage

 Thoracic vertebrae

 Upper respiratory system

 Lower Respiratory system

**CLINICAL RELEVANCE**

 Acute Respiratory Distress Syndrome

 Bronchial Asthma

 Tuberculosis

 Pneumonia

**YEAR 1 & MODULE COMMITTEES**

**Year 1 committee**

* Prof Dr Tariq M Rehan (HOD DME) (Principal)
* Prof Dr Tehseen Iqbal (HOD Physiology) (Vice. Principal)
* Prof Dr Ghaffar Ansari (HOD Anatomy), Prof Dr Zia ur Rehman Alvi
* Prof Dr Dr Shafqat Nazeer (HOD Biochemistry)
* Prof Dr Abdul Hakeem (HOD Pathology)
* Prof Dr M Amir Rafique (HOD Pharmacology)
* Prof Dr Javed Akhter (HOD Community Medicine)
* Prof Dr M saleem (HOD Forensic medicine)

**Module committee**

* Dr Raja Faisal Zulfiqar (Anatomy)
* Dr Rahil Adil (Physiology)
* Dr khalida anwar (Biochemistry)
* Dr Naqeeb (Pathology)
* Dr Ali Hussain (community medicine)

**PBL, TBL & CBL Committee**

* Prof Dr Tariq M Rehan (HOD DME) (Principal)
* Prof Dr Tehseen Iqbal (HOD Physiology) (Vice. Principal)
* Prof Dr Ghaffar Ansari (HOD Anatomy), Prof Dr Zia ur Rehman Alvi
* Prof Dr Dr Shafqat Nazeer (HOD Biochemistry

**Mentoring committee**

* Prof Dr Abdul Hakeem (HOD Pathology)
* Prof Dr M Amir Rafique (HOD Pharmacology)
* Prof Dr Javed Akhter (HOD Community Medicine)
* Prof Dr M saleem (HOD Forensic medicine)

**Module coordinator:**

* Anatomy: Dr Raja Faisal Zulfiqar
* Biochemistry: Dr Dost M kalhoro
* Physiology: Dr Sadia Javiad
* Pharmacology: Dr Tasneem Yasmin
* Pathology: Dr Syed Naqeeb
* Community medicine: Dr Ali Hussain
* Medicine: Dr Abdul Waheed
* Surgery: Dr Jahangeer
* Pediatrics: Dr Masood
* Gynecology & obstetrics: Dr Farhat Yasmeen
* Behavioral sciences: Dr Mehwish Adnan

**Planning committee**

Department of medical education

**TEACHING FACULTY**

* Anatomy: Prof Dr Ghaffar Ansari, Prof Dr Zia Ur Rehman Alvi, Dr Raja Faisal Zulfiqar
* Biochemistry: Prof Dr Shafqat Nazir, Dr Khalida Anwar, Dr Dost M kalhoro
* Physiology: Prof Dr Tehseen Iqbal, Dr Rahila Adil, Dr Sadia Javaid
* Pharmacology: M Amir Rafique
* Pathology: Prof Dr Abdul Hakeem, Dr Syed Naqeeb Ali
* Community medicine: Dr Ali Hussain,
* Medicine: Prof Dr Akhter Masood
* Surgery: Prof Dr Tariq Mehmood Rehan
* Pediatrics: Prof Dr Hafiz M Tayyab
* Gynecology & obstetrics: Assoc Prof Dr Iffat Yasmin
* Behavioral sciences: Dr Mehwish Adnan
* Holy Quran & Islamiyat: Miss Kanwal
* Pakistan studies: Mr Jaffar
* Civics: Dr A Majid
* PERLs: Dr M Tariq Karim
* English: Miss Anum

**TEACHING METHODOLOGIES/STRATEGIES**

* Large group interactive sessions
* Tutorials
* Demonstrations
* Lab practical
* Simulations (Skill lab)
* Team based learning
* Case based learning
* Problem based learning

**VENUE RESPIRATORY MODULE**

|  |  |  |  |
| --- | --- | --- | --- |
| **GROUPING** | **LECTURES** | **PBL/CBL** | **SMALL GROUP DISCUSSION** |
| **Group A** (1-33)  **Group B** (34-66)  **Group C** 67-100) | Anatomy → LH - 05  Physiology → LH - 02  Biochemistry → LH - 01  Pathology → LH 04  Pharmacology → LH 03  Com medicine → LH 03  Rest of all → LH 01 | Anatomy → DR - 05  Physio → DR - 02  Biochem → DR - 01  Patho → DR 04  Pharma → DR 03  Com med → DR 06 | Tutorial room  2nd floor |
| **TEAM BASED LEARNING** |
| * Multi - purpose hall * Skill lab * Corresponding lab |
| **(PRACTICALS)** |
| Corresponding labs |

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| **Week 1: Block-3, Module-5, Respiratory = / /2024/25 to / /2024/25** | | | | | | | | |
| **Days** | **8:00-9:00** | **9:00-10:00** | **10:00**  **10:20** | **10:20-11:20** | **11:20-12:20** | **12:20-01:20** | **01:20**  **02:00** | **02:00-4:00** |
| **Monday** | **LGIS**  **Holy Quran** 01  Dr A.Majid | **LGIS**  **Physiology**  Re-P-001/A  Dr Tehseen.I **LGIS** | **Tea break** | **Demonstration** **G.Anatomy**  Re-A-001/A & Re-A-001/B | | **LGIS**  **Biochemistry**  Re-B-001/A  Dr Shafqat | **Prayer & lunch break** | **Practical/Skill Lab/Dissection-1**  Group A **SKILL LAB-1**  Group B **Physiology (P-1)**  Group C **Anatomy (Dissection)** |
| **1-25=DR 4** | **26-50=DR 3** |
| **51-75=DR 6** | **76-100=DR5** |
| **Tuesday** | **LGIS**  **Pakistan studies 01**  Mr.Jaffar | **LGIS**  **Beh sciences**  Re-Bhs-01  Dr Mehwish.A | **Anatomy**  Re-A-019  **HISTOLOGY**  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-001/B  Dr Raheela.A | **LGIS**  **Biochemistry**  Re-B-001/B  Dr Dost.M | **Practical/Skill Lab/Dissection-1**  Group A  **Anatomy (Dissection)**  Group B **Anatomy (P-1)**  Group C **SKILL LAB-1** |
| **Wednesday** | **Civics**  **01**  Dr Tariq Karim | **LGIS**  **Com med**  Re-CM-001/A  Dr Ali.H | **LGIS**  **Gross Anatomy**  Re-A-002  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-002/A  Dr Rahila Adil | **LGIS**  **Biochemistry**  Re-B-001/C  Dr Khalida.A | **Practical/Skill Lab/Dissection-1**  Group A **Physiology (P-1)**  Group B **SKILL LAB-1**  Group C **Anatomy (P-1)** |
| **Thursday** | **LGIS**  **Pharmacology**  Re-Ph-001  Dr Zameer.AS | **Self Directed Learning** | **LGIS**  **Gross Anatomy**  Re-A-003/A  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-002/B  Dr Sadia.J | **LGIS**  **Biochemistry**  Re-B-001/D  Dr Shafqat | **Practical/Skill Lab/Dissection-1**  Group A **Anatomy (P-1)**  Group B  **Anatomy (Dissection)**  Group C **Physiology (P-1)** |
| **Friday** | **LGIS**  **Pathology**  Re-Pa-001  Dr Hakeem.Ch | **LGIS**  **Anatomy**  Re-A-015/A  **EMBRYOLOGY**  Dr R.Faisal | **LGIS**  **Gross Anatomy**  Re-A-003/B  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-003/A  Dr Safi.R | **LGIS**  **Gross Anatomy**  Re-A-004/A  Dr Z.Alvi | **CLINICAL SKILLS FOUNDATION - 1**  (Please refer to clinical skills manual for groups/wards distribution) |

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| **Week 2: Block-3, Module-5, Respiratory = / /2024-25 to / /2024-25** | | | | | | | | |
| **Days** | **8:00-9:00** | **9:00-10:00** | **10:00-10:20** | **10:20-11:20** | **11:20-12:20** | **12:20-01:20** | **01:20-02:00** | **02:00-4:00** |
| **Monday** | **LGIS**  **Holy Quran**  02  Dr A.Majid | **LGIS**  **Anatomy**  Re-A-020  **HISTOLOGY**  Dr R.Faisal | **Tea break** | **LGIS**  **Gross Anatomy**  Re-A-004/B  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-003/B  Dr Tehseen.I | **LGIS**  **Biochemistry**  Re-B-002/A  Dr Dost.M | **Prayer & lunch break** | **Practical/Skill Lab/SGD - 2**  Group A **SKILL LAB-2**  Group B **Physiology (P-2)**  Group C **Biochemistry (SGD)** |
| **Tuesday** | **LGIS**  **Anatomy**  Re-A-015/**B**  **EMBRYOLOGY**  Dr Z.Alvi | **LGIS**  **Com med**  Re-CM-001/B  Dr Ali.H | **LGIS**  **Gross Anatomy**  Re-A-004/C  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-003/C  Dr Raheela.A | **LGIS**  **Biochemistry**  Re-B-002/B  Dr Khalida.A | **Practical/Skill Lab/SGD - 2**  Group A **Biochemistry (SGD)**  Group B **Anatomy (P-2)**  Group C **SKILL LAB-2** |
| **Wednesday** | **LGIS**  **Pharmacology**  Re-Ph-002  Dr Zameer.AS | **LGIS**  **Pathology**  Re-Pa-002  Dr Hakeem.Ch | **LGIS**  **Gross Anatomy**  Re-A-004/D  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-004  Dr Sadia.J | **LGIS**  **Biochemistry**  Re-B-002/C  Dr Shafqat | **Practical/Skill Lab/SGD - 2**  Group A **Physiology (P-2)**  Group B **SKILL LAB-2**  Group C **Anatomy (P-2)** |
| **Thursday** | **LGIS**  **Gross Anatomy**  Re-A-005/A  Dr Z.Alvi | **LGIS**  **Beh sciences**  Re-Bhs-02  Dr Mehwish.A | **LGIS**  **Gross Anatomy**  Re-A-005/B  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-005/A  Dr Rahila Adil | **LGIS**  **Gross Anatomy**  Re-A-006/A  Dr G.Ansari | **Practical/Skill Lab/SGD - 2**  Group A **Anatomy (P-2)**  Group B **Biochemistry (SGD)**  Group C **Physiology (P-2)** |
| **Friday** | **LGIS**  **Islamiyat 01**  Miss Kanwal | **SELF DIRECTED LEARNING** | **LGIS**  **Physiology**  Re-P-005/B  Dr Safi.R | **LGIS**  **Gross Anatomy**  Re-A-006/B  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-006/A  Dr Tehseen.I | **CLINICAL SKILLS FOUNDATIONS - 2**  (Please refer to clinical skills manual for groups/wards distribution) |

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| **Week 3: Block-3, Module-5, Respiratory = / /2024/25 to / /2024/25** | | | | | | | | |
| **Days** | **8:00-9:00** | **9:00-10:00** | **10:00-10:20** | **10:20-11:20** | **11:20-12:20** | **12:20-01:20** | **01:20-02:00** | **02:00-4:00** |
| **Monday** | **LGIS**  **Gross Anatomy**  Re-A-007  Dr R. Faisal | **LGIS**  **Aging**  Re-Ag-01  Dr A Yar.M | **Tea break** | **LGIS**  **Gross Anatomy**  Re-A-008  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-006/B  Dr Raheela.A | **LGIS**  **Biochemistry**  Re-B-002/D  Dr Dost.M | **Prayer & lunch break** | **Practical/Skill Lab/Demonstration - 3**  Group A **SKILL LAB-3**  Group B **Physiology (P-3)**  Group C **Anatomy (Demonstration)** |
| **Tuesday** | **LGIS**  **Anatomy**  Re-A-021  **HISTOLOGY**  Dr G.Ansari | **LGIS**  **Pathology**  Re-Pa-003  Dr Hakeem.Ch | **LGIS**  **Gross Anatomy**  Re-A-009  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-006/c  Dr Sadia.J | **LGIS**  **Biochemistry**  Re-B-003/A  Dr Khalida.A | **Practical/Skill Lab/Demonstration - 3**  Group A  **Anatomy (Demonstration)**  Group B **Anatomy (P-3)**  Group C **SKILL LAB-3** |
| **Wednesday** | **LGIS**  **Beh sciences**  Re-Bhs-03  Dr Mehwish.A | **LGIS**  **Anatomy**  Re-A-016/A  **EMBRYOLOGY**  Dr R.Faisal | **LGIS**  **Gross Anatomy**  Re-A-010  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-007/A  Dr Rahila Adil | **LGIS**  **Biochemistry**  Re-B-003/B  Dr Shafqat | **Practical/Skill Lab/Demonstration - 3**  Group A **Physiology (P-3)**  Group B **SKILL LAB-3**  Group C **Anatomy (P-3)** |
| **Thursday** | **LGIS**  **Com med**  Re-CM-002  Dr Ali.H | **LGIS**  **Pharmacology**  Re-Ph-003  Dr Zameer.AS | **LGIS**  **Gross Anatomy**  Re-A-011  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-007/B  Dr Safi.R | **LGIS**  **Gross Anatomy**  Re-A-012  Dr R. Faisal | **Practical/Skill Lab/Demonstration - 3**  Group A **Anatomy (P-3)**  Group B  **Anatomy (Demonstration)**  Group C  **Physiology (P-3)** |
| **Friday** | **Civics – 02**  Dr Tariq Karim | **Self directed learning** | **LGIS**  **Gross Anatomy**  Re-A-013  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-008  Dr Tehseen.I | **LGIS**  **Physiology**  Re-P-009/A  Dr Raheela.A | **CLINICAL SKILLS FOUNDATIONS - 3**  (Please refer to clinical skills manual for groups/wards distribution) |

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| **Week 4: Block-3, Module-5, Respiratory = / /2024/25 to / /2024/25** | | | | | | | | |
| **Days** | **8:00-9:00** | **9:00-10:00** | **10:00-10:20** | **10:20-11:20** | **11:20-12:20** | **12:20-01:20** | **01:20-02:00** | **02:00-4:00** |
| **Monday** | **LGIS**  **Com med**  Re-CM-003  Dr Ali.H | **LGIS**  **Beh sciences**  Re-Bhs-04  Dr Mehwish.A | **Tea break** | **LGIS**  **Gross Anatomy**  Re-A-014/A  Dr R. Faisal | **LGIS**  **Physiology**  Re-P-009/B  Dr Sadia.J | **LGIS**  **Biochemistry**  Re-B-004/A  Dr Dost.M | **Prayer & lunch break** | **Practical/Skill Lab/Demonstration 4**  Group A **SKILL LAB - 4**  Group B **Physiology (P-4)**  Group C **Anatomy (Demonstration)** |
| **Tuesday** | **LGIS**  **Aging**  Re-Ag-02  Dr A Yar.M | **LGIS**  **Pathology**  Re-Pa-004  Dr Hakeem.Ch | **LGIS**  **Gross Anatomy**  Re-A-014/B  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-010/A  Dr Safi.R | **LGIS**  **Biochemistry**  Re-B-004/B  Dr Khalida.A | **Practical/Skill Lab/Demonstration 4**  Group A **Anatomy (Demonstration)**  Group B **Anatomy (P-4)**  Group C **SKILL LAB – 4** |
| **Wednesday** | **LGIS**  **Gross Anatomy**  Re-A-014/C  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-010/B  Dr Tehseen.I | **LGIS**  **Anatomy**  Re-A-016/B  **EMBRYOLOGY**  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-011  Dr Raheela.A | **LGIS**  **Biochemistry**  Re-B-004/C  Dr Shafqat | **Practical/Skill Lab/Demonstration 4**  Group A **Physiology (P-4)**  Group B **SKILL LAB - 4**  Group C **Anatomy (P-4)** |
| **Thursday** | **LGIS**  **Anatomy**  Re-A-022  **HISTOLOGY**  Dr R.Faisal | **Class Test**  Biochemistry | **LGIS**  **Anatomy**  Re-A-016/C  **EMBRYOLOGY**  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-012/A  Dr Rahila Adil | **LGIS**  **Biochemistry**  Re-B-004/D  Dr Dost.M | **Practical/Skill Lab/Demonstration 4**  Group A **Anatomy (P-4)**  Group B **Anatomy (Demonstration)**  Group C **Physiology (P-4)** |
| **Friday** | **PERLS**  Dr A Majid | **LGIS**  **Physiology**  Re-P-012/B  Dr Sadia.J | **LGIS**  **Anatomy**  Re-A-017/A  **EMBRYOLOGY**  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-013  Dr Safi.R | **LGIS**  **Biochemistry**  Re-B-004/E  Dr Khalida.A | **CLINICAL SKILLS FOUNDATION - 4**  (Please refer to clinical skills manual for groups/wards distribution) |

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| **Week 5: Block-3, Module-5, Respiratory = / /2024/25 to / /2024/25** | | | | | | | | |
| **Days** | **8:00-9:00** | **9:00-10:00** | **10:00-10:20** | **10:20-11:20** | **11:20-12:20** | **12:20-01:20** | **01:20-02:00** | **02:00-4:00** |
| **Monday** | **LGIS**  **Physiology**  Re-P-014  Dr Tehseen.I | **LGIS**  **Pathology**  Re-Pa-005  Dr Hakeem.Ch | **Tea break** | **LGIS**  **Physiology**  Re-P-015  Dr Raheela.A | **LGIS**  **Anatomy**  Re-A-017/B  **EMBRYOLOGY**  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-016  Dr Sadia.J | **Prayer & lunch break** | **Practical/Skill Lab/Tutorial 5**  Group A **SKILL LAB-5**  Group B **Physiology (P-5)**  Group C **Biochemistry (Tutorial)** |
| **Tuesday** | **LGIS**  **Anatomy**  Re-A-023  **HISTOLOGY**  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-017  Dr Safi.R | **LGIS**  **Physiology**  Re-P-018  Dr Tehseen.I | **LGIS**  **Anatomy**  Re-A-018/A  **EMBRYOLOGY**  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-019  Dr Raheela.A | **Practical/Skill Lab/Tutorial 5**  Group A **Biochemistry ((Tutorial)**  Group B **Anatomy (P-5)**  Group C **SKILL LAB-5** |
| **Wednesday** | **LGIS**  **Anatomy**  Re-A-018/B  **EMBRYOLOGY**  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-020  Dr Sadia.J | **LGIS**  **Physiology**  Re-P-021  Dr Safi.R | **LGIS**  **Anatomy**  Re-A-018/C  **EMBRYOLOGY**  Dr G.Ansari | **LGIS**  **Physiology**  Re-P-022/A | **Practical/Skill Lab/Tutorial 5**  Group A **Physiology (P-5)**  Group B **SKILL LAB-5**  Group C **Anatomy (P-5)** |
| **Thursday** | **LGIS**  **Physiology**  Re-P-022/B  Dr Tehseen.I | **CLASS TEST**  Physiology | **LGIS**  **Physiology**  Re-P-023  Dr Raheela.A | **LGIS**  **Anatomy**  Re-A-024/A  **HISTOLOGY**  Dr Z.Alvi | **LGIS**  **Physiology**  Re-P-024/A  Dr Sadia.J | **Practical/Skill Lab/Tutorial 5**  Group A **Anatomy (P-5)**  Group B **Biochemistry (Tutorial)**  Group C **Physiology (P-5)** |
| **Friday** | **LGIS**  **Com med** Re-CM-004/A  Dr Ali.H | **LGIS**  **Physiology**  Re-P-024/B  Dr Safi.R | **LGIS**  **Physiology**  Re-P-024/C  Dr Tehseen.I | **LGIS**  **Anatomy**  Re-A-024/B  **HISTOLOGY**  Dr R.Faisal | **LGIS**  **Physiology**  Re-P-025/A | **CLINICAL SKILLS FOUNDATION - 5**  (Please refer to clinical skills manual for groups/wards distribution) |

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| **(Week 6): Block-3, Module-5, Respiratory = / /2024/25 to / /2024/25** | | | | | | | | |
| **Days** | **8:00-9:00** | **9:00-10:00** | **10:00-10:20** | **10:20-11:20** | **11:20-12:20** | **12:20-01:20** | **01:20**  **02:00** | **02:00-4:00** |
| **Monday** | **LGIS**  **Physiology**  Re-P-025/B  Dr Tehseen Iqbal | **LGIS**  **Com med**  Re-CM-004/B  Dr Ali.H | **Tea break** | **LGIS**  **Physiology**  Re-P-026/A  Dr Rahila Adil | **Class Test**  Anatomy | **LGIS**  **Physiology**  Re-P-026/B  Dr Sadia Javiad | **Prayer & lunch break** | **Practical/Skill Lab/SGD/Demo 6**  Group A **SKILL LAB - 6**  Group B **Physiology (SGD)**  Group C **Anatomy (Demonstration)** |
| **Tuesday** | **LGIS**  **Physiology**  Re-P-027/A  Dr Rahila Adil | **LGIS**  **Aging**  Re-Ag-03  Dr A Yar.M | **LGIS**  **Physiology**  Re-P-027/B  Dr Tehseen.I | **Civics**  **03**  Dr Tariq Karim | **LGIS**  **Physiology**  Re-P-028  Dr Sadia Javaid | **Practical/Skill Lab/SGD/Demo 6**  Group A **Anatomy (Demonstration)**  Group B **Anatomy (Dissection)**  Group C **SKILL LAB – 6** |
| **Wednesday** | **Practical/Skill Lab/SGD/Demo 6**  Group A **Physiology (SGD)**  Group B **SKILL LAB-6**  Group C **Anatomy (Dissection)** | | **Practical/Skill Lab/SGD/Demo 6**  Group A **Anatomy (Dissection)**  Group B **Anatomy (Demonstration)**  Group C **Physiology (SGD)** | | **SELF DIRECTED LEARNING** | **CLINICAL SKILLS FOUNDATION – 6**  (Please refer to clinical skills manual for groups/wards distribution) |
| **Wednesday** | **End of Module Examination** | | | | | | | |

**DISTRIBUTION AND DURATION OF TEACHING ACTIVITIES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Subject | Hours theory | Hours  Practical | SGD/TBL/PBL CBL/Diss (hrs) | Total hours |
| Anatomy | 38 | 10 | 2 Diss = 4 hours  4 Demo = 8 hours | **60** |
| Physiology | 45 | 10 | 1 SGD = 2 hours | **57** |
| Biochemistry | 15 | 00 | 1 Tuto = 2 hours  1 SGD = 2 hours | **19** |
| Pharmacology | 03 | ------- | ------- | **03** |
| Pathology | 05 | ------- | ------- | **05** |
| Community medicine | 06 | ------- | ------- | **06** |
| Aging | 03 | ------- | ------- | **03** |
| Behavioral sciences | 04 | ------- | ------- | **04** |
| PERLs | 01 | ------- | ------- | **01** |
| Clinical skill foundation | ------- | 12 | ------- | **12** |
| Skill lab | ------- | 12 | ------- | **12** |
| Holy Quran | 02 | ------- | ------- | **02** |
| Islamiat | 01 | ------- | ------- | **01** |
| Pakistan studies | 01 | ------- | ------- | **01** |
| Civics | 03 | ------- | ------- | **03** |
| Self directed learning | 04 | ------- | ------- | **04** |
| Class test | 03 | ------- | ------- | **03** |
| Total | **35 hours/week × 5 weeks + (3 days=21) =196 hours** | | | **196** |

**MODULE RATIONALE**

The diseases related to the respiratory system are on the rise not only in developing countries but also in developed countries. The infant mortality rate in Pakistan is highest in Southeast Asia and one of the important reasons is common respiratory infections in children. With the world suffering from COVID-19 not only physically but also mentally it is very important for medical students to study in detail the structures, functions prevention, epidemiology, genetic basis of diseases and their management. The respiratory system is responsible for bringing oxygen into the body and removing carbon dioxide. It is made up of several organs and structures including the nose, pharynx, larynx, trachea, bronchi, lungs, and diaphragm.

**Aims:**

The **Respiratory Module** aims to:

1. Understand the structure, function, and regulation of the respiratory system.
2. Identify common respiratory diseases and their pathophysiology.
3. Develop skills in diagnosing and managing respiratory conditions.
4. Interpret clinical signs, spirometry, and other investigations.
5. Promote ethical, patient-centered care and effective teamwork.

**IMPLEMENTATION TORs**

1. The time calculation for completion of modules and blocks is based on 35 hours per week. Total hours of teaching, learning and formative/summative internal assessment to be completed in a year are 1260.
2. The hours mentioned within each module are the mandatory minimum required. The rest of the hours are left to the discretion of the institution that can be used in teaching, learning and assessment as per decision of the institutional academic council.
3. The content and the intended learning outcomes written are mandatory, to be taught, at the level required, as the end year assessment will be based on these. However, the level of cognition can be kept at a higher level by the institution.
4. The Table of Specifications provided will be used for the three papers of the first professional examination. The same table of specifications should be used for the respective three block exams for internal assessment.

**MODULE OUTCOMES**

At the end of this module the students will be able to:

* Apply basic sciences’ knowledge to understand the causes of common respiratory problems.
* Explain the pathogenesis of respiratory diseases.
* Enlist the main investigations relevant to respiratory disorders.
* Recognize risk factors and preventive measures of main respiratory diseases.

**COURSE CONTENTS, CODES & SPECIFIC LEARNING OBJECTIVE**

|  |  |
| --- | --- |
| **GROSS ANATOMY** | |
| **CODE** | **SPECIFIC LEARNING OUTCOMES** |
| **Re-A- 001** | Describe the anatomical features and neurovascular supply of nasal cavity. |
| Describe the anatomical features and neurovascular supply of pharynx |
| Describe the anatomical features and neurovascular supply of larynx |
| **Re-A- 002** | Describe the anatomical features of the Trachea with its extent, relations, neurovascular supply and lymphatics. |
| **Re-A- 003** | Give the boundaries of thoracic cavity, superior and inferior thoracic apertures and list the structures contained/ traversing them. |
| Describe the anatomical correlates of Thoracic inlet syndrome & Thoracic outlet Syndrome. |
| **Re-A- 004** | Identify and differentiate the typical from atypical ribs. |
| Describe the anatomical features of ribs and give their attachments. |
| Describe the anatomical correlates of supernumerary cervical rib. |
| Classify the articulations of the ribs. |
| Describe the anatomical features of these articulations. |
| Describe the movements with the muscles producing articulations. |
| Describe the effects of fracture to the neck of rib and give its anatomical justification |
| Describe the anatomical correlates of Flail Chest. |
| **Re-A- 005** | Describe the anatomical correlates of Thoracotomy |
| Define the attachments, relations, nerve supply and actions of intercostal muscles |
| Define an intercostal space and give details of its contents |
| Describe the anatomical correlates of intercostal incisions |
| **Re-A- 006** | Describe the anatomical features and attachments on typical & atypical thoracic vertebrae. |
| Differentiate between typical and atypical vertebrae. |
| Explain the thoracic part of vertebral column (normal curvature, intervertebra joints, muscles & fascia of the back, blood supply, lymphatic drainage, nerve supply of back) Associated Clinical conditions -Kyphosis, Scoliosis. |
| **Re-A- 007** | Describe the bony features and attachments on the sternum |
| Describe the anatomical correlates of median sternotomy. |
| Describe the anatomical correlates of sternal biopsy. |
| Describe the presentation of sterna fractures and correlate it anatomically |
| **Re-A- 008** | Describe the endo thoracic fascia with its attachments. |
| Describe the supra-pleural membrane with its attachments. |
| **Re-A- 009** | Classify the joints of the thorax mentioning their articulations, movements with the muscle producing them. |
| Describe the mechanism of thorax: pump handle and bucket handle movements. |
| **Re-A- 010** | Describe the origin, course, relations and distribution of intercostal nerves and vessels |
| Describe the course and relations of Internal thoracic vessels. |
| Describe the alternate routes of venous drainage in blockage of superior/ inferior vena cava. |
| **Re-A- 011** | Describe the cutaneous nerve supply and dermatomes of thorax. |
| Give anatomical justification of the manifestations of herpes zoster infection on thoracic wall. |
| Discuss anatomical correlates of intercostals nerve block. |
| **Re-A- 012** | Name the parts of diaphragm mentioning their attachments and neurovascular supply |
| Explain the role of diaphragm in respiration |
| Enumerate the diaphragmatic apertures with their vertebral levels, mentioning the structures traversing them. |
| **Re-A- 013** | Describe the pleura giving its parts, layers, neurovascular supply, and lymphatic drainage |
| Describe the pleural cavity giving its recesses and the lines of pleural reflection |
| Describe the anatomical correlates of pleural pain pleurisy, pneumothorax, pleural effusion. |
| Describe the anatomical features, relations of lungs. |
| **Re-A- 014** | Describe the neurovascular supply and lymphatic drainage of lungs. |
| Compare and contrast the anatomical features and relations of right and left lung |
| Describe the root of the lung and pulmonary ligament with arrangement of structures at the hilum |
| Define Bronchopulmonary segments. Give their vascular supply, lymphatic drainage and clinical significance |
| Describe the anatomical correlates of chest tube intubation |
| Describe the anatomical correlates of thoracentesis |
| Explain the pathophysiology of Atelectasis. |
| Describe the anatomical correlates of bronchoscopy |
| Describe the anatomical basis for medico-legal significance of lungs in determining the viability of newborn |
| Identify various anatomical landmarks on chest X-Rays, CT and MRI |
| **EMBRYOLOGY & POST-NATAL DEVELOPMENT** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-A- 015** | Describe the development of ribs, sternum, and thoracic vertebrae. Give the associated congenital malformations. |
| **Re-A- 016** | List the embryological sources of the diaphragm. Describe the events taking place in the development and descent of the diaphragm. |
| Describe the embryological basis of congenital anomalies of the diaphragm: diaphragmatic hernias, eventuation of diaphragm, epigastric hernia, hiatal hernia, retrosternal hernia. |
| **Re-A-017** | Describe the development of upper respiratory tract: larynx and trachea. |
| Describe congenital anomalies of larynx and trachea: laryngeal web, laryngeal atresia, tracheal stenosis and atresia. |
| List the types of tracheo-esophageal fistulas. Describe their embryological basis. and clinical presentation. |
| **Re-A- 018** | List the phases of lung development with their time periods. Describe the events taking place in each phase. |
| Describe the embryological basis and clinical presentation of respiratory distress syndrome/Hyaline membrane disease. |
| **MICROSCOPIC STRUCTURE** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-A- 019** | Give the general histological organization of respiratory system. |
| **Re-A- 020** | Describe the microscopic and ultra- microscopic structure of respiratory epithelium. |
| **Re-A-021** | Describe the histology of blood-air barrier. |
| **Re-A-022** | Describe the histological features of epiglottis and larynx. |
| **Re-A-023** | Describe the histological features of trachea and lungs. |
| **Re-A- 024** | Explain the histological basis of: Coughing Atelectasis Infant respiratory distress syndrome Diffuse alveolar damage Lung carcinoma. |
| **MEDICAL PHYSIOLOGY** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-P- 001** | Enlist the muscles of inspiration and expiration in quiet breathing |
| Enlist the muscles of inspiration and expiration in labored breathing |
| Explain the components of the work of breathing |
| Discuss the mechanics of pulmonary ventilation |
| Explain periodic breathing |
| Explain the causes and pathophysiology of sleep apnea |
| **Re-P- 002** | Define lung compliance. |
| Enlist the factors that affect lung compliance. |
| **HISTOLOGY** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-A- 025** | Identify, draw and label the histologic sections of epiglottis and larynx. |
| **Re-A- 026** | Describe the histological features of bronchial tree: trachea, bronchi, bronchioles, alveoli |
| **Re-A- 027** | Identify, draw and label the histological sections of bronchial tree: trachea, bronchi, bronchioles, alveoli, Lung. |
| Describe the mucosal changes encountered in the trachea-bronchial tree |
| Compare and contrast the histological features of various components of bronchial tree: trachea, bronchi, bronchioles, alveoli. |
| **Re-A- 028** | Describe, compare and contrast the light and electron microscopic features of type I and type II pneumocytes |
| Draw the compliance diagram of air filled and saline filled lungs. |
| Enlist the components of surfactant. |
| Describe the role of surfactant in lung compliance. |
| Explain the role of surfactant in premature babies. |
| **Re-P- 003** | Define the different lung volumes and capacities and their clinical significance. |
| Discuss fev1/ FVC ratio and its clinical significance. |
| Enlist the lung volumes and capacities that cannot be measured by spirometer. |
| Define dead space & explain its types. |
| Discuss FEV1/FVC ratio in relation to Bronchial Asthma. |
| Discuss FEV1/FVC ratio in relation to Chronic Obstructive Pulmonar disease/restrictive lung diseases. |
| Discuss FEV1/FVC ratio in relation to pulmonary embolism. |
| **Re-P- 004** | Define alveolar ventilation. |
| Define minute respiratory volume. |
| **Re-P- 005** | Explain the ultrastructure of respiratory membrane. |
| Discuss the factors affecting diffusion of gases across the respiratory membrane |
| Explain the diffusion capacity of respiratory membrane for oxygen and carbon dioxide |
| Define alveolar, pleural and transpulmonary pressure. |
| Explain differences in the partial pressures of atmospheric, humidified, alveolar air and explain physiological basis of change in each pressure. |
| **Re-P- 006** | Explain the different forms of transport of oxygen in the blood. |
| Draw and explain oxyhemoglobin dissociation curve. |
| Enlist the factors that cause rightward shift of oxyhemoglobin dissociation curve. |
| Enlist the factors that cause leftward shift of oxyhemoglobin dissociation curve. |
| Explain the Bohr’s effect. |
| Define; enlist the types, and causes of cyanosis. |
| **Re-P- 007** | Enlist different forms in which CO2 is transported in the blood. |
| Explain the Carboxyhemoglobin dissociation curve. |
| Explain the Haldane effect. |
| Explain the chloride shift/Hamburger phenomenon. |
| Define the respiratory exchange ratio (RER). |
| **Re-P- 008** | Explain the alveolar oxygen and carbon dioxide pressure when VA/Q = infinity, zero and normal. |
| Explain the concept of physiological shunt when VA/Q ratio is less than normal. |
| Explain the concept of physiological dead space when VA/Q ratio is above normal. |
| **Re-P- 009** | Enlist the respiratory & non-respiratory functions of lungs. |
| Explain the nervous control of bronchiolar musculature. |
| Trace the reflex arc of cough reflex and sneeze reflex. |
| **Re-P- 010** | Explain the principal means by which acclimatization occurs. |
| Explain the events that occur during acute mountain sickness. |
| Enlist the features of chronic mountain sickness. |
| **Re-P- 011** | Explain the pathophysiology, features, prevention and treatment of decompression sickness. |
| **Re-P- 012** | Draw and explain the effect of CO poisoning on oxyhemoglobin dissociation curve. |
| Explain the pathophysiology, features, and treatment of CO poisoning. |
| **Re-P- 013** | Enumerate the components of respiratory centers and explain their functions. |
| Explain the inspiratory RAMP signal. |
| Explain the Herring Breuer reflex/lung inflation reflex and its clinical significance. |
| **Re-P- 014** | Explain the location of chemo sensitive area (central chemoreceptors) and peripheral chemoreceptors |
| Explain the effect of hydrogen ions & carbon dioxide on the chemo- sensitive area. |
| Explain the role of oxygen in the control of respiration/peripheral chemoreceptors. |
| **Re-P- 015** | Explain the regulation of Respiration during exercise. |
| **Re-P- 016** | Enlist the effects of acute hypoxia. |
| Explain the hypoxia inducible factor a master switch for body response to hypoxia. |
| Define and explain different types of hypoxias. |
| **Re-P- 017** | Explain the pathophysiology of Tuberculosis. |
| **Re-P- 018** | Describe the pathophysiology of Pneumonia. |
| **Re-P- 019** | Define Dyspnea. |
| Enlist different causes of dyspnea. |
| Differentiate between cardiac and respiratory Dyspnea. |
| **Re-P- 020** | Outline management strategies for dyspnea. |
| Enlist the causes of Pneumothorax. |
| Describe the signs and symptoms of Pneumothorax. |
| **Re-P- 021** | Enlist the causes of Pleuritis. |
| Describe the signs and symptoms of Pleuritis. |
| Discuss the management of Pleuritis. |
| **Re-P- 022** | Enlist the causes of Bronchitis. |
| Discuss the signs and symptoms of Bronchitis. |
| Discuss the management of Bronchitis. |
| **Re-P- 023** | Classify different types of pneumonia. |
| Discuss the sign symptoms of pneumonia. |
| Discuss the management of pneumonia. |
| **Re-P- 024** | Classify different types of asthma. |
| Discuss the signs and symptoms of asthma. |
| Discuss the management of asthma. |
| **Re-P- 025** | Classify different types of Tuberculosis. |
| Discuss the signs and symptoms of tuberculosis. |
| Discuss the management of Tuberculosis. |
| **Re-P- 026** | Classify different types of acute respiratory distress syndrome. |
| Discuss the signs and symptoms of acute respiratory distress syndrome. |
| Discuss the management of acute respiratory distress syndrome. |
| **Re-P- 027** | Define respiratory failure. |
| Describe various types of respiratory failure. |
| Enlist various causes of respiratory failure. |
| Outline management strategies of respiratory failure. |
| **Re-P- 028** | Describe ABC in a trauma patient. |
| **MEDICAL BIOCHEMISTRY** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-B- 001** | Explain and interpret the pedigree of single gene defect i.e., Emphysema and cystic fibrosis (autosomal recessive). |
| **Re-B- 002** | Explain the biochemical significance of phospholipids. |
| Interpret Respiratory Distress syndrome on the basis of given data. |
| **Re-B- 003** | Describe the structure, synthesis, degradation and functions of Elastin. |
| Discuss the pathophysiology of Emphysema. |
| **Re-B- 004** | Discuss the concept of acid base balance. |
| Interpret metabolic and respiratory disorders of acid base balance on the basis of sign, symptoms and ABG findings. |
| Describe the Clinical interpretation of acid base Balance. |
| **PRACTICAL** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-P- 029** | Perform the clinical examination of chest for the respiratory system (inspection, palpation, percussion, Auscultation). |
| **Re-P- 030** | Determine Peak Expiratory Flow rate with Peak Flow Meter |
| **Re-P- 031** | Determine Blood Oxygen Saturation with finger. |
| **Re-P-032** | Determine Respiratory Volumes & Capacities with Spirometer/ Spiro lab. (FEV1/FVC ratio) |
| **Re-P-033** | tudent should be able to Record the movements of chest by stethograph |
| **Re-B-005** | Determine the pH of the solution by pH meter |
| **PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-Ph- 001** | Identify the Drugs for cough suppression & expectoration. |
| Explain the mechanism of action and adverse effects of cough suppressants |
| **Re-Ph- 002** | Explain the mechanism of action and adverse effects of anti-histamines. |
| **Re-Ph- 003** | Explain the mechanism of action and adverse effects of anti-asthmatics. |
| **Re-Pa- 001** | Describe the pathophysiology of acute respiratory distress syndrome. |
| **Re-Pa- 002** | Describe the pathophysiology of obstructive lung disease. |
| **Re-Pa- 003** | Describe the pathophysiology of Restrictive Lung disease. |
| **AGING** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **Re-Ag001** | Discuss the effect of age on decreased lung compliance. |
| **Re-Ag- 002** | Discuss the role of age on respiratory clearance leading to recurrent inflammatory processes at the ciliated respiratory epithelium. |
| **DISEASE PREVENTION & IMPACT** | |
| **Code** | **SPECIFIC LEARNING OBJECTIVES** |
| **ReCM-001** | Identify the common risk factors of acute respiratory infections with emphasis on smoking. |
| Discuss preventive strategies of different problems related to respiratory system. |
| Enlist the common vaccines used for the prevention of ARI. |
| Explain the role of vitamins in the respiratory tract infections. |
| **Re-CM002** | Explain the effect of air pollutants on the respiratory system. |
| **Re-CM- 003** | Describe the burden of respiratory diseases. |
| **Re-CM- 004** | Enlist the common respiratory diseases related to occupation |
| **Re-BhS -001** | identify the psychosocial factors leading to dyspnea. |
| **Re-BhS- 002** | Identify the psychosocial factors leading to psychogenic cough. |
| **Re-BhS- 003** | Identify and deal with the various psychosocial aspects of Respiratory conditions (such as Asthma, COPD, Tuberculosis, Cystic Fibrosis, Sleep Apnea) on Individual, Family and Society. |

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| **PROFESSIONALISM, ETHICS, RESEARCH AND LEARDERSHIP** | |
| **PERLs** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **PERLs- 1-19** | Developing an argument. |
| **PERLs- 1-20** | Identify and seek help as and when required to achieve the set goals. |
| **CIVICS** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **Functions of state. (Defense, law and order, welfare etc.)** | Describe the functions of state. |
| Describe the factors which are necessary for proper functioning of state. |
| Analyze the situation when a state does not function properly. |
| Describe the characteristics of a welfare state. |
| Analyze how a welfare state guarantees the equity and justice on the issues of gender, religion, and social classes. |
| **Sovereignty** | Define the concept of sovereignty in west. |
| Discuss different kinds of sovereignty. |
| Explain Austin’s concept of sovereignty. |
| Analyze critically Austin’s concept of sovereignty. |
| **HOLY QURAN** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **Fasting (Roza)** | Discuss the importance and significance of fasting. |
| Relate the Holy Quran and the month of Ramadan. |
| Role of fasting in building personal qualities like self-control, piety and soft corner for the poor and needy persons. |
| Identify the applications of Taqwa" through fasting. |
| **Pilgrimage (Hajj)** | Discuss the importance and significance of Hajj. |
| Identify the conditions in which Hajj becomes an obligation. |
| Role of manasik-e-Hajj in producing discipline and complete submission. |
| Recognize the importance of Hajj in uniting the umman. |
| Sacrifice for Allah subhan wa taala (essence of qurbani). |
| **ISLAMIAT** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **Ethics** | Explain ethics in the Islamic prospective. |
| **PAKISTAN STUDIES** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **Socio-economic problem** | Describe the social, economic and health problems of the rural population of Pakistan. |
| **CLINICAL SKILLS FOUNDATION** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **CSF-1** | Auscultation of Chest |
| **CSF -2** | Detection of clubbing. |
| **CSF -3** | Performance and significance of Arterial blood gases. |
| **CSF -4** | Identification of pneumonic patch on chest x ray. |
| **CSF -5** | Identification of COPD on chest x ray. |
| **CSF -6** | Administering inhaler to a patient. |
| **SKILL LAB** | |
| **CODE** | **SPECIFIC LEARNING OBJECTIVES** |
| **SL-1** | Auscultation of Chest |
| **SL-2** | Detection of clubbing. |
| **SL-3** | Performance and significance of Arterial blood gases. |
| **SL-4** | Identification of pneumonic patch on chest x ray. |
| **SL-5** | Identification of COPD on chest x ray. |
| **SL-6** | Administering inhaler to a patient. |

**OPERATIONAL DEFINITIONS**

|  |
| --- |
| **Large group interactive session (LGIS)** |
| Lecture format is the most widely used approach to teaching especially in a large class size with average attention span of 20-30 mins. Interactive lecturing involves a two-way interaction between the presenter and the participants. Interactive methods like brain storming buzz group, simulation, role play, and clinical cases can be used.  **Significance of its usage**  Relaxed environment, diverse opinions, Increase attention & motivation. Independence & group skills. Cost effective. Suitable for taking advantage of available |
| **Team Based learning** |
| TBL is a uniquely powerful form of small group learning. It provides a complete coherent framework for building a flipped course experience. There are four essential elements of TBL which include:  Teams must be properly formed and managed (5-7 students) Getting students ready  Applying course concepts Making students accountable.  **Significance of its usage**  Students are more engaged.  Increased excitement in TBL classroom Teams outperforms best members.  Students perform better in final and standardized exams. |
| **Problem Based Learning (PBL)** |
| It is an instructional student-centered approach in which students work in small groups on a health problem, identifying their own educational needs and being responsible for the acquisition of the knowledge required to understand the scenario.  **Significance of its usage**  Teamwork, Critical evaluation of literature, Self-directed learning and use of resources Presentation skills Leadership |
| **Case Based Learning (CBL)** |
| It is an inquiry structured learning experience utilizing live or simulated patient cases to solve, or examine a clinical problem, with the guidance of a teacher and stated learning objectives.  **Significance of its usage**  Induce a deeper level of learning by inculcating critical thinking skills. Flexibility on use of case  Students acquire insightful information. Stay abreast with novel advancements in healthcare. |
| **Tutorial** |
| Tutorial is a class or short series of classes, in which one or more instructors provides intensive instruction on some subject to a small group. Its purpose is to explore point of view and guide towards directed, reflective learning skills.  **Significance of its usage**  Develop and assess the extent of background knowledge of students, which enables them to properly understand concepts which may not have been understood in lectures.  Develop problem-solving skills. Develop practice of self-learning. Reduced time to understand the topic. |
| **Skill lab** |
| It refers to specifically equipped practice rooms functioning as training facilities offering hands on training for the practice of clinical skills within non-threatening environment prior to their real-life application This applies to both basic clinical skills as well as complex surgical skills.  **Significance of its usage**  Controlled, anxiety-free, and risk-free learning environment to students. A platform for repeated practice for mastery in relevant clinical skills Increase the preparedness of student learners before transitioning to the real hospital setting.  Build strong communication skills.  Enable learners to make critical decisions. |
| **Lab practical** |
| Lab practical involve things like identifying a structure, a type of stain through a microscope, a problem with a preparation, reading biochemical test results and answering safety questions. These simulations allow students to attempt the experiments in the laboratory in a risk-free way that provides the opportunity to make mistakes and learn how to correct them using the immediate feedback generated.  **Significance of its usage**  Enhance mastery of subject matter. Develop scientific reasoning. Develop practical skills. Develop teamwork abilities. |
| **Demonstration** |
| The demonstration method in teaching can be defined as giving a demo or performing a specific activity or concept. It is a teaching-learning process carried out in a systematic manner.  **Significance of its usage**  Promotes learning and correlates theory with practice. Sharpens the observation skills.  Sustain interests in learning environment. Helps teacher to evaluate students response |
| **Reflective writing** |
| It is a metacognitive process that occurs before, during and after the situation with the purpose of developing greater understanding of both the self and situation so that future encounters with the situation are informed from previous encounters.  Significance of its usage   Questioning attitude and new perspectives.   Areas for change and improvement.   Respond effectively to new challenges.   Critical thinking and coping skills |
| **Bedside teaching** |
| Teaching and learning that occurs with actual patient as the focus. It occurs in wards, emergency departments, operating rooms, and high dependency units.  Significance of its usage   Stimulus of clinical contact   Psychomotor skills   Communication skills   Language skills   Interpersonal skills   Professional attitudes and empathy   Role modeling |
| **Simulation** |
| Person, device or set of conditions, which attempts to present education and evaluation of problems authentically. The student or trainee is required to respond to the problems as she/he would under natural circumstances.  Significance of its usage   Safety for patients   Liberty to make mistakes.   Manageable/variable complexity of tasks   Opportunity to develop self-efficacy before real patient encounter.   Repeatability of tasks   Learning at different pace is permissible |
| **Clinical case based conference** |
| Clinical Case based conferences allow clinicians and medical students to present difficult case material and include discussions of diagnostic, clinical formulation, and/or treatment issues.  Significance of its usage   Provides detailed (rich qualitative) information.   Provides insight for further research.   Permitting investigation of otherwise impractical (or unethical) situations. |
| **Ward rounds** |
| It is a composite clinical practice to review inpatients’ management and progress, to make decisions about further investigations, treatment options and discharge from hospital. It is an opportunity for clinicians, students, and patients to participate in education and training at bedside.  Significance of its usage   Patient management skills   History taking   Physical examination   Time management skills   Communication skills |
| **Case presentations** |
| It is a teaching method which provides descriptive information about a clinical patient scenario and to share this educational experience with the general medical and scientific community. It prepares students for clinical practice, using authentic clinical cases by linking theory to practice with the help of inquiry-based learning methods.  Significance of its usage   Cultivate the capacity for critical analysis.   Judgement and Decision making   Facilitate creative problem solving.   Allow students to develop realistic solutions to complex problems |

**ASSESSMENT POLICY**

A student must get pass marks in every discipline (i.e. obtain minimum 50%) in the aggregate theory marks. He/ She must also get minimum of 50% in the aggregate of the practical/OSPE/OSCE exams in order to pass. A student must get an aggregate of 50% marks in both theory and practical in order to be declared as pass in that discipline.

**Attendance**

As per RYK Medical College, University of health sciences and Pakistan Medical & Dental Council guide lines, students are instructed to attend all the lectures, small group discussions, labs, clinical ward attachments and all other instructional activities. **80% attendance is mandatory to sit in End of module examination and Annual examination. No student will be allowed to appear in examination, if the attendance is short.**

**Internal Assessment:**

Each module’s internal assessment should be calculated as following:-

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **INTERNAL ASSESSMENT BREAKDOWN PER MODULE (1st Year M.B.B.S)** | | | | | |
| Foundation  (8 Weeks) | Hematology & immunology  (3 Weeks) | Musculoskeletal  (9 Weeks) | Cardiovascular  (7 Weeks) | Respiratory  (5 Weeks) | Practical & viva |
| 4% | 1.5% | 4.5% | 3.5% | 2.5% | 4% |
| **Total = 20% (1st Year M.B.B.S)** | | | | | |

* Students will be assessed comprehensively through multiple methods (MCQs, OSPE, OSCE, Viva and Practical Examinations.
* 20% marks of internal evaluation will be added to University of health sciences (UHS) final examination score as per university’s rules and regulations.

**Formative Assessment:**

Individual department may hold quiz or short answer questions to help students assess their own learning. The marks obtained are not included in the internal evaluation

**RYKMC EXAMINATION RULES & REGULATIONS**

* Student must report to examination hall/venue, 30 minutes before the exam.
* Exam will begin sharp at the given time.
* No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
* Students must sit according to their roll numbers mentioned on the seats.
* Cell phones are strictly not allowed in examination hall.
* If any student is found with cell phone in any mode (silent, switched off or on) he/she will be not be allowed to continue their exam.
* No students will be allowed to sit in exam without University Admit Card, RYKMC College ID Card and Lab Coat
* Student must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
* Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

**For UHS Examination Policy, please consult UHS website!**

**Table of Specification (TOS)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Theme** | **Written exam** | | | | **Oral practical clinical examination** | | | |
| **subjects** | **MCQ**  **(1 mark)** | **SEQ**  **(5mark each**) | **Marks** | **OSPE/OSCE/Viva stations** | | | **Marks** |
| **OSPE**  **(8 marks each observed)** | **OSCE**  **(8 marks each observed** | **Structured viva (16 marks each)** |
| Normal structure | Anatomy & applied clinical | 16 | 2 | **26** | 1 | - | 1 | **24** |
| Normal function | Physiology & applied/clinical | 31 | 4 | **51** | 4 | - | 1 | **48** |
| Biochemistry & applied/clinical | 18 | 1 | **23** | 2 | - | 1 | **32** |
| Disease Burden & prevention | Community medicine & public health | 06 | - | **06** | - | - | - | - |
| Behavioral sciences | 02 | - | **02** | - | - | - | - |
| Pathophysiology & pharmacotheraeutics | pathology | 07 | - | **07** | - | - | - | - |
| pharmacology | 05 | - | **05** | - | - | - | - |
| CFRC | CFRC-1-3 | - | - | - | - | 1 | - | 08 |
| PERLS | PERLs1-3 | - | - | - | - | 1 |  | 08 |
|  |  | **85** | **7×5=35** | **120** | **7 stations × 8 =56** | **2 stations × 8 =16** | **3 Vivas × 16 =48** | **120** |

**ASSESSMENT SCHEDULE & OSPE/OSCE SCHEME**

|  |  |  |  |
| --- | --- | --- | --- |
| **DATE** | **EXAMINATION** | **TIME** | **VENUE** |
| --/--/2025-26 | Theory | 09:00 - 12:00 Pm | Roll no 1 - 50 (multipurpose hall) |
| Roll no 51 – 100 (skill lab) |
| --/--/2025-26 | OSPE/OSCE | 08:00 – 04:00 Pm | Roll no 1 – 50 (multipurpose hall) |
| --/--/2025-26 | OSPE/OSCE | 08:00 – 04:00 Pm | Roll no 51 – 1000 (multipurpose hall) |

**Station # 8**

**Structured viva**

**Anatomy**

**Station # 7**

**Structured viva**

**Physiology**

**Station # 6**

**Rest station**

**Station # 5**

**OSPE**

**Observed**

**Physiology**

**Station # 9**

**OSPE**

**Observed**

**Biochemistry**

**Station # 4**

**OSPE**

**Observed**

**Physiology**

Anatomy OSPE stations = 1

Anatomy Viva station = 1

Physiology OSPE stations = 4

Physiology Viva station = 1

Biochemistry OSPE stations= 2

Biochemistry Viva station = 1

C-FRC OSCE stations = 1

PERLS OSCE stations = 1

Rest stations = 2

Total stations = 14

**Station # 10**

**OSPE**

**Observed**

**Biochemistry**

**Station # 3**

**OSPE**

**Observed**

**Physiology**

**Station # 2**

**OSPE**

**Observed**

**Physiology**

**Station # 11**

**OSCE**

**Observed**

**C-FRC**

**Station # 12**

**Rest station**

**Station # 13**

**Structured viva**

**Biochemistry**

**Station # 14**

**OSCE**

**Stations**

**PERLS**

**Station # 1**

**OSPE**

**Observed**

**Anatomy**

**END**

**START**

**ASSESSMENT TOOLS & SAMPLE QUESTIONS**

**ASSESSMENT TOOLS:**

**Single best type** also known as MCQs (Multiple Choice Questions)

**MCQ:**

A BCQ has a statement or clinical scenario of five options (likely answers).

**Correct answer carries one mark, and incorrect ‘zero mark’. There is NO negative marking.**

Students mark their responses on specified computer-based sheet designed for RYKMC.

**Sample BCQs:**

A 25 year old male patient presented with complain of productive cough, breathlessness and wheezing. He has been diagnosed with chronic obstructive pulmonary disease.

The most common risk factor for the disease is:

a) Air pollution

b) Coal mining

c) Infection

d) Tobacco smoke

e) Alcohol

**OSPE: Objective Structured Practical Examination (See the proposed plan of OSPE)**

* It may comprise between 12- 25 stations.
* The content may assess application of knowledge, or practical skills.
* Student will complete task in define time at one given station.
* All the students are assessed on the same content by the same examiner in the same allocated time.
* A structured examination will have observed, unobserved, interactive and rest stations.

**Observed and interactive stations:**

They will be assessed by internal or external examiners through the task or viva.

**Unobserved station:**

It will be static station in which students will have to answer the questions related to the given pictures, models or specimens on the provided response sheet.

**Rest station**: It is a station where no task is given, and during this time student can organize his/her thoughts.

**BOOKS AND RECOMMENDED READINGS**

**Anatomy**

* Gray’s anatomy.
* Langman’s medical embryology.
* Snell’s clinical anatomy.
* Snell’s clinical neuroanatomy. Walter kluwer.
* Laiq H.S Medical histology. Paramount books.
* Laiq H.S general anatomy. Paramount books.
* Wheater’s functional histology.

**Physiology**

* Guyton AC and Hall text book of medical physiology, W,B sunders & co.
* Essentials of medical physiology by Mushtaq Ahmad.

Ganong Physiology.

**Biochemistry**

* Harper’s biochemistry by Robert k murray, daryl k, granner McGraw-hill.
* Lippincott’s illustrated reviews biochemistry Champe, P.C & Harvey.
* ABC of clinical genetics by H.M Kingston.

**Pathology**

* Pathologic basis of disease by Vinary kumar, abul K, Abbas WB saunders.
* Pocket companion to pathologic basis of diseases,Richard Mitchall, vinary.
* General pathology by walter. Churchil livingstone.

**Pharmacology**

* Basic and clinical pharmacology by katzung, MCGraw-hill
* Pharmacology by champe and Harvey, Lippincott Williams & wilkins.

**Behavioral sciences**

* Hand book of behavioral sciences by prof Mowadat H Rana 3rd edition
* Medical and psychosocial aspects of chronic illness and disability Donna R.

**Community medicine**

* Parks textbook of preventive and social medicine, K park
* Public health and community medicine Ilyas, Ansari

**Surgery**

* Bailey & love short practice of surgery

**Medicine**

* Davidson’s principles and practice of medicine

**Islamiyat/Pakistan studies**

* Standard islamiyat (compulsory) for B.A, B.sc, M.A, M.sc by professor M. sharif islahi
* Pakistan studies (compulsory) for B.A, B.sc,B.com, Medical/Engineering by prof Shah Jahan