



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

FACILITATORS: Prof. Nasreen Sharif (CMHLMC, Lahore)  
 Dr. Robina Sohail (SIMS, Lahore)  
 Dr. Noor Fatima (FMH CMD, Lahore)

**ATTENDANCE SHEET**

Sr	Institutions	Name of the Faculty Member	Designation	Signature
1.	Allama Iqbal Medical College, Lahore	—		
2.	Nishtar Medical College, Multan	—		
3.	Punjab Medical College, Faisalabad	Prof. Dr. M. Asghar	Professor	[Signature]
4.	Quaid-e-Azam Medical College, Bahawalpur	Prof. Dr. KHAWJA MUHAMMAD FAYYAZ	professor & Head	[Signature]
5.	Rawalpindi Medical College, Rawalpindi	Prof. MALIK SHAH ZAMAN LATIF	Professor of Postgraduate	[Signature]
6.	Services Institute of Medical Sciences, Lahore.	DR. M. ZAMIR AHMAD	PROFESSOR	[Signature]
7.	Sheikh Zayed Medical College, Rahim Yar Khan	PROF. Dr. M. Asghar Sultan	PROFESSOR	[Signature]
8.	CMH Lahore Medical College, Lahore.	NASREEN SHARIF	PROFESSOR	[Signature]
9.	Lahore Medical & Dental College, Lahore	BRIGI(R) PROF KHALID SAIED AHMAD CHAUDHRY	PROFESSOR AND HEAD OF DEPT	[Signature]
10.	Wah Medical College, Wah Cantt	Dr. Abdul Baseer	Professor	[Signature]
11.	Fatima Memorial Hospital College of Medicine & Dentistry Lahore	Dr. Saadate Mahmood	Senior Demonstrator	[Signature]
12.	College of Medicine & Dentistry, University of Lahore, Lahore.	MAHBOOB ISHAQ	Professor	[Signature]
13.	Faisalabad Medical College, Faisalabad	Dr. MUHAMMAD ALI M. IQBAL TANIR	Professor Asst. Prof.	[Signature]
14.	Independent Medical College, Faisalabad	Dr. Samina Kausar Robina Rashid	Asst. Prof. Senior Demonstrator	[Signature]
15.	Sargodha Medical College, Sargodha.	Prof. M. Zahoor ul-Hassan	Principal & Professor of Biochemistry	[Signature]

**Format (Practical Examination / OSPE)**  
**MBBS First Professional Examination (Part-I)**  
**BIOCHEMISTRY (PART-I)**

**Total Marks: 75**

Total marks allocated to Oral and Practical Examination are 75

**Internal Assessment: 7.5 Marks**

**General Viva (Theory Viva): 30 Marks**

15 Marks are allocated to internal examiner and 15 marks to external examiner.

**Practical Examination: 37.5 Marks**

**Practical examination comprises three components i.e. Yearly Workbook, OSPE and Experiment.**

**A- Yearly Workbook: 3.5 Marks (Internal Examiner)**

**B- OSPE: 18 marks**

OSPE comprises 8 stations (two observed stations carrying 3 marks each and 6 non-observed stations 2 marks each).

**Observed Stations (3 minutes for each station)**

- i. Tests for carbohydrates and proteins/amino acids: 1 station
- ii. Test for normal constituents and abnormal constituents of urine: 1 station

**List of Tests for Observed Stations:**

- i. Molisch's Test.
- ii. Iodine Test.
- iii. Benedict's Test.
- iv. Selivanoff's Test.
- v. Biuret Test.
- vi. Ninhydrin Test.
- vii. Xanthoproteic Test.
- viii. Millon's Test.
- ix. Heat Coagulation Test.
- x. Rothras Test.
- xi. Hays Test.
- xii. Emulsification.

**Non-Observed Stations (3 minutes for each station)**

- i. Carbohydrate chemistry, biologic significance of carbohydrates and clinical implications of carbohydrates: 1 station
- ii. Chemistry of proteins & amino acids, plasma proteins, and clinical implications of proteins: 1 station
- iii. Chemistry of lipids, biologic significance of lipids, and clinical implications of lipids and lipoproteins: 1 station
- iv. Interpretation of normal and abnormal constituents of urine: 1 station
- v. Laboratory equipment/techniques (pH meter and laboratory glassware): 1 station
- vi. Preparation of solutions: 1 station

**C- Experiment: 16 marks**

- Principle/supposed calculations of the experiment: 4 Marks (External Examiner)
- Performance of experiment and viva voce pertaining to experiment: 12 Marks  
(6 marks reserved for internal examiner and 6 marks for external examiner; one day the Internal examiner will take the Viva Voce related to practical and the External examiner will examine the performance related to the practical and the order shall be altered on a day to day basis. )

## **Conduct of OSPE**

- The Batches for Major viva voce and Practical / OSPE exam will be separate on any particular day and will be 26 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 six non-observed OSPE questions with keys and instructions for the candidates and the examiners as well as a set of two 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 leaves 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.
- All candidates will complete a mandatory “Feedback Proforma” and deposit the same confidentially in the sealed collection boxes provided.

## Model Questions

### **OBSERVED (3 Marks)**

**Question:** Calculate the specific gravity of the given sample of urine when the room temperature is 40°C.

**Key:**

- Note the temperature on which the urinometer is calibrated and note the reading on the urinometer which is the observed specific gravity. **(1.5 Marks)**

Suppose the given urinometer is calibrated for 16°C

- Calculate the temperature difference. **(0.5 Mark)**  
The temperature is  $40 - 16 = 24$
- For every 3 degrees rise or fall in temperature 0.01 is added to or subtracted from the observed specific gravity. (0.5 Mark)

$$24/3 = 8$$

Multiply it by 0.01

$$0.01 \times 8 = 0.08$$

- Calculate specific gravity of the given sample of urine. **(0.5 Marks)**  
Calculated specific gravity = Observed specific gravity + 0.08

\* **A comprehensive check list will be provided to the rater for each step of procedure.**

### **NON-OBSERVED (2 Marks)**

**Question:** Calculate pH by using Henderson-Hasselbalch equation when [salt]/[acid] ratio is 5:5 and pKa is 4.7.

$$\text{pH} = \text{pKa} + \log \frac{[\text{salt}]}{[\text{acid}]} \quad \text{Henderson Hesselbach equation} \quad \text{(1 mark)}$$

$$\text{pH} = 4.7 + \log 5/5$$

$$\text{pH} = 4.7 + \log 1 \quad (\text{as } \log 1 = 0)$$

$$\text{pH} = 4.7 + 0 \quad (\text{Hence } \text{pH} = \text{pKa})$$

$$\text{pH} = 4.7$$

**(Result 1 mark)**

Note: Log table or scientific calculator may be required.

**OSPE STATIONS (ANSWER SHEET)**  
**(First Professional MBBS Part – I, Biochemistry)**

**Station 1**

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**Station 2**

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**Station 3**

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**Station 4**

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**Station 6**

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