

# STUDY GUIDE

## DEPARTMENT OF PHARMACOLOGY



**Vision:**

Our vision is to be a global leader in transformative medical education and healthcare delivery.

**Mission:**

To advance the art and science of medicine through innovative medical education, research, and compassionate healthcare delivery, within available resources, in an environment that advocates critical thinking, creativity, integrity, and professionalism.

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# 1. Departmental Faculty & Staff



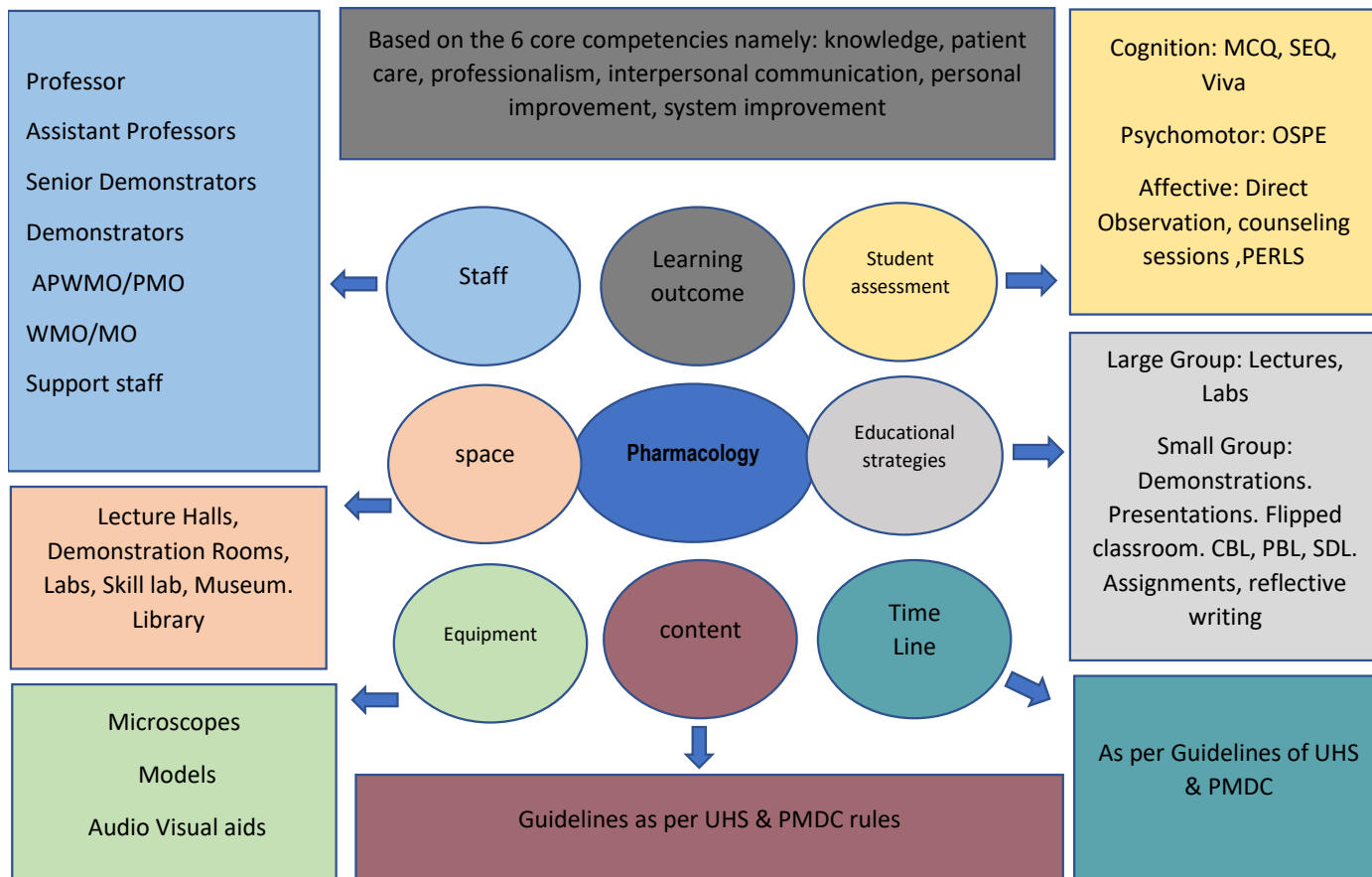
DEPARTMENT OF PHARMACOLOGY & THERAPEUTICS  
Quaid-e-Azam Medical College, Bahawalpur

## LIST OF GAZETTED EMPLOYEE WORKING IN PHARMACOLOGY DEPARTMENT QAMC, BAHAWALPUR

S.#	Name	Designation	BPS	Leave
1.	Prof. Dr Sana Tufail	Professor	20	
2.	Dr. Zahid Shahzad	Assistant Prof	18	
3.	Dr. Sajjad Alam	APMO	19	<b>Earned Leave</b> (15.08.2023 to 11.11.2023 )
4.	Dr. Zafar Iqbal Ghafoor	Sr. Demonstrator	18	
5.	Dr. Ishrat Mustafa	Sr. Demonstrator	18	
6.	Dr. Shaharyar Baig	Sr. Demonstrator	18	
7.	Dr. Sarwat Shaukat	Sr. Demonstrator	18	
8.	Dr Muhammad Sarfraz	Sr. Demonstrator	18	
9.	Dr. Bilal Khichi	Sr. Demonstrator	18	
10.	Dr. Faisal Islam Khan	Sr. Demonstrator	18	
11.	Dr Saba Gulshan	Sr. Demonstrator	18	
12.	Dr. Sadia Anjum	Sr. Demonstrator	18	
13.	Dr Shazia Malik	Demonstrator	17	
14.	Dr. Saad Gardezi	Demonstrator	17	
15.	Dr. Najm-us-Sahr	Demonstrator	17	<b>Maternity leave</b> (01.10.2023 to 28.12.2023)
16.	Dr. Umaira Munir	Demonstrator	17	
17.	Dr. Sidra Aziz	Demonstrator	17	

**PROF. DR. SANA TUFAIL**  
Head of Pharmacology & Therapeutics Department  
Quaid-e-Azam Medical College  
Bahawalpur

## Curriculum map of Physiology department



## **2. Introduction Rationale of Subject:-**

It is the science that deals with the origin, nature, chemistry, effects, and uses of drugs. It includes pharmacognosy, pharmacokinetics, pharmacodynamics, pharmacotherapeutics and toxicology.

### **Teaching in Year**

**3<sup>rd</sup> Year M.B.B.S**

### **Duration of Course**

February 2023 to November 2023.

### **3. Learning Objectives: -**

MBBS student, at the end of 3rd year training in Pharmacology, is expected to:

1. Understand pharmacokinetic and pharmacodynamic principles involved in the use of drugs
2. Understand and identify the various factors that can affect the action of drugs
3. Know the various routes of drug administration with advantages and disadvantages of the various routes
4. Undertake dosage calculations as appropriate for the patient and be able to select the proper drug and dose for the at risk population i.e. patients with kidney or liver disease, elderly, pregnant and lactating females, and children.
5. Understand the importance of rational prescribing of drugs and the concept of essential drugs
6. To be able to identify and monitor adverse drug reactions (ADRs) and appreciate the importance of ADR reporting
7. Know the drugs used in systemic illnesses, infections and chemotherapy etc. with main mechanism(s) of action, pharmacokinetics, uses, side-effects and indications
8. Understand the principles and practice of pharmacy
9. Understand the methods in experimental pharmacology, principles of bioassay and be able to correlate drug effects with the action of drugs at the receptors.
10. Have knowledge of common drugs and doses used for different ailments
11. Have an understanding of basic mechanism by which a drug acts
12. Should be able to select rationally from the available drugs

## **4. Syllabus (PMDC/ UHS)**

### **Topic**

#### **General Pharmacology**

Introduction  
Routes of Administration  
Transport across cell membrane  
Absorption+ Bioavailability  
Distribution  
Biotransformation  
Excretion, 1/2 Life, Kinetics  
Pharmacodynamics  
Dose response curve + Therapeutic Index  
Drug allergy & Adverse effects  
Drug dependence, addiction  
Posology  
Pharmacogenetics  
Bioassay & Standardization  
Locally acting drugs & Chelating agents  
Disinfectants & Antiseptics + Phenol Chemo

#### **Autonomic Nervous System**

Introduction  
Cholinergic Drugs  
Anticholinergic Drugs  
Muscle Relaxants  
Ganglion Blockers  
Catecholamines  
Non-Catecholamines  
Beta Blockers  
Alpha Blockers  
Adrenergic Neuron Blockers  
Ergot Alkaloids & Bromocryptine

#### **GIT Drugs**

Bitters & Sialogogues  
Emetics & Anti emetics  
Purgatives & Laxatives  
Treatment of P.U & Antacids  
Anti diarrheals & Bacillary Dysentery

#### **Respiratory System Drugs**

Mucolytics, Expectorants & Antitussives



### **Cardiovascular System Drugs**

Vasodilators: Direct & Ca<sup>++</sup> Channel Blockers  
Antihypertensive drugs & Treatment of Hypertension  
ACE Inhibitors  
Antianginal Drugs  
Treatment of CCF  
Anti arrhythmic Drugs  
Diuretics

### **DRUGS ACTING ON BLOOD**

Antihyperlipidemic Drugs  
Coagulants, Anti coagulants & Thrombolytic agents  
Anti Platelets  
Treatment of Anemia (Vitamins & Iron)

### **Autocoids:-**

Histamine & Anti histamine  
Prostaglandins & Serotonins

### **Drugs acting on CNS**

Introduction  
General Anesthetics  
Local Anesthetics  
Anti-Psychotic drugs  
Antidepressants  
Antimaniacs  
Anti Parkinsonian Drugs  
Sedative & Hypnotics + Anti-anxiety Drugs  
Alcohol & Drug abuse  
Treat narcotic Analgesics  
Non-narcotic Analgesics  
Treatment of Rheumatoid arthritis  
Treatment of Epilepsy  
CNS Stimulants & Xanthines  
Treatment of gout  
.

### **Drugs acting on Endocrine System**

Pituitary hormones & Parathyroid drugs  
Anti-thyroid  
Corticosteroids  
Antidiabetic Drugs (Insulin, Oral Hypoglycemic)  
Sex Hormones, Contraceptives & Drugs for fertility  
Drugs acting on uterus

## **Therapeutics**

Antibiotics: Introduction

### **Cell wall synthesis inhibitors**

Penicillins & Cephalosporins

Bacitracin, Vancomycin, Monobactam,  
carbapenems, aztreonam

### **Protein Synthesis Inhibitors**

Aminoglycosides Macrolides

Tetracyclines & Chloramphenicol

### **Antifolates Drugs**

Sulphonamides & Cotrimoxazole+

Trimethoprine and Pyrimethamine

### **DNA Synthesis Inhibitors**

Urinary Antiseptics & Quinolone derivatives

Anti-Cancer Drugs

Anti-Viral Drugs

Antifungal Drugs

Anti TB & Leprosy drugs

Antimalarial

Anti-amoebic Drugs

Anthelmintics

### **Miscellaneous Topics**

Treatment of Edema, Shock, & plasma Expanders

Immuno modulators & Anti-D

Drug Interactions

## **PRACTICALS**

- A) Experimental pharmacology exercise on isolated organ** - Assay of various drugs using rabbit ileum
  - Identification of unknown drugs by evaluating its action antagonism and drug interaction on rabbit ileum
  - Determination of concentration of unknown drug solution by different methods
- B) Experimental exercise on pharmacy** - General principles of pharmacy - Prescription writing exercises
  - Preparation and dispensing of powders, emulsions ointments, mixtures, liniments, suppositories and syrups
- C) Spotting exercise** - Identify the commonly used items in Pharmacology
- D) Exercises on drug interactions**

## **5. Teaching & Learning Methodologies**

- a) Interactive Lectures
- b) Tutorials
- c) Practicals
- d) Small Group Discussions
- e) CPC
- f) Using Latest Techniques of electronic facilities like Audio Visual and  
Multimedia

## **6. Learning Resources**

### **Recommended Books:-**

1. Goodman & Gilman's - The Pharmacological Basis of Therapeutics
2. Basic & Clinical Pharmacology by Bertram G, Katzung
3. Clinical Pharmacology by DR Lawrence, PN Bennett & MJ Brown
4. Essentials of Medical Pharmacology by K.D. Tripathi
5. Lippincott Illustrated Review Pharmacology

### **Technologies to be Used:-**

- 1) We use latest technologies, high speed internet and software for on-line coaching/ teaching.
- 2) Text Books are the Most Important source to learn for this Subject
- 3) Hand Outs (by Senior Faculty Members)
- 4) E. Books (Available)
- 5) Multimedia (Power Point)
- 6) Tables of Drugs Chart
- 7) Discussions
- 8) Viva Voce type Practice
- 9) Departmental Library

## **7. Assessments Methods**

### **Formative:-**

- MCQ's and SEQ's type Test will be held at the end of the every topic.
- Viva Voce will be held at the end of every major topic.
- 3 term exams will be taken ,the marks of which will be included in the internal assessment.

### **Summative: -**

- Pre annual exam will be taken by the college 1 month prior to the annual exam
- This exam ,MCQ & SEQs, will be taken by on the pattern given by of UHS.
- An exam comprising of SEQ & MCQs is taken at the end of the year by the University of Health sciences ,Lahore.

# **8. Formative and Summative Exam Rules and Regulation**

## **a) Total Marks Distribution**

**Examination will be held at the end of the academic session.**

Marks Distribution Scheme According to University of Health Sciences Rules and Regulation:-

Total Marks of the subject in Professional examination----**300 Marks**

### **Theory Examination:**

- 65 Multiple Choice Questions (1 Mark for Each Question) -----65 Marks
- 10 short Essay Questions (7 marks for Each Question) -----70 Marks
- Internal Assessment -----15 Marks

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Total Marks 150 Marks

### **Oral//Practical & Viva Voce Examination:**

#### **Viva Voce Examination:**

- Viva Voce will be held after Theory Examination
- Viva Voce (Internal Examiner): 40 marks and 05 marks for Note Book---- 45 Marks
- Viva Voce (External Examiner): ----- 40 Marks

#### **OSPE Examination:-**

- 06 Non-Observed Stations (Each Station having 05 Marks)----- 30 Marks
- Experimental Pharmacology: (Performance 10 marks, table viva 04 marks) 14 Marks
- Pharmacy Practical: (Performance 03 marks, table viva 03 marks) 06 Marks
- Internal Assessment: -----15 Marks

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Total Marks: 150 Marks

## **b) Attendance Required**

- 75% Attendance is mandatory in (Lectures, Practical and Tutorials)
- A minimum 75% Attendance is required for eligibility to appear in Annual Examination according to University of Health Sciences, Lahore
- Attendance will be marked through the Bio- Metric Attendance Systems (thumb Impression) and also record in Attendance Registers.
- Absences due to Sickness/ Illness must be certified by a Medical Officer and approved by Principal and Head of Department also.

## **c) Pharmacology Study Teaching Hours:-**

**a) For 3<sup>rd</sup> Year M.B.B.S according to PMDC Rules: 306 Hours**

**b) Lectures: 162 Hours**

**c) Practical / Tutorial / Grand Tutorial: 144 Hours**

## d) Time table:


**REVISED TIME TABLE FOR THIRD YEAR MBBS CLASS FOR THE SESSION 2022-2023  
QUAID-E-AZAM MEDICAL COLLEGE BAHAWALPUR  
WITH EFFECT FROM 07-03-2023.**

DAYS	8:00 AM to 8:50 AM	8:50 AM to 09:40 AM	09:40 AM to 10:30 AM	10:30 to 11:00 AM	11:00 AM to 01:00 PM	01:00 PM to 2:00 PM				
MONDAY	Forensic Medicine	Pharmacology	Pathology	<b>Recess</b>	Clinical	Pharmacology Practical-A	Pathology Practical-B	Forensic Medicine Practical-C		
TUESDAY	Pathology	Forensic Medicine	Pharmacology		Clinical	Pharmacology Practical-B	Pathology Practical-C	Forensic Medicine Practical-A		
WEDNESDAY	Pharmacology	Forensic Medicine	Pathology		Clinical	Pharmacology Practical-C	Pathology Practical-A	Forensic Medicine Practical-B		
THURSDAY	<b>CPC</b>	Pharmacology	Behavioral Sciences		Clinical	Pharmacology Practical-A	Pathology Practical-B	Forensic Medicine Practical-C		
FRIDAY	Pharmacology	Pathology	09:40 AM to 10:00 AM	10:00 AM to 12:00 NOON			<b>Friday</b>			
			<b>Recess</b>	Pharmacology Practical-B	Pathology Practical-C	Forensic Medicine Practical-A				
SATURDAY	Pathology	Medicine	09:40 AM to 10:30 AM	10:30 to 11:00 AM	11:00 to 11:50 AM	11:50 to 01:00 PM			01:00 to 02:00 PM	
			Surgery	<b>Recess</b>	Pharmacology	Pharmacology Practical-C	Pathology Practical-A	Forensic Medicine Practical-B	DME/Principal's Lecture/Self Study	

NOTE: There will be a joint CPC for 3rd, 4th & Final Year.  
75% attendance is mandatory in lectures, Practicals & Ward attendance.  
No scholarship or other benefits would be permissible without 75% attendance.  
25% margin in attendance is only reserved for sick leaves or  
Genuine problems with proper application and approval by the Director Students Affairs.

No. 6681-86 /QAMC/SS/23 Dated: 08.03.2023.

1. The Director Medical Education (DME) Department QAMC, Bahawalpur.
2. The Head of Basic & Clinical Departments (Concerned) QAMC, Bahawalpur.
3. College & Hostel Notice Boards, QAMC, Bahawalpur.

  
**PRINCIPAL**  
 Quaid-e-Azam Medical College  
 Bahawalpur



