



Modular Integrated Curriculum 2K23 *Version 3.0*

Annexure-I: CFRC-III Block wise Competencies
Annexure-II: OSPE (Pharmacology/Pathology)

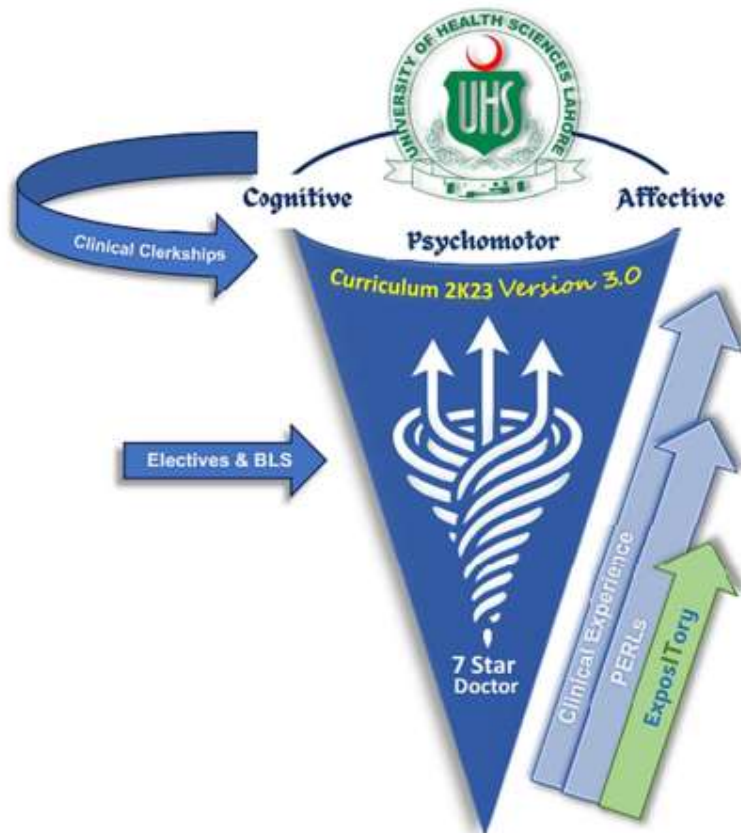
UNIVERSITY
OF
HEALTH SCIENCES

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Modular Integrated Curriculum 2K23

version 3.0



Annexure-I

CFRC-3



BLOCK-7

| Sr# | Code | Description of Skill |
|-----|-----------|---|
| 1 | CFRC3-001 | Prescribing antihypertensives |
| 2 | CFRC3-002 | Prescribing antibiotics for infection |
| 3 | CFRC3-003 | Monitoring for drug side effects |
| 4 | CFRC3-004 | Adjusting medications based on response |
| 5 | CFRC3-005 | Knowledge of common drug classes relevant to foundational clinical care (e.g., antibiotics, analgesics, antihypertensives). |
| 6 | CFRC3-006 | Ability to calculate and adjust dosages for common medications based on patient factors. |
| 7 | CFRC3-007 | Perform proper hand hygiene, aseptic techniques, and basic infection control protocols. |
| 8 | CFRC3-008 | Demonstrate appropriate use of PPE and understand its importance in preventing healthcare-associated infections. |
| 9 | CFRC3-009 | Take detailed patient history and perform general physical exams. |
| 10 | CFRC3-010 | Understand fluid compartments and the basics of electrolyte balance. |
| 11 | CFRC3-011 | Offer guidance on health maintenance, such as hygiene, nutrition, and medication adherence. |
| 12 | CFRC3-012 | Perform and interpret measurements of vital signs (e.g., BP, pulse, temperature, respiratory rate). |
| 13 | CFRC3-054 | Effective communication during consultations (shared decision-making) |
| 14 | CFRC3-055 | Ethical considerations (confidentiality, informed consent) |
| 15 | CFRC3-058 | Able to scrub in for major and minor surgical procedures |
| 16 | CFRC3-059 | Assist in minor surgical procedures (observed in OT) |
| 17 | CFRC3-061 | General physical examination(medicine) |
| 18 | CFRC3-023 | Wound management and suturing |
| 19 | CFRC3-024 | History of infections related to surgical wounds |

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| 20 | CFRC3-026 | Inspecting and diagnosing surgical wound infections |
| 21 | CFRC3-027 | Antimicrobial prophylaxis and post-surgical infection management |
| 22 | CFRC3-013 | Recognize abnormal vital signs and escalate care accordingly. |
| 23 | CFRC3-014 | Perform basic blood sampling (e.g., venipuncture) with proper aseptic technique. |

***EOR Assessment will be from these 23 skills at the end of Block 7**



BLOCK-8

| Sr.# | Code | Description of Skill |
|------|-----------|---|
| 1 | CFRC3-017 | Joint injury history |
| 2 | CFRC3-018 | Fracture history |
| 3 | CFRC3-019 | Inspection of joints and fractures |
| 4 | CFRC3-020 | Palpation for tenderness and deformities |
| 5 | CFRC3-021 | Range of motion examination |
| 6 | CFRC3-056 | Focused surgical history-taking (neck lump, trauma, abdominal pain etc) |
| 7 | CFRC3-057 | Formulate a diagnosis from surgical complaints |
| 8 | CFRC3-060 | Manage patients pre- and post- operatively |
| 9 | CFRC3-031 | Inspection of precordium and JVP |
| 10 | CFRC3-032 | Palpation (apex beat, peripheral pulses) |
| 11 | CFRC3-033 | Auscultation (heart sounds, murmurs) |
| 12 | CFRC3-030 | Palpitations history |
| 13 | CFRC3-028 | Chest pain history |
| 14 | CFRC3-029 | Dyspnea (shortness of breath) history |
| 15 | CFRC3-034 | Rate, rhythm, axis interpretation |
| 16 | CFRC3-035 | ST segment changes, T-wave abnormalities |
| 17 | CFRC3-036 | Hypertension diagnosis |
| 18 | CFRC3-037 | Heart failure diagnosis |
| 19 | CFRC3-038 | Ischemic heart disease diagnosis |
| 20 | CFRC3-039 | Cough and sputum production history |
| 21 | CFRC3-051 | Patient-centered clinical decision-making |

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| 22 | CFRC3-052 | Provide evidence-based management for common primary care conditions |
| 23 | CFRC3-062 | System-specific examinations 1. GIT 2. cardiovascular 3. respiratory endocrine |

***EOR Assessment will be from these 23 skills at the end of Block 8**



BLOCK-9

| Sr.# | Code | Description of Skill |
|------|-----------|--|
| 1 | CFRC3-063 | Formulate a diagnosis from patient findings |
| 2 | CFRC3-064 | Learn how to write SOAP notes |
| 3 | CFRC3-015 | Order common hematologic tests (e.g., CBC, blood typing, coagulation profile). |
| 4 | CFRC3-016 | Interpret basic hematologic lab results, including CBC parameters (e.g., hemoglobin, W B C c o u n t , platelets). |
| 5 | CFRC3-041 | Wheezing history |
| 6 | CFRC3-042 | Inspection of respiratory effort, cyanosis |
| 7 | CFRC3-043 | Palpation for chest expansion, tactile fremitus |
| 8 | CFRC3-044 | Percussion of the lungs |
| 9 | CFRC3-045 | Auscultation (breath, sounds, wheezing, crackles) |
| 10 | CFRC3-046 | Recognize obstructive vs restrictive patterns |
| 11 | CFRC3-047 | Perform history and physical examination, suggesting to a diagnosis of asthma |
| 12 | CFRC3-048 | Perform history and physical examination, suggesting to a diagnosis COPD |
| 13 | CFRC3-049 | Perform history and physical examination, suggesting to a diagnosis Pneumonia |
| 14 | CFRC3-050 | Focused history-taking for common presentations (respiratory infections, diabetes, diarrhea, UTI) |
| 15 | CFRC3-053 | Develop comprehensive care plans (biological, psychological, social factors) |
| 16 | CFRC3-068 | Take a basic pediatric history |
| 17 | CFRC3-069 | Knowledge of the EPI schedule |

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| 18 | CFRC3-065 | Discuss calculation of LMP and EDD |
| 19 | CFRC3-066 | Take a basic antenatal history |
| 20 | CFRC3-067 | Take a gynecological history |

***EOR Assessment will be from these 20 skills at the end of Block 9**

Recommended Books

- 1. Katzung's Basic & Clinical Pharmacology, 16th Edition**
- 2. Macleod's Clinical Examination, Fourteenth Edition**

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Annexure-II

OSPE
YEAR 1 & 2





YEAR-1

Recommended OSPE Stations in the Subject of Pharmacology (2025)

The following OSPE stations are recommended for 1st year and 2nd year MBBS according to the modular curriculum recommended by the University of Health Sciences, Lahore.

| Block No. | CODE | Specific Learning Objectives | Practicals |
|---------------------------------|----------|---|--|
| 1st Year MBBS | | | |
| BLOCK 1 | F-Ph-001 | Definitions of Pharmacology, drug, pro-drug, placebo, active principles, sources of drugs; Brief outline of Absorption, Distribution, Metabolism and Excretion | <ol style="list-style-type: none"> 1. Sources of drugs (spotting/identification) 2. Active Principles of drugs (alkaloids, glycosides, volatile oils, fixed oils, resins, saponins, steroids, tannins, terpenoids)- spotting/identification/uses 3. Dosage form spotting (Enteral/Parenteral) along with their advantages/disadvantages e.g. tablets/syrup/injection/cream/lotion/ enteric coated drugs/powders etc |
| | F-Ph-002 | Definitions of receptor, agonist, partial agonist, inverse agonist, antagonist and types of receptors and second messengers; Diagrammatic concept of signaling mechanisms | <ol style="list-style-type: none"> 4. Identify the type of receptor (diagram) and give example |
| | F-Ph-003 | Pharmacological aspects of Autonomic Receptors (types of autonomic receptors, important sites and actions) | <ol style="list-style-type: none"> 5. Identify the type of receptor (diagram) and give example |
| BLOCK 2 | MS-Ph-01 | <p>Explain the mechanism by which drugs can stimulate NMJ.</p> <p>Explain the mechanism by which drugs can block NMJ</p> | <ol style="list-style-type: none"> 6. Label the diagram of the neuromuscular junction showing non depolarising/depolarising blockage 7. Classification of NMJ blockers. |
| | MS-Ph-02 | Discuss briefly the therapeutic effect of drugs used in myasthenia gravis. | <ol style="list-style-type: none"> 8. Classification of drugs for Myasthenia Gravis |

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| | MS-Ph-03 | Discuss briefly the therapeutic effect of drugs used as local anesthetics. | 9. Ampules of neuromuscular blocking agents (e.g., Succinylcholine and Atracurium) and local anaesthetics or their images with their MOA, clinical uses and adverse effects | |
| BLOCK 3 | CV-Ph-001 | Discuss briefly the therapeutic effect of various antihypertensive drugs | 10. Classification of drugs/sub groups with one prototype drug | |
| | CV-Ph-002 | Discuss briefly the therapeutic effect of various antianginal drugs | 11. Classification of Antianginal c drugs/sub groups with one prototype drug | |
| | CV-Ph-003 | Discuss briefly the therapeutic effect of various antiarrhythmic drugs | 12. Classification of Antiarrhythmics drugs/sub groups with one prototype drug | |
| | CV-Ph-004 | Discuss briefly the therapeutic effect of drugs used in cardiac failure | 13. Classification of CCF drugs/sub groups with one prototype drug | |
| | Re-Ph-001 | | Identify the drugs for cough suppression & expectoration | 14. Classification of cough expectorant and suppression & expectoration drugs/sub groups with one prototype drug |
| | | | Explain the mechanism of action and adverse effects of cough suppressants | 15. Classification of cough suppression drugs/sub groups with one prototype drug |
| | Re-Ph-002 | Explain the mechanism of action and adverse effects of anti-histamines | 16. Classification of anti-histaminic drugs/sub groups with one prototype drug | |
| | Re-Ph-003 | Explain the mechanism of action and adverse effects of anti-asthmatics | 17. Classification of Anti-asthmatic drugs/sub groups with one prototype drug | |

YEAR-2

| Block No. | Code | Specific Learning Objectives | Practicals |
|---------------------------------|------------|--|---|
| 2nd Year MBBS | | | |
| BLOCK 4 | GIT-Ph-001 | Classify anti diarrheal drugs and describe the pharmacokinetics, mechanism of action, pharmacological effects, uses and adverse effects | <ol style="list-style-type: none"> 1. Preparation and calculation of Oral Rehydration Salt (ORS) 2. Diagram showing the site of action of diuretics 3. Classification of Diuretics 4. Table showing the effect of various diuretics on urinary electrolytes and pH 5. Diagram/flow chart showing the synthesis/MOA/adverse effects/clinical uses of thyroid hormones. / sign and symptoms of hypothyroid 6. Classification of NSAIDs and Opioids. 7. MOA/adverse effects/clinical uses of NSAIDs and Opioids. 8. Enumerate Prostaglandin analogues (PGs) and their clinical uses. 9. Classification of NSAIDs and Opioids. |
| | R-Ph-001 | Classify diuretics & carbonic anhydrase inhibitor. MOA, clinical uses, and adverse effects | |
| | | Describe Thiazide & loop diuretics their Mechanism of Action, clinical uses, and adverse effects. Describe Potassium sparing and osmotic diuretics their mechanism of action, clinical uses, and adverse effects. | |
| BLOCK 5 | EnR-Ph-001 | <p>Explain the mechanism of action of thyroxine</p> <p>Explain Clinical uses and potential adverse effects with use of Thyroxine</p> | |
| BLOCK 6 | NS-Ph-001 | <p>Classify various opioid receptors.</p> <p>Describe Mechanism of Action (MOA), pharmacological actions, clinical uses and adverse effects of opioid agonist, mixed agonist - antagonist and antagonist</p> | |
| | NS-Ph-002 | <p>Classify various CNS stimulants and depressants.</p> <p>Describe MOA, pharmacological actions, clinical uses and adverse effects of CNS stimulant and depressants</p> | |
| | IN-Ph-001 | <p>Enumerate prostaglandin analogues</p> <p>Discuss the clinical use and adverse effect of prostaglandin analogues</p> | |
| | IN-Ph-002 | <p>Enlist anti-inflammatory drugs</p> <p>Differentiate between steroidal and non-steroidal anti-inflammatory drugs</p> | |

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| | IN-Ph-002 | Discuss mechanism of action, clinical usage, and adverse effects of steroidal anti-inflammatory drugs | 10. MOA/adverse effects/clinical uses of NSAIDs and Opioids. |
| | IN-Ph-004 | Discuss mechanism of action, pharmacological effects, clinical usage, and adverse effects of non-steroidal anti-inflammatory drugs | |
| | IN-Ph-005 | <p>Differentiate between selective and non-selective cyclooxygenase (COX) inhibitors</p> <p>Differentiate between Aspirin and paracetamol</p> <p>Classify antihistamines</p> <p>Discuss the role of histamines and antihistamines in inflammation and allergies, adverse effects and drug interactions</p> | |

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YEAR-1

Recommended OSPE Stations in the Subject of Pathology (2025)

The following OSPE stations are recommended for 1st year and 2nd year MBBS according to the modular curriculum recommended by the University of Health Sciences, Lahore.

| BLOCK No. | CODE | SPECIFIC LEARNING OBJECTIVES | PRACTICAL |
|---------------------------------|----------------------|--|---|
| 1st Year MBBS | | | |
| BLOCK 1 | F-Pa-004 | <p>Identify the necrosis and calcification along with their types</p> <p>Identify the cellular adaptations and pigmentations with their salient pathological features.</p> | <p>1. Identify the salient morphological features of:</p> <ul style="list-style-type: none"> ➤ Caseous necrosis (Gross & microscopic features) ➤ Coagulative necrosis (Gross) ➤ Fat necrosis (microscopic) <p>2. Identify the salient morphological features of Dystrophic calcification.</p> <p>3. Identify the salient microscopic features of the following:</p> <ul style="list-style-type: none"> ➤ Intestinal metaplasia ➤ Squamous metaplasia ➤ Hyperplasia <p>4. Identify the salient microscopic and gross features of Anthracosis</p> |
| BLOCK 2 | MS-Pa-01 MS-Pa-03 | Identify the salient gross and microscopic features of leiomyoma & bone healing | <p>1. Identify the salient gross and microscopic features of:</p> <ol style="list-style-type: none"> i. Leiomyoma ii. Steps of bone healing (Pictorial) <ul style="list-style-type: none"> ➤ Factors and complications affecting bone healing. |
| BLOCK 3 | CV-Pa-008 | Identify the pathological changes of infarction and thrombosis | <p>1. Identify the pathological changes of infarction (microscopic)</p> <p>2. Identify the pathological changes of thrombosis (microscopic)</p> |

YEAR-2

| BLOCK No. | CODE | SPECIFIC LEARNING OBJECTIVES | PRACTICAL |
|---------------------------------|------------|---|---|
| 2nd Year MBBS | | | |
| BLOCK 4 | R-Pa-009 | Identify the morphological features of acute pyelonephritis Identify morphological features of chronic pyelonephritis | 1. Identify the pathological features of: Acute pyelonephritis (pictorial) 2. Identify the salient gross and microscopic features of chronic pyelonephritis |
| | GIT-Pa-004 | Describe salient features of Acute and chronic gastritis | Identify the microscopic features of: ➤ Acute and chronic gastritis ➤ H. pylori induced gastritis |
| BLOCK 5 | EnR-Pa-001 | Enumerate clinical manifestations along with hormone levels of anterior pituitary | 1. Identify the salient gross and microscopic features of Multinodular goiter |
| | EnR-Pa-002 | Enumerate and describe posterior pituitary syndromes (inappropriate ADH secretion, diabetes insipidus) | 2. Identify the salient microscopic features of pituitary adenoma. |
| | EnR-Pa-003 | Define thyroiditis | 3. Clinical scenarios ➤ Hyperthyroidism ➤ Hypothyroidism ➤ Diabetes mellitus ➤ Diabetic ketoacidosis |
| | EnR-Pa-004 | Describe salient morphological features of clinically significant subtypes of thyroiditis i. Hashimoto Thyroiditis ii. Granulomatous Thyroiditis | 4. Identify the salient microscopic features of • Hashimoto Thyroiditis • Granulomatous Thyroiditis • Grave's Disease. |
| | EnR-Pa-005 | | |
| | EnR-Pa-006 | Describe the pathogenesis & salient morphological features of Grave's Disease | 5. Identify the salient gross and microscopic features of Diffuse & MNG |
| | EnR-Pa-007 | Describe the pathogenesis & salient morphological features of Diffuse and Multinodular goiter. | |
| | EnR-Pa-008 | | 6. Interpretation of Thyroid Function Tests in Thyroid disorders |
| | EnR-Pa-009 | Enumerate causes of hypo and hyperthyroidism along with levels of thyroid hormones Enumerate causes of hypercalcemia, hyper and hypoparathyroidism Describe the Histopathological features of parathyroid hyperplasia | 7. Interpretation of causes of Hypercalcemia according to PTH levels 8. Identify the salient morphological features of Parathyroid hyperplasia |

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| | | <p>Give etiological classification of Diabetes Mellitus Differentiating features of DM-I and DM-II on the basis of pathogenesis, clinical features, diagnosis and complications.</p> <p>Enumerate causes of Cushing syndrome with lab investigations Causes and clinical features of adrenocortical insufficiency (Addison disease)</p> | <p>9. Interpretation of BSF, GTT, and HbA1C to diagnose Diabetes Mellitus.</p> <p>10. Interpretation of ACTH & Cortisol levels in diagnosing Cushing syndrome and Addison Disease.</p> |
| BLOCK 6 | IN-Pa-005 | <p>Identify the pathological features of acute inflammation</p> <p>Identify the pathological features of chronic inflammation and granulomatous inflammation</p> | <p>1. Identify the salient gross and microscopic features of:</p> <ul style="list-style-type: none"> ➤ Acute Inflammation ➤ Chronic & Granulomatous Inflammation |

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**C2K23 *Version 3.0* CFRC-III & OPSE Year I & II
(Pharmacology & Pathology)**

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