



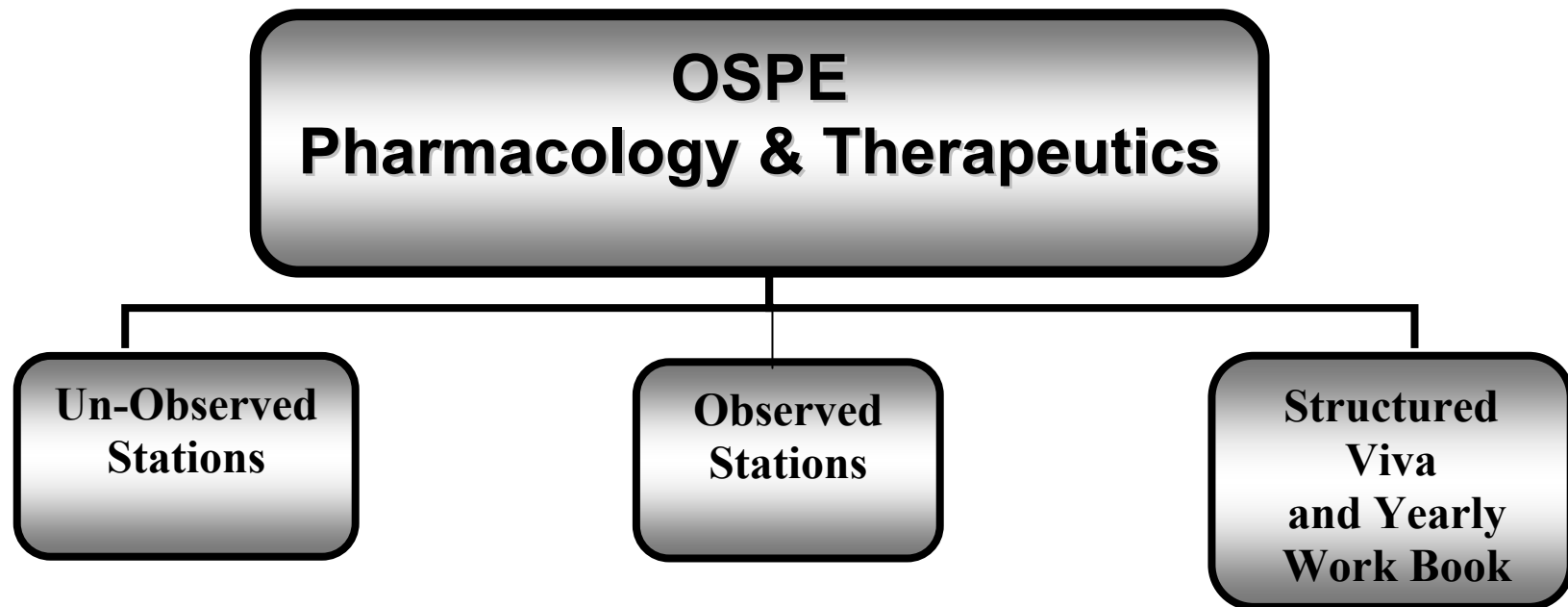
**"Workshops on Training of Examiners for OSPE, OSCE & TOACS"**

FACILITATORS: Prof. Shahnaz Aftab (CMHLMC, Lahore)  
 Prof. M. Saeed Amwar (AIMC, Lahore)  
 Dr. Noor Fatima (FMH CMD, Lahore)  
 Dr. Syed Hasan Shoaib (RMC, Rawalpindi)

**ATTENDANCE SHEET**

Sr	Institutions	Name of the Faculty Member	Designation	Signature
1.	Allama Iqbal Medical College, Lahore	DR. Shafia Waheed Dr. Saeed Amwar	Prof & HOD Prof	[Signature]
2.	Nishtar Medical College, Multan			
3.	Punjab Medical College, Faisalabad	DR. MUHAMMAD NAESA IQBAL	Asso. Professor HOD	[Signature]
4.	Quaid-e-Azam Medical College, Bahawalpur	DR. MUSHTAQ AHMED	Associate Prof. HOD Dent	[Signature]
5.	Rawalpindi Medical College, Rawalpindi	Prof Dr. Muhammad Azam Zia	Professor & HOD	[Signature]
6.	Services Institute of Medical Sciences, Lahore.			[Signature]
7.	Sheikh Zayed Medical College, Rahim Yar Khan	PROF. DR. ABDUL KARIM	PROFESSOR	[Signature]
8.	CMH Lahore Medical College, Lahore.	Dr. SHAHNAZ AFTAB	Prof. HOD	[Signature]
9.	Lahore Medical & Dental College, Lahore	Dr. Shah Meera	Assoc. Prof	
10.	Wah Medical College, Wah Cantt	DR. EFFATARA	Prof. & HOD	
11.	Fatima Memorial Hospital College of Medicine & Dentistry Lahore	PROF. DR. M. OBAIDULLAH DR. FAROOQ JAVAD DR. IMRAN AHMED	WMC PROF PROFESSOR DEMONSTRATOR	[Signature]
12.	College of Medicine & Dentistry, University of Lahore, Lahore.	Prof DR M. Jalil	Prof of Pharmacy	
13.	Faisalabad Medical College, Faisalabad	Dr. Naima Javed Dr. Malabat Umeed	Pharma. demo Pharma. demo.	[Signature]
14.	Independent Medical College, Faisalabad			
15.	Sargodha Medical College, Sargodha.			

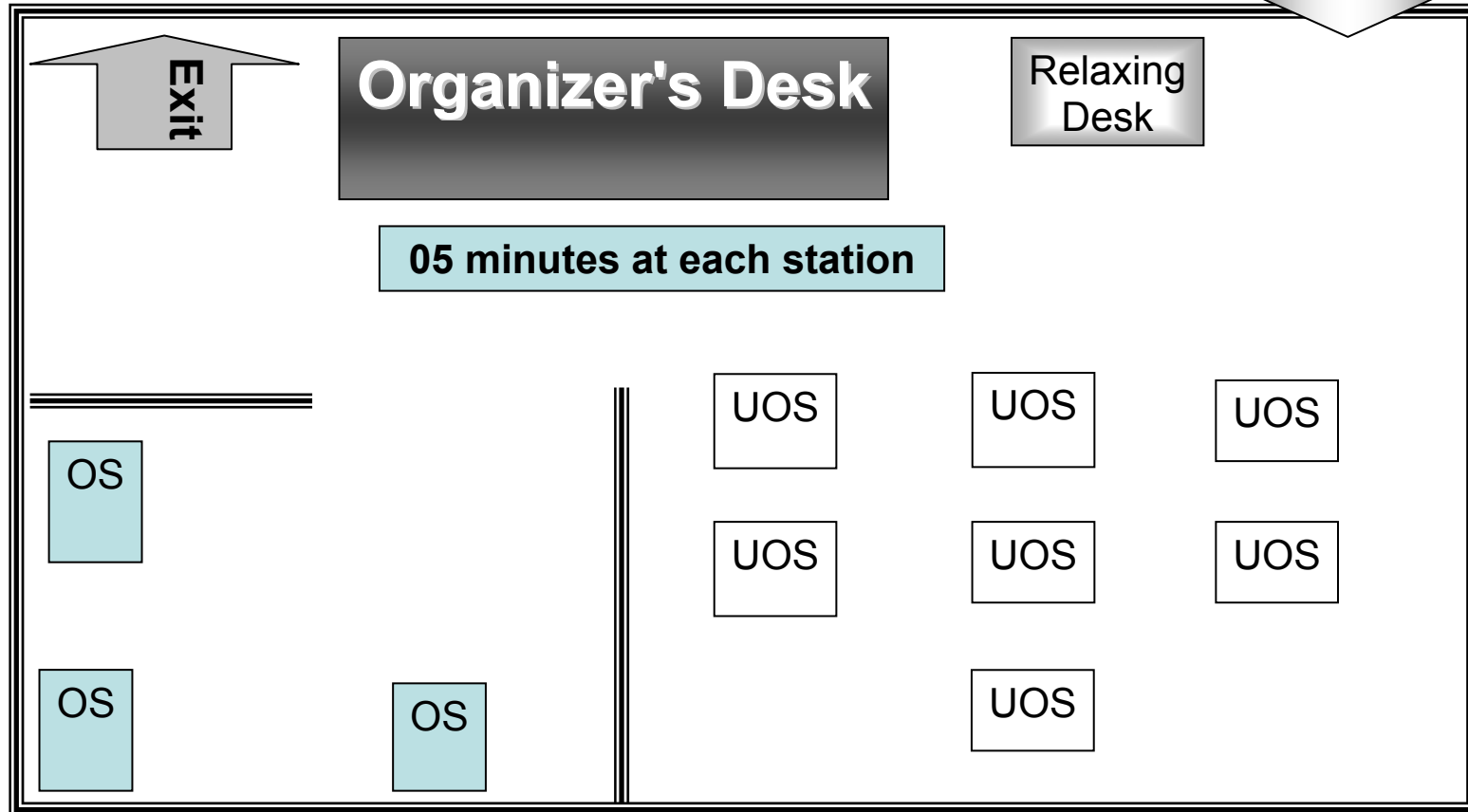
**Format (Practical Examination / OSPE)**  
**MBBS Second Professional Examination**  
***PHARMACOLOGY AND THERAPEUTICS***  
**Final Set Up for 2008**



# Waiting Area for Candidates

Hall  
**1**

**Entrance**



RS= Response Station; UOS= Unobserved Station; OS= Observed Station

**Waiting Area for Viva Voce at**

Hall

**2**

**Entrance**

**Internal  
Examiner**

**External Examiner**

**As per TOS**

## **Details of the Model:**

### **Check List:**

**Must be agreed type prepared by at least two experienced examiners.**

# Distribution of 135 Marks at 10 stations

**The University will appoint a coordinator / observer to oversee the OSPE component and report back to the University.**

## **Un-observed Stations:**

**56 marks at 7 stations:**

**(8 marks at each station)**

## **Observed Stations:**

**24 marks at 3 stations:**

**(8 marks at each station)**

**The Internal and External Examiners will appoint raters to rate the candidates with the help of a standardized checklist at these stations.**

## **Structured Viva Voce and Yearly Work Book:**

**55 marks:**

*Students respond to direct questions regarding the subject.*

**Yearly Work Book:** (05 marks ): for discussion on Yearly Work Book.;

**Structured Viva:** (50 marks ): (According to TOS)

# Unobserved Stations

1. Calculation pharmacy.
2. Dose calculation according to age.
3. Fill in the blanks: parts of prescription and actual prescription.
4. P – drug:
  - Name.
  - Mechanism.
  - Side effects.
  - Contraindications.
  - Drug interactions.
  - Alternatives.
5. General Pharmacology.
6. Autonomic Nervous System.
7. Cardiovascular System + Respiratory System + Autacoids

# Observed Stations

8. To mount the tissue.  
How to check the effect of drugs on rabbit's eye?
9. Drug effect on running preparation.
10. Biostatistics.

## **Conduct of OSPE**

- The Batches for Major viva voce and Practical / OSPE exam will be separate on any particular day and will be 30 students strong each.
- All OSPE Questions will be sent by the Department of Examinations, UHS in sealed confidential envelopes to each center clearly marked for each day of Examination and shall be kept secure in our Regional Safety Lockers at respective centres.
- For any particular day of Examination the same OSPE questions will be sent to each center to maintain standardization.
- The sealed confidential envelope containing the OSPE questions for that particular day will be collected from the UHS regional safe locker by both the Internal and External Examiners in the presence of the Principal or his nominee and the Regional Coordinator up to Two hours before the commencement of Examination.
- Each packet of examination material will contain for that particular day the complete set of seven non-observed OSPE questions with keys and instructions for the candidates and the examiners as well as a set of three observed OSPE questions with key and instructions for candidates and examiners.
- Instruction/ questions for the candidates will be included in the examination material and should be placed on both the observed and non-observed stations.
- The Practical Answer Books for non-observed stations will be sent separately to each centre one for each candidate.
- The candidates are to carry the Practical Answer Books from station to station of the non-observed stations and are to register their responses to each question at these desks separately on the same Practical Answer Sheet in the designated areas.
- Before leaving the Assessment Hall the candidate should deposit the Answer Book either at the “Marking Desk” or with the organizer as per decision of the convener.
- The candidates leaving the OSPE Hall will not mingle with candidates awaiting assessment, who are to be kept under supervision in a separate holding bay.
- Each batch of the candidates while waiting for the OSPE in the waiting area should be briefed about the OSPE process and the layout of the OSPE hall as well as the flow of candidates through the hall. They are not to bring any mobile phones or any other technology that could be used for communication within the premises of the examination centre.
- Any student found having mobile phone or any other electronic medium should be removed from the OSPE examination centre and an Unfair Means Case registered against him/ her.



# MBBS Second Professional Examination

## PHARMACOLOGY AND THERAPEUTICS

### Objectively Structured Performance Evaluation (OSPE)

#### Model Paper

(Questions will be provided by the University for each Practical Examination day.

Types of Question: Direct or Fill in the blanks or Clinical Scenario or correct the wrong Statement/data)

#### UOS No. 1

##### Calculation Related to Pharmacy

Time: 05 min

Marks: 08

##### **Question:**

“Write down the calculation to prepare 500ml of 5% dextrose in Normal Saline.”

##### **Key:**

5% dextrose means 5 G of dextrose dissolved in sufficient quantity of water to make it 100ml; Normal Saline = 0.9% saline; it mean 0.9 G (or 900 mg) of sodium chloride dissolved in sufficient quantity of water to make it 100ml.

So for 500 ml;

**3**

$$\text{Dextrose} = \frac{5}{100} \times 500 = 25 \text{ G}$$

**2**

$$\text{Sodium Chloride} = \frac{9}{10} \times \frac{500}{100} = 4.5 \text{ G}$$

**1**

So 25 G of Dextrose and 4.5 G of sodium chloride will be dissolved in sufficient quantity of water to make the volume 500 ml.

**2**

## UOS No. 2

### Calculation Related to Pharmacokinetics

Time: 05 min

Marks: 08

#### **Question:**

**Calculate the dose of Amoxicillin for a child of 3 years  
( adult dose= 250 – 500 mg 8 hourly ).**

#### **Key:**

For calculation of dose according to age:

$$\text{Young's Formula} = \text{Adult Dose} \times \frac{\text{Age ( years )}}{\text{Age} + 12} \quad 2$$

So the dose of Amoxicillin for the child of 3 years would be

$$\text{Dose of 3 years child} = 250 \times \frac{3}{3 + 12} \quad 2$$

$$= 250 \times \frac{3}{15}$$

$$= 250 \times \frac{1}{5}$$

$$= 50 \text{ mg} \quad 2$$

Thus the dose of this child of 3 years will be 50 – 100 mg 8 hourly. 2

### UOS No. 3

Prescription writing for a systemic disease and to indicate one of the parts of a prescription

Time: 05 min

Marks: 08

#### Question:

A 20 year old male patient has been diagnosed as suffering from an acute attack of malaria ( not knowing the causative types of malarial parasite )

- Q1. What initial pharmacological therapy will be prescribed? 3  
Q2. Give the "Signature" of this prescription. 5

#### Key:

Abdul Majid,  
20 years, male,  
700 Raza Block,  
Allama Iqbal Town, Lahore

®

Tablet Chloroquine 250 mg,

10 tablets

Signature: 4 tablets stat initially, then  
2 tablets after 6 hours,  
1 tablet BID for two days.

Sd.  
Dr. Aaa Bbb Ccc,  
MBBS,  
Registration No: 001  
00 Bastami Road,  
Samanabad, Lahore

## UOS No. 4

Time: 05 min

Marks: 08

### **Question:**

**A 15 year old girl has been diagnosed to be having “Absence” seizures.**

- Q1. What “P-Drug” will be prescribed for her? 3**
- Q2. What is the Mechanism of Action of this drug 5**

### **Key:**

1. Ethosuximide.
2. With therapeutic levels at thalamic neurons it alters the Ca<sup>++</sup> current reducing the low-threshold ( T-type) current. The T-type calcium currents are thought to provide a pacemaker current responsible for generating the rhythmic cortical discharge of an absence attack.

## UOS No. 5

### General Pharmacology

Time: 05 min

Marks: 04+04

#### Part – I: (Pharmacokinetics)

##### **Question:**

1. **What is 'bioavailability'?**
2. **What is the most important factor affecting it?**
3. **How can we avoid it; give examples.**

##### **Key:**

1. Bioavailability is the fraction or percentage of the administered dose of a drug that reaches into systemic circulation in unchanged form. **1**
2. First – Pass Metabolism **1**
3. **By: changing the route of administration, e.g., nitroglycerine**  
**Sublingual;**  
**Inhibiting the responsible enzyme, e.g., Carbidopa**  
**for L-dopa.**  
**Increasing the dose, e.g., Propranolol. 2**

Part – II (Pharmacodynamics)

**Question:**

1. What is drug-antagonism?
2. What are its various types?
3. Label the following figure showing “dose-response curve” of an agonist in the presence of two different types of antagonists.



**Key:**

1. Drug-Antagonism is a phenomenon in which one drug opposes or modulates the effects of the other drug by any mechanism. **1**
2. **Types of antagonism: Physical, Chemical, Physiological and Pharmacological (Competitive & Noncompetitive)** **1**
3. a) Agonist alone **1/2**  
b) Agonist plus competitive Antagonist **1/2**  
c) Agonist alone **1/2**  
d) Agonist plus Irreversible Antagonist **1/2**

## UOS No. 6

### Autonomic Nervous System

Time: 05 min

Marks: 04 + 04

#### Part – I (Cholinergic System)

##### **Question:**

1. Put the following Anticholinestrases under their specific chemical groups of alcohol or carbamates.  
Drugs: Ambenonium, Demacarium, Edrophonium, Neostigmine, Physostigmine, Pyridostigmine.
2. Name the three contraindications of Antimuscarinics.
3. Name the two clinical uses of neostigmine.

##### **Key:**

1. Alcohol : Edrophonium 1  
Carbamates: Ambenonium, Demacrium, Neostigmine, Physostigmine, Pyridostigmine. 1
2. Glaucoma, Prostatic hyperplasia, young infants. 1
3. **Myasthenia Gravis, Paralytic Ileus.** 1

#### Part – II (Adrenergic System)

##### **Question:**

1. What is the 'life saving use' of Epinephrine.
2. Select the "specific  $\alpha_1$ -blocker' out of the following: Tolazoline, Prazosin, Phenoxybenzamine, Phentolamine.
3. What is the 'antihypertensive' mechanism of propranolol.

##### **Key:**

1. Acute anaphylactic shock. 1
2. Prazosin. 1  
Propranolol decreases cardiac out put, blocks adrenergic receptors at brain, kidney ( rennin activity ) and peripheral neurons. 2

## UOS No. 7

Diuretics, or CVS, or Blood or Autacoids or  
Drugs Acting on Respiratory System or GIT

Time: 05 min

Marks: 04 + 04

### Part – I

#### **Question:**

**A 30 year old male has been diagnose as a case of Severe Lobar Pneumonia due to Strep. Pneumoniae.**

- i. What is the drug of choice if non-complicated case?**
- ii. If allergic to first drug, what alternative drugs will be prescribed?**

#### **Key:**

- i. High doses of Benzylpenicillin I/V 6 hourly or Ceftriaxone I/V single dose or Cefuroxime 8 hourly. **2**
- ii. If allergic to penicillin high doses of:  
Clarithromycin I/V 12 hourly or Erythromycin I/V 6 hourly. **2**

### Part – II

#### **Question:**

**A 35 year old patient with H-pylori positive peptic ulcer needs therapy:**

- i. First choice is to give him:**  
a) \_\_\_\_\_ b) \_\_\_\_\_ c) \_\_\_\_\_ d) \_\_\_\_\_
- ii. Two commonly used mucosal protective agents are:**  
a) \_\_\_\_\_ and b) \_\_\_\_\_

#### **Key:**

- i. a) Omeprazole      b) Clarithromycin  
c) Amoxicillin      d) Metronidazole **½ x 4**
- ii. a) Sucralfate      b) Bismuth salts **1 x 2**



## OS No. 8

To mount a piece of rabbit ileum

Time: 05 min

Marks: 08

**Set up an apparatus used for observing the effects of a drug on rabbit ileum:**

**Check List: Tick or Cross**

- |      |  |   |
|------|--|---|
| i.   | A terminal piece of ileum <b>about 2cm</b> in length is taken,   | 2 |
| ii.  | Thread is passed through the walls of both ends of ileum keeping its lumen patent.   | 4 |
| iii. | It is then tied up to the hook of lower end of oxygen tube with the help of thread of one side and to the writing lever with the thread of other side. | 2 |

**Note:**

Although 4-6 readings can easily be taken on one set of apparatus but please arrange 3-4 apparatuses at a time for all the observed stations to replace immediately for the next coming candidates.

## OS No. 9

### To Observe Drug-effect on a Tissue

Time: 05 min

Marks: 08

**Observe the effects of Acetylcholine on a “stabalized” rabbit-ileum:**

#### **Check List: Tick or Cross**

- i. Check the temperature of the solution/ water at 37°c and mark the starting point. **1**
- ii. Record the tracing of ‘Normal Contractions’ for 30 seconds. **2**
- iii. After 30 seconds add 0.5ml of the given concentration (e.g., 1µg) of Acetylcholine without stopping the drum and observe the response for 30 seconds. **3**
- iv. Now, stop the drum, wash the tissue 2 to 3 times with Tyrode’s solution and wait for 2-3 minutes till the lever touches the base line. **1**
- v. Label the diagram showing different steps. **1**

## OS No. 10

To take the date and solve the Biostatic aspects

Time: 05 min

Marks: 08

**Calculate the Arithmetic mean ( $\bar{x}$ ) and  $\sum x - \bar{x}$  ( $\sum d$ ) of the six different pieces of white chalk.**

### **Check List: Tick or Cross**

- |      |   |          |
|------|---|----------|
| iv.  | Weigh all the six pieces of white chalk and take the data with units. | <b>2</b> |
| v.   | Make total of these figures and take the arithmetic mean of it.       | <b>2</b> |
| vi.  | Take d (difference of $x - \bar{x}$ ) of each individual figures.     | <b>2</b> |
| vii. | Make total of these figures i.e. $\sum x - \bar{x}$ .                 | <b>2</b> |



**University of Health Sciences, Lahore**  
**Second Professional MBBS**  
**Annual / Supplementary Examination, 200\_\_\_\_\_**  
**OSPE Award List for Pharmacology**

**College:** \_\_\_\_\_

**Centre:** \_\_\_\_\_

Roll Nos.	Non Observed Stations (Maximum Marks 56)								Observed Stations (Max Marks 24)				Grand Total	
	1	2	3	4	5	6	7	Total	8	9	10	Total	Figures	Words

**Examiner:** \_\_\_\_\_



**University of Health Sciences, Lahore**  
**Second Professional MBBS**  
**Annual / Supplementary Examination, 200\_\_\_\_\_**  
**Structured Viva Voce Award List for Pharmacology**

**College:** \_\_\_\_\_

**Centre:** \_\_\_\_\_

Roll Nos.	Structured Viva (Max Marks 25)	Yearly Work Book (Max Marks 5)	Total	
			Figures	Words

**Internal Examiner:** \_\_\_\_\_



**University of Health Sciences, Lahore**  
**Second Professional MBBS**  
**Annual / Supplementary Examination, 200\_\_\_\_\_**  
**Structured Viva Voce Award List for Pharmacology**

**College:** \_\_\_\_\_

**Centre:** \_\_\_\_\_

Roll Nos.	Structured Viva (Max Marks 25)	Total	
		Figures	Words

**External Examiner:** \_\_\_\_\_