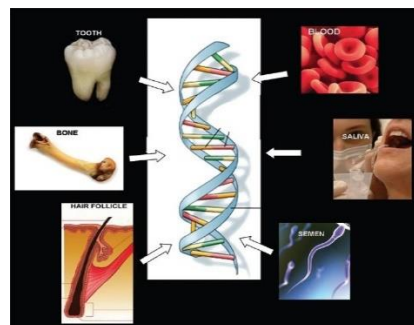
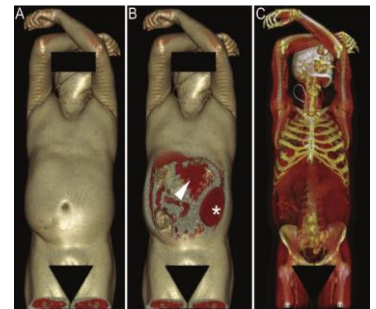




# STUDY GUIDE, 3<sup>rd</sup> Year MBBS

SEPTEMBER 2023

## FORENSIC MEDICINE & TOXICOLOGY



**CMH LAHORE MEDICAL COLLEGE**  
**& INSTITUTE OF DENTISTRY**

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## **INTRODUCTION OF THE SUBJECT:**

FORENSIC MEDICINE and TOXICOLOGY implicitly is a conglomerate of two subjects, FORENSIC MEDICINE AND TOXICOLOGY, which are not alike. Both are well-recognized specialties of medical science in their own right on the global scenario.

Forensic Medicine can be defined as the medical specialty, which applies the principles and practice of medicine to the elucidation of question in judicial proceedings. The word medicine encompassing all the fields of medical sciences, whereas Toxicology involves all aspects of adverse effects of chemicals on Biological systems which includes their mechanism, identification of Toxic agents, legal ramification being a part of it. So Toxicology, broadly speaking includes occupational, Environmental, Clinical, Analytical and Forensic Toxicology.

Forensic Medicine has not only responded for the contemporary needs of law enforcement, on many instances, it has even stimulated and initiated improvements. Any change or technical advancement in other fields affects the working and expertise of a Medico-legal examiner, as he has to interpret his observation and findings in accordance to the existing laws of the land, The Medico-legal examiner is under constant pressure for keeping himself abreast with the ever-changing fields of law and medicine. The curricula should change accordingly.

The existing medico-legal system of Pakistan requires from a medical officer (Possessing M.B.B.S degree and a medico-legal training of few hours in 3<sup>rd</sup> year M.B.B.S course) to conduct medico-legal clinical examination of a living person, victim of physical, mental or sexual assault, to perform autopsy on a dead, died of any cause natural or un-natural and to verify, certify and testify his observations to the satisfaction of law enforcers and the courts for the justifiable execution and administration of justice. If the job requirement of graduates requires them to perform postmortems examinations, they should receive appropriate further training after graduation.

## **INTRODUCTION OF THE DEPARTMENT:**

Forensic Medicine is the branch of science which helps the law in searching for the truth to maintain justice in the society. The increasing interest in Forensic Medicine throughout the world is no doubt a result of the global rise in both crime and litigation.

The Department of Forensic Medicine and Toxicology is working with the aim of equipping the medical students with the essential knowledge of crime scene investigation. To meet the upcoming challenges, advance technology and new techniques are also introduced to the students.

The museum of the department is the most modern one having Fiberglass models, wet specimens, instruments and other exhibits like Dura pictures, X-Rays of medico-legal nature and specimen of poisons, weapons etc. Thus, imparting knowledge and contributing to other teaching and training facilities directed to the undergraduate students.

The department has well-furnished and well-equipped Analytical Laboratory dealing with teaching and training in areas of Forensic Toxicology, Forensic Serology, Forensic Anatomy, and Forensic Radiology.

The department has got a seminar room where a “general club” is held every fortnight. This is under process of completion and shall be equipped with a slide projector and multimedia through which teaching material (slides / transparencies) can be displayed and discussed. A departmental library shall also be set up in the seminar room.

For practical orientation, the students visit Forensic Medicine Department, KEMU/AIMC for Autopsy and Medico Legal training.

The students also visit Punjab Forensic Science Agency Lahore to see working of multiple analytical labs under one roof.

The department is placed on the first floor:

The **Museum** of the department has

1. Fiberglass models
2. Firearm Weapons ( including rifles, pistols , bullets , grenades , missiles all original but diffused for security reasons )
3. Wet specimens
4. Human skeletons
5. Poison specimens
6. Radiographs
7. Durra prints
8. Instruments

Other exhibits, imparting knowledge and providing source of self-learning to the undergraduate and postgraduate students. The museum has a teaching area for practical demonstration classes.





**MUSEUM VIEW**



**FIREARMS**



**INSTRUMENTS**







## **SKELETONS**



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FEMALE SKELETON

---

MALE SKELETON

**Lecture Hall** is Air-conditioned with the capacity of one hundred and fifty, furnished with modern audiovisual arrangements.

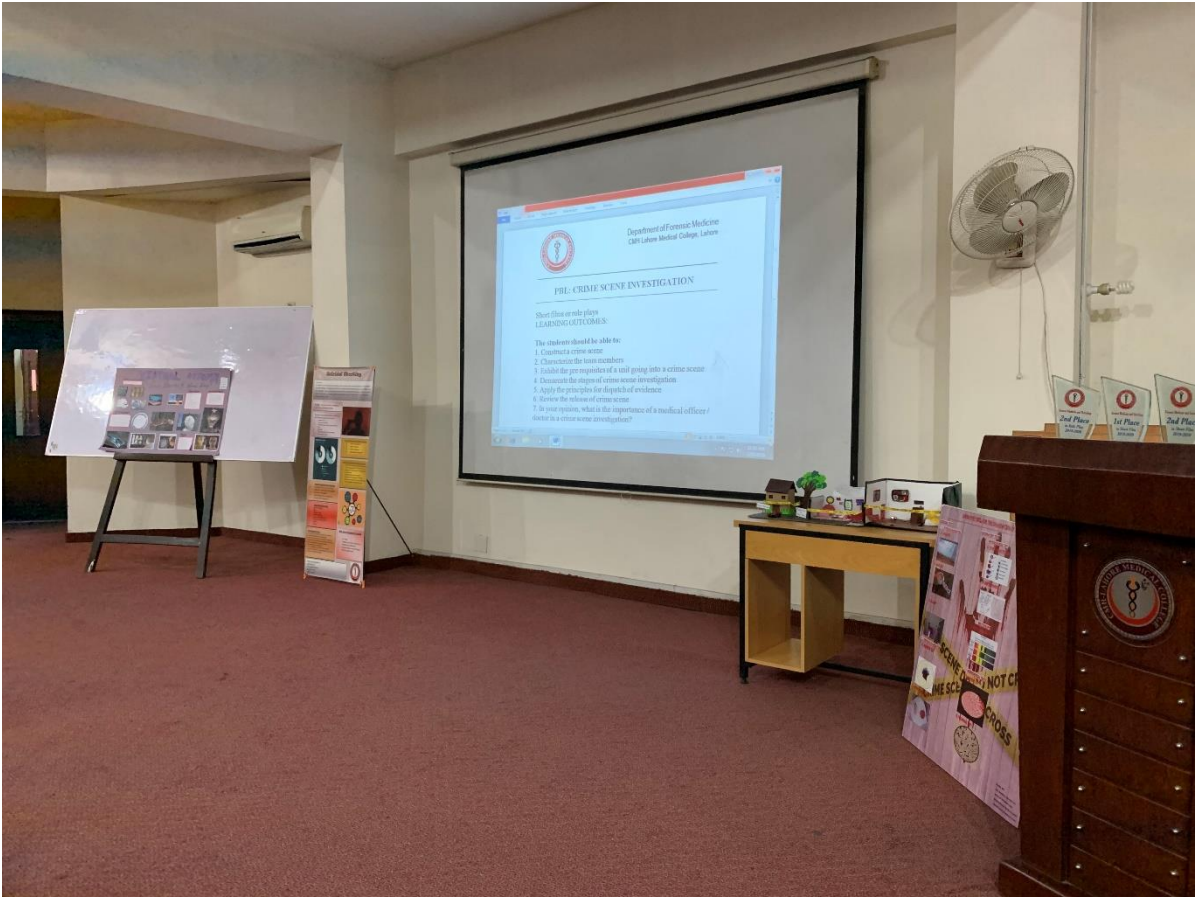












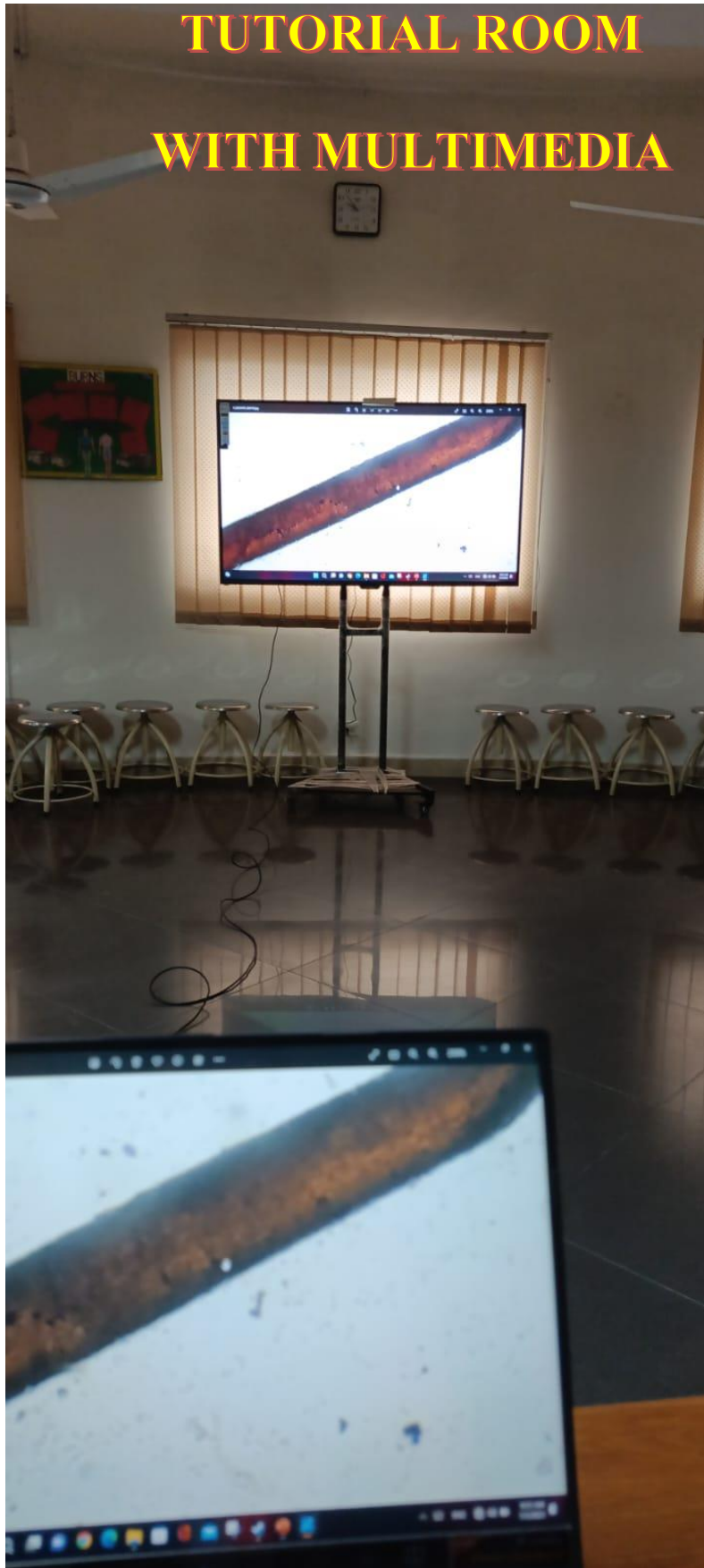


**Laboratory** (Air-conditioned), well-furnished and well-equipped dealing with teaching and training in areas of Forensic Toxicology, Forensic serology, forensic anatomy and forensic radiology, the lab has attached preparation room and equipped with instruments, equipment and chemicals, relevant to the nature of work.





# TUTORIAL ROOM WITH MULTIMEDIA



**Offices** for Professor, Associate Professor, Assistant Professor, Lecturers and Administrative / Paramedical Staff.

**Seminar room** / Departmental Library under process of completion and shall be equipped with a slide projector and multimedia through which teaching material (slides / transparencies) can be displayed and discussed. A departmental library shall also be set up in the same room.



**Computer room:** The department has one computer system with laser printer, Broadband Internet facility is available to staff and students through Wi-Fi.

**Washrooms:** Separate for staff male and female students.

## **ADMINISTRATIVE SUET UP:**

The department is staffed with One Professor, One Associate Professor, One Assistant Professor, Four Demonstrators, PA to HOD, One Head Lab Assistant, Two Lab Assistants, one Lab Attendant, one Store Keeper and one Naib Qasid.

## **Offices:**

<b>Sr. No.</b>	<b>No. of Offices Available</b>
1	1 (HOD office)
2	1 (Associate Professor Office)
3	1 (Assistant Professor office)
4	1 (Conference /Tutorial Room)
5	1 Demo Room
6	1 (PA office)

## **TEACHING STAFF (FACULTY)**

<b>S. NO.</b>	<b>NAME</b>	<b>DESIGNATION</b>	<b>QUALIFICATION</b>
1.	<b>Prof. Javed Iqbal Khokhar</b>	Professor & HOD	MBBS, DMJ, CHPE
2.	<b>Dr. Sadaf Nadir</b>	Associate Professor	MBBS, DMJ, CHPE
3.	<b>Dr. Salman Pervaiz Rana</b>	Assistant Professor	MBBS, DMJ, CHPE
4.	<b>Dr. Maria Safdar</b>	Sr. Demonstrator	MBBS, DMJ, CHPE
5.	<b>Dr. Mohsana Urooj Rana</b>	Demonstrator	MBBS, DMJ, CHPE
6.	<b>Dr. Amna Shahid</b>	Demonstrator	MBBS, CHPE
7.	<b>Dr. Tayyaba Tahir</b>	Demonstrator	MBBS, ICMT, CHPE
8.	<b>Dr. Hunmble A. Bashir</b>	Demonstrator	MBBS

**SITTING ROW: Right to Left- DR. SALMAN PERVAIZ RANA, PROF JAVED IQBAL KHOKHAR, PROF. DR. MAJ GEN NAEEM NAQI (R),HI(M), BRIG MOHAMMAD ARIF MEHMOOD (R), DR. SADAF NADIR, DR. MARIA SAFDAR**

**STANDING ROW: Right to Left - HON CAPT NASAR-UR-REHMAN (R), MAJ GUL NAWAZ PIRZADA (R), MAJ NASIR JAMAL (R), DR. TAYYABA TAHIR, DR. MOHSANA UROOJ RANA, DR. BAKHTAWAR HUMA KHAN**



**SITTING ROW: RIGHT TO LEFT - DR. MOHSANA UROOJ RANA, DR. SALMAN PERVAIZ RANA, PROF. JAVED IQBAL KHOKHAR, DR. SADAF NADIR, DR. MARIA SAFDAR,**

**STANDING ROW: RIGHT TO LEFT - DR. TAYYABA TAHIR, DR. BAKHTAWAR HUMA KHAN**



**Left to Right - DR. SALMAN PERVAIZ RANA, DR. MOHSANA UROOJ RANA, DR. SADAF NADIR, DR. MARIA SAFDAR, PROF JAVED IQBAL KHOKHAR, DR. AMNA SHAHID, DR. BAKHTAWAR HUMA KHAN**



LEFT TO RIGHT: DR. SALMAN PERVAIZ RANA, DR. MOHSANA UROOJ RANA, DR. SADAF NADIR, PROF. JAVED IQBAL KHOKHAR, DR. MARIA SAFDAR, DR. TAYYABA TAHIR, DR. BAKHTAWAR HUMA KHAN



## **PARA-MEDICAL STAFF**

S. NO.	NAME	DESIGNATION	QUALIFICATION
1.	<b>Naveed Ahmed</b>	PA to HOD/Computer Operator	MA
2.	<b>Hafiz M. Akbar Islam</b>	HLA	FA
3.	<b>Khurram Inam</b>	Lab. Assistant	Matric
4.	<b>Shahid Hussain Mufti</b>	Lab. Assistant	Matric
5.	<b>M. Khalid-ur-Rehman</b>	Storekeeper	FA
6.	<b>Ahsan-ul-Haq</b>	Lab. Attendant	Middle
7.	<b>M. Ijaz</b>	Naib Qasid	9 <sup>th</sup>



## **General Information:**

1.1 Mission and Goals

1.2 Professional Values

1.3 Quality policy and Quality objects

1.4 Administrative set up

### **MISSION & GOALS:**

We are committed to the system of strengthening the scientific facts as medical evidence in the field of Forensic Medicine to drive a quality change in the procedural work of courts of law for furthering of justice and extending to the community, the broadest possible benefits. Our goals are maintaining and offering specialized educational and training programs and extending research opportunities not only to its own faculty but students.

### **OBJECTIVES:**

To expedite the academic growth and development in undergraduate medical education. To improve health standards of the community in this underdeveloped region of the world, focus of Medical Education & Research will be on regional medical issues. Trained graduates will successfully execute and streamline the Medical profession and will fill the vacuum in the growing medical schools and industry. Development of human resource, research and technology in this institute will ultimately help in the development of national economy.

### **PROFESSIONAL VALUES:**

The department is committed to maintain highest standard of ethical and professional values while interacting with the public, students and colleagues.

### **QUALITY POLICY AND OBJECTIVES:**

The department ensures the delivery of quality medical education. The teaching curriculum is being revolutionized and brought in line with the international standards to provide community oriented medical education and to produce better health care professionals and system.

### **Overview:**

All major topics will be covered in the form of lectures, CBL's and CPC's in three blocks. Total contact hours are 250 Hours

### **Learning Strategies.**

Interactive lectures

Practical Demonstrations

Case based learning

Small group discussions  
Visits  
Tutorials

### **Assessment.**

- g. There will be two end block exams taken at the end of block I& II. The syllabus for end block examination will be announced by the department at least 02 weeks prior to examination. End block exam will be conducted by the respective Department. Assessment tools to be decided by respective faculty. Schedule and date will be announced by the examination branch of respective institute.
- h. Pre annual exam will be taken for both theory and practical after completion of the curriculum at the end of block III. Pre-annual examination will be from whole syllabus. Table of specification for Pre annual exam is similar to annual exam. Schedule for Pre- annual exam (Theory and Practical) will be announced by the examination branch of respective institute  
Marks of End block and Pre annual exams will contribute to internal assessment
- j. Schedule for annual examination (Theory and Practical) will be announced by NUMS. Practical examination will be conducted by the department itself while theory part will be conducted by the Examination Department NUMS.

### **What is a Study Guide.**

**It is an aid to:**

- Inform students how student learning program of the semester wise 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 teaching, 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, journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and semester examinations on the student's overall performance.
- Includes information in 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.

### **Curriculum framework:**

Students will experience curriculum of 1<sup>st</sup>, 2<sup>nd</sup> & 3<sup>rd</sup> module.

### **Curriculum:**

Comprises of system-based modules such as statistical application in health and disease, infections and Behavioral Modification and Environment and Health Planning. Which links basic science knowledge to

clinical problems. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples.

Case based discussions, computer based assignments, early exposure to clinics, community based learning in community medicine department is the characteristic of Public Health Prevention and Control Measures learn in the modular system.

### **Learning Methodologies:**

The following teaching / learning methods are used to promote better understanding:

- Interactive Lectures
- Hospital / Clinic visits
- Small group discussion
- Problem based learning
- Role plays
- Presentations
- Quizzes
- Tutorials
- Field visits
- Self-directed study

#### **Interactive lectures:**

In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. students are actively involved in the learning process.

#### **Hospital visits:**

In small groups, students observe patients with signs and symptoms in hospital or clinical settings. This helps students to relate knowledge of basic and clinical sciences of the relevant module.

#### **Small Group Discussion (SGD):**

This format helps students to clarify concepts acquire skills or attitudes. Sessions are structured around major Public Health Issues and topics. Students exchange opinions and apply knowledge gained from lectures, tutorials and self-study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

#### **Case Based Learning:**

A small group discussion format where learning is focused around a series of questions based on a community medicine/Public Health Preventive and Control measures. Students' discuss and answer the questions applying relevant knowledge gained in lectures, tutorials, field visits and basic health sciences during the module.

### Team Based Learning:

Team-Based Learning is an evidence based collaborative learning teaching strategy designed around units of instruction, known as modules. In Community Medicine it includes community based learning and surveys.

### Problem Based Learning:

Problem-based learning is a student-centered pedagogy in which students learn about a subject through the experience of solving an open-ended problem found in trigger material.

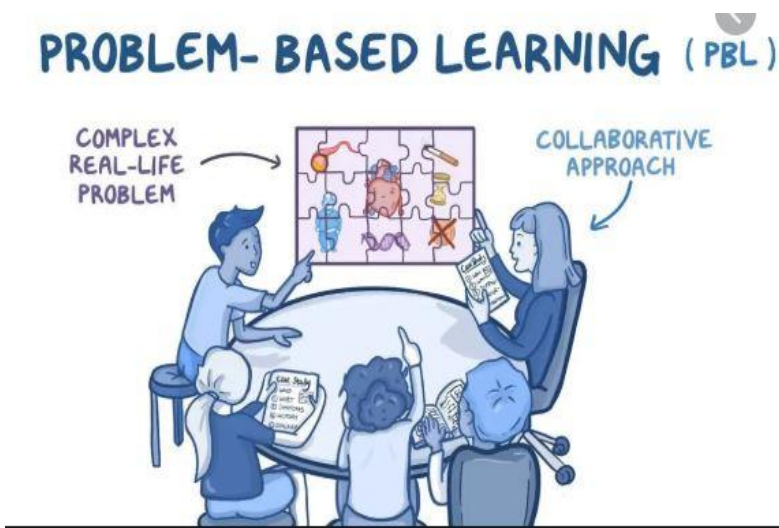
### Tutorials:

Groups around 25 to 30 students are given a topic for self-study and discussion with the supervisor.

### TRADITIONAL TEACHING / LEARNING :



### PROBLEM BASED LEARNING :

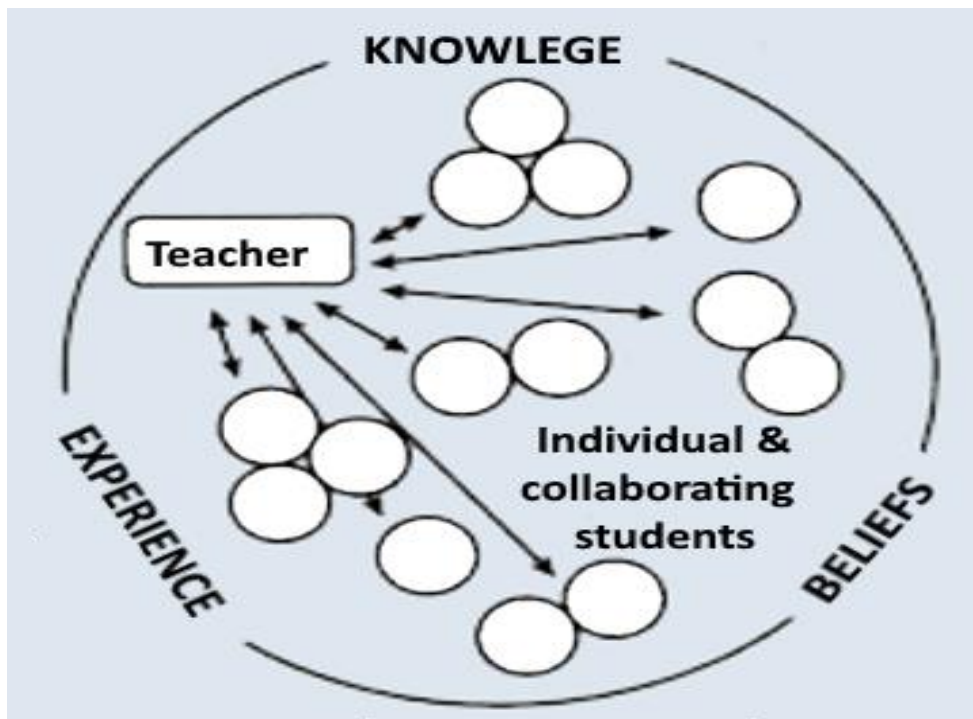


## Teacher centered vs Student centered approach:

### TEACHER CENTERED APPROACH:



### STUDENT CENTERED APPROACH:



# TOS FORENSIC MEDICINE & TOXICOLOGY – 2023

## 3<sup>rd</sup> Professional MBBS Examination (2023) FORENSIC MEDICINE

### Theory

Marks of theory paper = 80  
 Time Allowed = 03 hrs  
 Internal assessment (20%) = 20  
**Total Marks** (MCQs:40%+SEQs:40%+IA:20%)= 100  
 Pass Marks = 50

### **Paper-1:**

40 x MCQs (1 mark each) (40 Marks) Time =40 min

### **Paper-2:**

7x SEQs (5x6 Marks & 2x5 Marks) (40 Marks) Time = 140 min

Modules	TOPIC	Number of MCQs (40)		7 x SEQs (5x6 Marks & 2x5 Marks)
		Recall:13	Application:27	
<b>Thanatology &amp; Autopsy</b>	Medico-legal aspect of Brain death, Sudden and unexpected deaths	02	03	01 (06 marks)
	Indicators of Death, aspects of, causes, manner, mode and mechanisms of death.			
	Physicochemical changes subsequent to death			
	Death Certification			
	Post-mortem			
	Assessment of Fatal period and post-mortem interval.			
	Post-mortem artefacts			
	Risks and Hazards of autopsy			
	Autopsy Protocol.			
	Biological and non-Biological materials for laboratory examination			
Exhumation procedures, its value and limitations				
<b>Personal identification &amp; Legal aspect of Reproduction</b>	Parameters & methods of identification	02	04	01(06 marks)
	Special techniques and objective methods of identification			
	Methods of determination of age, sex and race with their medico-			

*REVISED CURRICULUM (V-II) APPLICABLE FOR MBBS YEAR-III STUDENTS 2023 ONWARDS*

<b>and sexual offences</b>	legal aspects.			
	Methods to trace evidence, Locard's Principle of exchange and its medico-legal significance			
	Sexual Offences and Relevant Sections of Law (Zina and Hudood Ordinance)			
	Infanticide, criminal and non-accidental violence or abuse to a newborn, infant or child			
<b>Traumatology Asphyxia &amp; Drugs</b>	Mechanical injuries	02	06	02 (05 marks)
	Regional Injuries			
	Special trauma: Transportation injuries, Police torture, and Deaths in Custody.			
	Heat, Cold, Electrical injuries			
	Violent death, Mechanical, chemical and environmental asphyxia death and their medicolegal implications			
<b>Medical Ethics, consent &amp; negligence, Professionalism, Professional Misconduct, Law in relation to medical man, Forensic Psychiatry &amp; Legal Procedure</b>	Powers and jurisdiction of courts	03	05	01 (06 marks)
	Procedures for inquest, and legal Procedures.			
	Important Legal terms, Application of relevant Legal sections of the penal code			
	Role of a medical doctor in the medico-legal system, Medical evidence in courts.			
	Procedure of Court attendance and recording of evidence			
	Law in relation to medical man			
	True and feigned insanity			
	Procedure of restraint of the mentally ill			

REVISED CURRICULUM (V-II) APPLICABLE FOR MBBS YEAR-III STUDENTS 2023 ONWARDS



	Limitations to civil and criminal responsibilities of mentally ill			
<b>General Toxicology</b>	Scope of forensic aspects of toxicology, Common Toxicants in our environments and their abuse	02	03	01 (06 marks)
	Sources of poisons			
	Mechanism of action, Sign and symptoms of poisoning			
	Management of poisoning			
	Autopsy findings of death due to poisoning			
<b>Special Toxicology</b>	Alcohol	02	06	01 (06 marks)
	Opiates, Opioids and other narcotics			
	Salicylates and paracetamol			
	Hypnotics and Sedatives			
	Stimulants (Cocaine), cannabis			
	Poisonous Plants			
	Venomous insects (Snakes)			
	Inorganic elements, Antimony, Arsenic, lead, Mercury, Phosphorus			
	Volatile Poisons and corrosives			
	Pesticides, Herbicides and Insecticides			
<b>TOTAL</b>		<b>40 (40 Marks)</b>		<b>07 (40 Marks)</b>

REVISED CURRICULUM (V-II) APPLICABLE FOR MBBS YEAR-III STUDENTS 2023 ONWARDS

**Pre-Annual/Annual Professional Exam: Practical**

Practical = 80  
 Internal Assessment = 20  
 Pass Marks = 50

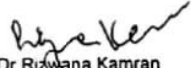
Gen Viva Voce		Lab Work		Internal Evaluation	Total
Internal Examiner	Ext Examiner	Practical/OSCE	Practical Notebook and Forensic Daybook marks 5+5	20	100
20	20	30			

INTERNAL ASSESSMENT - THEORY	
INTERNAL ASSESSMENT WEIGHTING: 20%	
Exams	Weightings
Attendance in Lectures: ≥90% = 10 80-89% = 7 75-79% = 5	10%
End of Block/ clinical rotation (theory) Examination	45%
Continuous assessment (average score of all tests attempted after every learning session during the academic year)	20%
Pre-Annual Exam	25%
<b>Total</b>	<b>100%</b>
INTERNAL ASSESSMENT STRUCTURE - PRACTICAL	
INTERNAL ASSESSMENT WEIGHTING: 20%	
Exams	Weightings
Attendance in Practicals: ≥90% = 10 80-89% = 7 75-79% = 5	10%
*End of Block/ clinical rotation (OSCE) Examination	45%
*Continuous assessment of practical/ clinical skills and attitude	20%
Pre-Annual Exam	25%
<b>Total</b>	<b>100%</b>

### Amended Academic Calendar - 3<sup>rd</sup> Year MBBS Session (2022 – 2023)

Weeks	Details	Dates		
		From	To	
Start of New Class		12 Dec 2022		
1-2	Block I (2/12 Weeks)	12 Dec 2022	23 Dec 2022	
3	Winter Vacation	26 Dec 2022	30 Dec 2022	
4-11	Block I (08/12 Weeks)	2 Jan 2023	24 Feb 2023	
12	Sports Week	27 Feb 2023	02 Mar 2023	
Note: 3 <sup>rd</sup> March 2023 - full day routine classes				
13	Block I (01/12 Weeks)	06 Mar 2023	10 Mar 2023	
	Final Sports Day	07 Mar 2023		
	Note: The Academic Activities on 10th Mar 2023 will not be carried out for the Olympiad activities to go as plan			
14	Block II (01/12 Weeks)	13 Mar 2023	17 Mar 2023	
15	Spring Vacations (1x week)	20 Mar 2023	26 Mar 2023	
16	Block I Exam (1/12 Weeks)	27 Mar 2023	31 Mar 2023	
	Pathology	27 Mar 2023 (Mon)		
	Prep Leave	28 Mar 2023 (Tue)		
	Forensic Medicine	29 Mar 2023 (Wed)		
	Prep Leave	30 Mar 2023 (Thu)		
	Pharmacology	31 Mar 2023 (Fri)		
17-26	Block II (10/12 Weeks)	03 Apr 2023	09 Jun 2023	
Eid ul Fitr		21 – 25 Apr 2023 (Fri-Tue)		
Labour Day		01 May 2023		
27	Block II Exam (1/12 Weeks)	12 Jun 2023	16 Jun 2023	
	Pathology	12 Jun 2023 (Mon)		
	Prep Leave	13 Jun 2023 (Tue)		
	Pharmacology	14 Jun 2023 (Wed)		
	Prep Leave	15 Jun 2023 (Thu)		
	Forensic Medicine	16 Jun 2023 (Fri)		
28-31	Block III (04/11 weeks)	19 Jun 2023	14 Jul 2023	
Eid ul Adha (Tentative)		29 – 30 Jun 2023 (Thu – Fri)		
32-35	Summer Vacations (4x Weeks)	17 Jul 2023	11 Aug 2023	
36-40	Block III (05/11 weeks)	15 Aug 2023	15 Sep 2023	
Independence Day		14 Aug 2023		
41	Prep Leaves for pre- Annual / Send up Exam	18 Sep 2023	22 Sep 2023	
42-43	Pre-Annual / Send-up Exam (Theory) (2/11 Weeks)	25 Sep 2023	06 Oct 2023	
	Pharmacology	25 Sep 2023 (Mon)		
	Prep Leave	26 Sep 2023 (Tue)		
	Behavioral Sciences	27 Sep 2023 (Wed)		
	Prep Leave	28 Sep 2023 (Thu)		
	Forensic Medicine	29 Sep 2023 (Fri)		
	30 Sep & 01 Oct 2023 (Sat & Sun)			
	Pathology	2 Oct 2023 (Mon)		
Pre-Annual / Send-up Exam (Practical)		3 Oct(Tue), 4 Oct(Wed), 5 Oct (Thu) 2023		
44-45	Prep Leave Annual Exam (02 Weeks)	06 Oct 2023	22 Oct 2023	
NUMS Annual Professional Exam		23 Oct 2023		

Note:  
1. Eid-ul-Adha Holidays will be observed from 29<sup>th</sup> June 2023 to 30th June 2023.

  
Dr Rizwana Kamran  
Assistant Professor  
SHaPE

Prepared By Miss Humaira Sardar  
Dated: 23<sup>rd</sup> May 2023

# Weekly Schedule / Time Table:

3rd Year MBBS Clinical Rotation Programme Session (2021 - 2022)												
WEEKS	Dates	Batch-A	Batch-B	Batch-C	Batch-D	Batch-E	Batch-F	Batch-G	Batch-H	Batch-J		
1-2	12 Dec 2022 - 23 Dec 2022	MED I 2/4	MED II 2/4	MED III 2/4	SURG I 2/4	SURG II 2/4	SURG III 2/4	GYNAE - OPD 2/4	PAEDS 2/4	MATERNITY WARD 2/4		
3	26 Dec 2022 - 30 Dec 2022	Winter Vacation										
4-5	02 Jan 2023 - 13 Jan 2023	MED I 2/4	MED II 2/4	MED III 2/4	SURG I 2/4	SURG II 2/4	SURG III 2/4	GYNAE - OPD 2/4	PAEDS 2/4	MATERNITY WARD 2/4		
6-9	16 Jan 2023 - 10 Feb 2023	MED I	MED II	MED III	SURG I	SURG II	SURG III	MATERNITY WARD	GYNAE - OPD	PAEDS		
10-12	13 Feb 2023 - 05 Mar 2023	MED I 3/4	MED II 3/4	MED III 3/4	SURG I 3/4	SURG II 3/4	SURG III 3/4	PAEDS 3/4	MATERNITY WARD 3/4	GYNAE - OPD 3/4		
13	5 Mar 2023 - 11 Mar 2023	Sports Week										
14	13 Mar 2023 - 17 Mar 2023	Spring Vacations										
15	20 Mar 2023 - 24 Mar 2023	Block I Exam Pathology - 20 Mar, For Med - 22 Mar, Pharmacology - 24 Mar 2023										
16	27 Mar 2023 - 31 Mar 2023	Pathology Day 23 Mar 2023										
17-20	03 Apr 2023 - 26 Apr 2023	MED I 1/4	MED II 1/4	MED III 1/4	SURG I 1/4	SURG II 1/4	SURG III 1/4	PAEDS 1/4	MATERNITY WARD 1/4	GYNAE - OPD 1/4		
21-23	01 May 2023 - 19 May 2023	GYNAE - OPD	PAEDS	MATERNITY WARD	MED I	MED II	MED III	SURG I	SURG II	SURG III		
		MATERNITY WARD	GYNAE - OPD	PAEDS	MED I	MED II	MED III	SURG I	SURG II	SURG III		
		PAEDS	MATERNITY WARD	GYNAE - OPD	MED I	MED II	MED III	SURG I	SURG II	SURG III		
24-26	29 May 2023 - 08 Jun 2023	Eid Ul Fitr (Tentative) 30-30 Apr 2023										
27	12 Jun 2023 - 16 Jun 2023	Labour Day 01 May 2023										
28-30	19 Jun 2023 - 07 Jul 2023	Block II Exam Pathology - 13 Jun, Pharmacology - 16 Jun, For Med - 16 Jun 2023										
31	10 Jul 2023 - 14 Jul 2023	Eid Ul Adha (Tentative) 30-30 Jun 2023										
32-36	17 Jul 2023 - 11 Aug 2023	Summer Vacations										
36-37	15 Aug 2023 - 25 Aug 2023	SURG I 2/5	SURG II 2/5	SURG III 2/5	SURG I 2/5	SURG II 2/5	SURG III 2/5	PAEDS 2/5	MATERNITY WARD 2/5	GYNAE - OPD 2/5		
38-40	28 Aug 2023 - 15 Sep 2023	SURG I	SURG II	SURG III	SURG I	SURG II	SURG III	PAEDS	MATERNITY WARD	GYNAE - OPD		
41	18 Sep 2023 - 22 Sep 2023	Prep Leave for Pre Annual / Send Up Exam										
42-43	28 Sep 2023 - 08 Oct 2023	Pre-Annual / Send Up Exam Theory: Pharmacology - 28 Sep, Bch St - 27 Sep, For Med - 29 Sep, Pathology - 01 Oct 2023 Practicals: Pharmacology - 03 Oct, Pathology - 04 Oct, For Med - 08 Oct 2023										
44-45	08 Oct 2023 - 22 Oct 2023	Prep Leave for Annual Exam										
	23 Oct 2023 Onwards	NUMS Annual Exam										

Dr. Yousang Kamran  
Assistant Professor  
SHAPE

- 1. MED-I includes Internal Medicine, Pulmonology, Gastroenterology and Neurology
- 2. MED-II includes Internal Medicine, ICU, Nephrology and Oncology
- 3. Amended Rotation Plan is being issued as per NUMS Revised Curriculum.

Dated: 09 Dec 2022  
Prepared by: Miss Zunaira Hameed

# FORENSIC MEDICINE - BLOCK I

CODE: Y3B1

DURATION: 12 weeks

S No	Theme/Block	Learning Outcomes By the end of Block I, the students will be able to:	Course Content	% Weight age
1	<b>Introduction to Forensic Medical Sciences</b>	Describe the role of Forensic Medicine / Sciences in Crime detection, especially in crimes involving human life & body in national as well as international context.	Role of Forensic Medicine / Sciences in Crime detection, especially in crimes involving human life & body	<b>03</b>
2	<b>Thanatology</b>	<ul style="list-style-type: none"> <li>• Identify the causes, manner, mode, mechanisms, medicolegal aspects and indicators of death.</li> <li>• Correlate between the physicochemical changes occurring in various body tissues after death under different environmental conditions to the medico-legal aspects of sudden and unexpected deaths.</li> </ul>	<ul style="list-style-type: none"> <li>• Scientific concepts regarding death, medico-legal aspect of Brain death, Indicators of Death, medico-legal aspects of Sudden and unexpected deaths, causes, manner, mode and mechanisms of death. Physicochemical changes subsequent to death occurring in various body tissues and organs under various environmental conditions.</li> <li>• To write a Certification of death according to WHO guidelines</li> <li>• Autopsy: Types, objectives, rules, and techniques and describe procedure for post-mortem; Methods for Assessment of Fatal period and post-mortem interval. Post-mortem artefacts. Risks and Hazards of autopsy, and Autopsy Protocol. Procedure for selection and reservation, labelling and dispatch of Biological and non-Biological materials for laboratory examination; and collect relevant samples.</li> <li>• Exhumation procedures, and its value and limitations</li> </ul>	<b>27</b>
3	<b>Traumatology-I</b>	<ul style="list-style-type: none"> <li>• Correlate the mechanisms of wound production to their medico-legal aspects.</li> <li>• Identify different ammunitions</li> <li>• Appraise the nomenclature, wound Ballistics and medico-legal aspects of mechanical injuries</li> <li>• List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Mechanical Injuries:</b> <ul style="list-style-type: none"> <li>○ Mechanisms of wound production, classification of wounds, wounds produced by conventional weapons and their medico-legal aspects.</li> <li>○ Firearms, Ammunition, Classification, Nomenclature,</li> </ul> </li> </ul>	<b>50</b>

		<ul style="list-style-type: none"> <li>• Distinguish between ante-mortem and post-mortem wounds</li> <li>• Diagnose the manner of death (suicidal, homicidal and accidental)</li> <li>• Classify wounds</li> <li>• Relate the mechanisms of wound production to their medico-legal aspects.</li> <li>• Classify firearm injuries.</li> <li>• Identify different ammunitions</li> <li>• Appraise the nomenclature, wound Ballistics and medico-legal aspects of mechanical injuries</li> <li>• List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide.</li> <li>• Distinguish between ante-mortem and post-mortem wounds.</li> <li>• Diagnose the manner of death (suicidal, homicidal and accidental)</li> </ul>	<p>wound Ballistics and medico-legal aspects.</p> <ul style="list-style-type: none"> <li>○ Medico-Legal Considerations: <ul style="list-style-type: none"> <li>▪ Suicide, homicide and accident.</li> </ul> </li> </ul>	
4	<b>Personal Identity</b>	<ul style="list-style-type: none"> <li>• Distinguish between living and dead, decomposed and mutilated from burnt bodies, skeletal and fragmentary remains by using appropriate parameters of personal identity.</li> <li>• Use different techniques (Dentistry: Radiology, Neutron Activation Analysis etc.) and objective methods of (Osteometry, Dactyloscopy, DNA Technique, Super imposition photography etc.).</li> <li>• Determine the age, sex and race of an individual by various methods with their medico-legal aspects.</li> <li>• Critique on methods to trace the evidence, Lockard's Principle of exchange and its medico-legal significance.</li> </ul>	<ul style="list-style-type: none"> <li>• Parameters of personal identity, methods of identifying living, dead, decomposed, mutilated and burnt bodies, and skeletal and fragmentary remains,</li> <li>• Special techniques (Dentistry: Radiology, Neutron Activation Analysis etc.), and objective methods of identification (Osteometry, Dactyloscopy, DNA Technique, Super imposition photography etc.).</li> <li>• Methods of determination of age, sex and race by various methods with their medico-legal aspects.</li> <li>• Methods to trace evidence, Locard's Principle of exchange and its medico-legal significance</li> </ul>	<b>10</b>

5	<b>Biological Specimens</b>	<ul style="list-style-type: none"> <li>Appraise the forensic importance of Biological specimens (Blood, Semen, Saliva, Vomitus, Breath, Urine, Hair).</li> <li>Collects, preserve, dispatch various human body specimens</li> </ul>	<ul style="list-style-type: none"> <li>Forensic importance of Biological specimens (Blood, Semen, Saliva, Vomitus, Breath, Urine, Hair).</li> <li>Method of their collection, preservation, dispatch and the common laboratory tests</li> </ul>	<b>10</b>
<b>Total</b>				<b>100</b>
	<b>End Block Assessment</b>	<b>End block assessment is to be taken by the concerned institute itself. Assessment tools: MCQs &amp; SAQs/SEQs</b>		

<b>FORENSIC MEDICINE - BLOCK I</b>	
<b>CODE: Y3B1</b>	
<b>DURATION: 12 WEEKS</b>	
<b>THEME/LEARNING OUTCOMES</b>	<b>%</b>
<b>At the end of this block, student shall be able to</b>	
Perform Autopsy & Medicolegal Examinations	<b>10</b>
Examine different biological specimens in forensic context.	<b>10</b>
Perform the procedure of preservation, dispatch of Biological and other evidentiary material	<b>10</b>
Write Death Certificate according to WHO guidelines	<b>10</b>
Perform Exhumation procedure	<b>10</b>
Identify the importance of finger prints in personal identity	<b>10</b>
Distinguish various firearm injuries	<b>10</b>
Identification of Blood, Semen, Saliva etc.	<b>10</b>
Examine an injured person, certify nature, manner of cause, causative agent and dating of wounds. Link Sequelae of trauma to its original cause and search for the relationship of sequelae to pre-existing disease.	<b>10</b>
Perform common lab tests on different body specimens	<b>10</b>
<b>Total</b>	<b>100%</b>

# FORENSIC MEDICINE - BLOCK II

Duration: 12 weeks

CODE: Y3B2

S No	Theme/Block	Learning Outcomes By the end of Block I, the students will be able to:	Course Content	% Weightage
1	<b>Traumatology-II</b>	<ul style="list-style-type: none"> <li>• Differentiate among the various possible etiologies of Regional Injuries, of Head (Scalp, Skull, Brain) and Face, Vertebral column and its contents, Neck, Chest, Abdomen, Limbs, Bones and Joints and Special trauma (Transportation injuries, Police torture, and Deaths in Custody)</li> <li>• Compare and contrast Heat, Cold, Electrical injuries with emphasis on their medicolegal aspects.</li> <li>• Recognize signs of violent death, mechanical, chemical and environmental asphyxia death and their medico legal implications.</li> <li>• Interpret injuries caused by blast</li> </ul>	<ul style="list-style-type: none"> <li>• Regional Injuries, of Head (Scalp, Skull, Brain) and Face, Vertebral column and its contents, Neck, Chest, Abdomen, Limbs, Bones and Joints and Special trauma such as: Transportation injuries, Police torture, and Deaths in Custody. And Should be able to determine the medicolegal aspects of Heat, Cold, Electrical injuries.</li> <li>• <b>Blast injuries.</b> Recognition and interpretation of injuries caused by blast</li> </ul>	<b>10</b>
2	<b>Violent Deaths Due to Asphyxia</b>	Define, Classify and detect the anatomical, physiological, biochemical and pathological signs of violent death, mechanical, chemical and environmental asphyxia death and their medicolegal implications.	Define, Classify, causes of; and detect the Anatomical, Physiological, Biochemical and Pathological signs of violent death; and of Mechanical, chemical and environmental asphyxia death and their medicolegal implications	<b>10</b>
3	<b>Sexual Offences /Reproduction</b>	<ul style="list-style-type: none"> <li>• Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance)</li> <li>• Differentiate between natural and unnatural sexual offences</li> <li>• Address the causes of common sexual perversions</li> <li>• Distinguish between Impotence, Virginity, Pregnancy and criminal acts during delivery(their medico-</li> </ul>	<ul style="list-style-type: none"> <li>• Sexual Offences and Relevant Sections of Law (Zina and Hudood Ordinance)                             <ul style="list-style-type: none"> <li>○ Natural and unnatural sexual offences</li> <li>○ Medical examination of victim and assailant, collection of specific specimens.</li> <li>○ Common sexual perversions and their cause.</li> </ul> </li> </ul>	<b>30</b>



		<p>legal aspects, examination procedure and reporting)</p> <ul style="list-style-type: none"> <li>• Appraise the procedure of performing clinical I examination of victim and assailant in case of sexual offense, collect specific specimens and write a required certification.</li> <li>• Appraise the relevant sections of law, Medico-legal aspects applicable to miscarriage; and be able to.</li> <li>• Crime Against New-Born, Infants and Child.</li> <li>• identify infanticide and criminal and non-accidental violence or abuse to a newborn, infant or child.</li> </ul>	<ul style="list-style-type: none"> <li>○ approach to Impotence, determination of Virginity, Pregnancy and criminal processes during delivery, their medico-legal aspects, examination procedure and reporting.</li> <li>○ Miscarriage:</li> <li>○ Crime Against New-Born, Infants and Child.</li> </ul> <ul style="list-style-type: none"> <li>• Infanticide and criminal and non-accidental violence or abuse to a newborn, infant or child</li> </ul>	
4	<b>General Toxicology</b>	<ul style="list-style-type: none"> <li>• Relate the cases of toxicology to its related laws</li> <li>• Manage toxicological cases in acute and chronic exposure</li> <li>• Interpret acute and chronic cases of poisoning in living and dead</li> </ul>	<ul style="list-style-type: none"> <li>• Scope of forensic aspects of toxicology.</li> <li>• Common Toxicants in our environments and their abuse</li> </ul>	<b>10</b>
5	<b>Poisons</b>	<ul style="list-style-type: none"> <li>• Differentiate between the different sources, mechanism of action, sign and symptoms and management of poisoning</li> <li>• Analyze the autopsy findings of a case with poisoning with emphasis on its medicolegal aspects</li> </ul>	<ul style="list-style-type: none"> <li>• Sources of poisons</li> <li>• Mechanism of action of poisons</li> <li>• Sign and symptoms of poisoning</li> <li>• Management of poisoning</li> <li>• Autopsy findings of death due to poisoning Medicolegal aspects</li> </ul>	<b>40</b>
<b>Total</b>				<b>100</b>
	<b>End Block Assessment</b>	<b>End block assessment is to be taken by the concerned institute itself. Assessment tools: MCQs &amp; SAQs/SEQs</b>		

## FORENSIC MEDICINE - BLOCK II

CODE: Y3B2

At the end of this block, student shall be able to

THEME/LEARNING OUTCOMES	%
Perform Autopsy& Medicolegal Examinations	20
Perform medico-legal Examination of injured	30
Preserve and dispatch biological and other evidentiary material	10
Examine mother and aborted material; and send aborted material in proper preservative for examination	40
<b>Total</b>	<b>100%</b>

# FORENSIC MEDICINE - BLOCK

## III

Duration: 12 weeks

CODE: Y3B3

S No	Theme/Block	Learning Outcomes By the end of Block I, the students will be able to:	Course Content	% Weightage
1	<b>Specific Poisons</b>	<p>Study of Poisons/drugs prevailing in our society along with medico-legal aspects is recommended. Emphasis must be given to the following poisons/drugs:</p> <ul style="list-style-type: none"> <li>• Alcohol</li> <li>• Opiates, Opioids and other narcotics</li> <li>• Salicylates and paracetamol</li> <li>• Hypnotics and Sedatives</li> <li>• Stimulants (Cocaine), cannabis</li> <li>• Poisonous Plants (Aconite, Belladonna, Hyoscyamus, Stramonium, Digitalis, Ergot, Mushrooms, Nux Vomica, Oleander, Tobacco)</li> <li>• Venomous insects (Snakes)</li> <li>• Inorganic elements, Antimony, Arsenic, lead, Mercury, Phosphorus</li> <li>• Volatile Poisons and corrosives (Carbon monoxide, Hydro carbons, Cyanides, Sulphuric Acid, Oxalic Acid, Carbolic Acid and Alkalis)</li> <li>• Pesticides, Herbicides and Insecticides and others</li> </ul>	<p>Study of following poisons/drugs:</p> <ul style="list-style-type: none"> <li>• Alcohol</li> <li>• Opiates, Opioids and other narcotics</li> <li>• Salicylates and paracetamol</li> <li>• Hypnotics and Sedatives</li> <li>• Stimulants (Cocaine), cannabis</li> <li>• Poisonous Plants (Aconite, Belladonna, Hyoscyamus, Stramonium, Digitalis, Ergot, Mushrooms, Nux Vomica, Oleander, Tobacco)</li> <li>• Venomous insects (Snakes)</li> <li>• Inorganic elements, Antimony, Arsenic, lead, Mercury, Phosphorus</li> <li>• Volatile Poisons and corrosives (Carbon monoxide, Hydro carbons, Cyanides, Sulphuric Acid, Oxalic Acid, Carbolic Acid and Alkalis)</li> <li>• Pesticides, Herbicides and Insecticides and others</li> </ul>	<b>40</b>
2	<b>Forensic Psychiatry</b>	<ul style="list-style-type: none"> <li>• Distinguish between true and feigned insanity.</li> <li>• Advise on procedure of restraint of the mentally ill.</li> <li>• List limitations to civil and criminal responsibilities of mentally ill.</li> </ul>	<ul style="list-style-type: none"> <li>• True and feigned insanity</li> <li>• Procedure of restraint of the mentally ill</li> <li>• Limitations to civil and criminal responsibilities of mentally ill</li> </ul>	<b>25</b>

3	<b>Medical Ethics, consent &amp; negligence</b>	Apply ethical principles of medicine as physicians/ in their clinical clerkships according to national as well as international code of ethics	<ul style="list-style-type: none"> <li>• Powers and jurisdiction of courts</li> <li>• procedures for inquest, and legal Procedures.</li> <li>• Important Legal terms</li> <li>• Application of relevant Legal sections of the penal code</li> <li>• Role of a medical doctor in the medico-legal system</li> <li>• Medical evidence in courts.</li> <li>• Document information to be prepared by a medical doctor for legal procedures. <ul style="list-style-type: none"> <li>○ Procedure of Court attendance and recording of evidence</li> </ul> </li> </ul>	<b>10</b>
4	<b>Law in relation to medical man</b>	<ul style="list-style-type: none"> <li>• Identify the principles of interprofessional and patient interaction in clinical practice</li> <li>• Correlate the medical ethics while examining patient to medical negligence and professional misconduct</li> <li>• Justify the guarding of professional secrets and privileged communication.</li> <li>• Debate on legal and ethical aspect of organ transplantation</li> <li>• Employ the moral and ethical implications of medical procedures (Artificial insemination, Therapeutic abortions, Euthanasia, Biomedical research) in clinical practice</li> </ul>	Law in relation to medical man	<b>25</b>
<b>Total</b>				<b>100</b>
	<b>End Block Assessment</b>	<b>End block assessment is to be taken by the concerned institute itself. Proposed Assessment tools: MCQs &amp; SAQs/SEQs</b>		

## FORENSIC MEDICINE - BLOCK III

<b>CODE:Y3M3</b>	
<b>Duration: 10 weeks</b>	
<b>THEME</b>	<b>%</b>
Autopsies	<b>20</b>
Medico-legal Examination of injured	<b>40</b>
Visits to Court, Forensic Science Laboratory, Psychiatric unit or Jail, Site during conduction of exhumation	<b>20</b>
Visual, olfactory and tactile identification of common poisons found in communities and country	<b>20</b>
<b>Total</b>	<b>100%</b>

## **TEACHING PROGRAM**

<b>Lecture Topics</b>	
<b>FORENSIC MEDICINE &amp; TOXICOLOGY</b>	
<b><u>MODULE-I</u> (Block VII, Module XIII, Foundation Module II, duration 06 weeks)</b>	
Sr. No	Topic: Introduction & Gen Toxicology
1	Introduction to Forensic Medicine
2	Role of Forensic Science in Crime Detection
3	Introduction to General Toxicology & Classification of Poisons
4	General & Medicolegal Aspects of Poisons
5	Routes of Administration, Elimination, Metabolism of Poison, Factors Modifying the Effect of Poison
6	Diagnosis of poisoning in living and dead
<b>26th TO 30th DECEMBER 2023 WINTER VACATIONS</b>	
7	Duties of RMP & General Management of poisoning
8	Medicolegal management of poisoning case & Scandinavian method, Toxidrome, Coma Cocktail
9	Current trends in suicidal poisoning + Drug abuse & LSD
10	Sheesha, Glue sniffing, Date rape drugs

<b>Topic: Autopsy and Exhumation</b>	
11	Introduction, Objectives, Rules and Techniques of Autopsy
12	Autopsy Protocol - I
13	Autopsy Protocol - II
14	Autopsy on Decomposed, Mutilated bodies & Fragmentary remains
15	Exhumation procedure and Scope & Limitations
16	Negative autopsy , Hazards of autopsy
17	Autopsy Room Essentials, Artifacts & Embalming
<b>Class Evaluation - I of Module-I 2023 (Autopsy + Gen Toxicology)</b>	
<b>Block VII, Module XIV, CVS II, duration 04 weeks</b>	
<b>Sr. No</b>	<b>Topic: Thanatology</b>
1	Definition, Concept, Diagnosis of Death, Norms, Classification & Brain Death
2	Medicolegal aspects of sudden and unexpected deaths, Death Certificate, WHO criteria of death
3	Changes in body after death (Immediate + Early)
4	Algor Mortis
5	Postmortem Lividity
6	Rigor Mortis
7	Late changes after death + Very Late Changes after death
8	Determination of Postmortem Interval (Rate & Concurrent methods)

<b>Topic: Sexual Offences &amp; Reproduction</b>	
9	Classification & Laws
<b>Class Evaluation - II of Module -I</b>	
10	Medicolegal Examination of Victim/Assaliant & Collection of sample
<b>Block VII, Module XV, Genitourinary system, duration 2 weeks</b>	
1	Criminal Abortion
2	Crime against newborn
3	Impotence, virginity, pregnancy
4	Sexual perversions, Battered Baby Syndrome (Caffey's syndrome)

<b><u>MODULE-II</u> (Block VIII, Module XVI, hematology system, duration 3 weeks)</b>	
<b>Sr. No</b>	<b>Topic: Traumatology</b>
1	Mechanical Injuries (Definition, Classification, Mechanisim)
2	Factors modifying appearance of wound
3	Blunt Trauma (Abrasion & Contusion)
4	Laceration
5	Sharp edged weapons injury (Stab & Incised)
6	Fabricated, Hesitational, Defense injuries & Confessional torture
7	Medicolegal aspects of Mechanical Injuries
8	Firearm - I



9	Firearm - II
<b>Block VIII, Module XVI, Neuroscience, duration 4 weeks</b>	
1	RTA - I
2	RTA - II + Blast Injuries
3	Regional Injuries (Head, Chest & Abdomen)
<b>24th TO 26th APRIL 2023 EID-UL-FITAR HOLIDAYS</b>	
<b>Class Evaluation - I of Module - II - 2023</b>	
4	Forensic psychiatry
5	Sedatives & Hypnotics
6	Somniferous poisons
7	Inebriants (Ethyl + Methyl Alcohol)
8	Deliriants (Cannabis, Dhatura, Cocaine)
9	Snake poisons
10	Insecticides
11	Asphyxiants
<b>Class Evaluation - II of Module - II - 2023</b>	
<b>Block VIII, Module XVIII, Respiratory system module, duration 3 weeks</b>	
<b>Sr. No</b>	<b>Topic: Asphyxia</b>
1	Violent Asphyxial Deaths (Classification & General Aspect)
2	Hanging

3	Strangulation
4	Suffocation & Positional Asphyxia
5	Mannual Strangulation, Burking, Bansdola
6	Traumatic Asphyxia & Autoerotic Asphyxia
7	Drowning - I
8	Drowning - II
9	Violence on women

**12th TO 16th JUNE 2023 - Module-II Exams 2023**

<b><u>MODULE-III</u> (Block IX, Module XIX, Digestive system &amp; Metabolism, duration 3 weeks)</b>	
<b>Sr. No</b>	<b>Topic:</b>
1	Corrosives - I
2	Corrosives - II
3	Irritants (Non-metallic Phosphorus)
<b>26th to 30th JUNE 2023 - EID-UL-ADHA HOLIDAYS</b>	
4	Irritants (Metallic Arsenic)
5	Lead & Copper
6	Mercury & Thallium
7	Effect of Heat and Cold
8	Death due to Electrocutation

9	Lightening and Starvation
<b>17th JULY to 11th AUGUST 2023 - SUMMER VACATIONS</b>	
<b>Block IX, Module XX, Multisystem Module – I (Neoplasia)</b>	
<b>Duration: 04 weeks</b>	
1	Medicolegal concepts of law (Court of law)
2	Legal proceeding
3	Legal Aspects of Medicine (PMC & other Ordinances)
4	Professional Misconduct
5	Legal aspects of Medicine (Consent & Med Ethics)
6	Medical Negligence
7	Medical Evidence, Professional Secrecy & Privileged Communication
8	Medical aspects of Law (Classification of Hurt & Qatl & Hudood Ordinance)
9	Medicolegal aspects of Insanity
10	Injured Person Act & Organ Transplantation Act
11	Women Protection Act & Harassment Act
12	Narcotics Act & Mental Health Ordinance
<b>Class Evaluation of Module - III - 2023</b>	
<b>Block IX, Module XXI, Multisystem Module – II (Infectious diseases) duration 4 weeks</b>	
<b>Sr. No</b>	<b>Topic: Personal Identity &amp; Trace Evidence</b>
1	Identification of living and dead (Methods & Parameters)

2	Determination of Age + Medicolegal Importance of Age
3	Determination of Gender & it's Medicolegal importance
4	Special Techniques in Identification (Anthropometry)
5	Trace Evidence
<b>25th September to 6th October 2023 Send up Examination</b>	

<b>Module-I (Practical Schedule)</b>		
<b>Sr. No</b>	<b>Day</b>	<b>Topic</b>
<b>Week-1</b>		
1	Mon	<b>General Introduction</b>
2	Tue	
3	Wed	
<b>Week-2</b>		
4	Mon	<b>Forensic Anatomy</b>
5	Tue	
6	Wed	
<b>26th TO 30th DECEMBER 2023 WINTER VACATIONS</b>		
<b>Week-3</b>		
7	Mon	<b>Neculear Sexing</b>
8	Tue	
9	Wed	
<b>Week-4</b>		
10	Mon	<b>Determination of Sex using Bones Pelvis + Sacrum</b>
11	Tue	
12	Wed	

Week-5		
13	Mon	<b>Determination of Sex using Bones Skull + Mandible</b>
14	Tue	
15	Wed	
Week-6		
16	Mon	<b>Determination of Race + Stature</b>
17	Tue	
18	Wed	
Week-7		
19	Mon	<b>Forensic Radiology (Age)</b>
20	Tue	
21	Wed	
Week-8		
22	Mon	<b>Forensic Odontology (Lecture)</b>
23	Tue	
24	Wed	
Week-9		
25	Mon	<b>Blood Physical Examination (Blood Stain, Character, Collection &amp; Dispatch) UV Lamp</b>
26	Tue	
27	Wed	
Week-10		
28	Mon	<b>Presumptive Tests (Benzidine + Phenolphthalein) + Confirmatory Tests (Teichman + Takayama)</b>
29	Tue	
30	Wed	
Week-11		
31	Mon	<b>Spectroscopy</b>
32	Tue	

33	Wed	
<b>Module-II (Practical Schedule)</b>		
Sr. No	Day	Topic
<b>Week-1</b>		
1	Mon	Precipitin Test + Microscopy Blood
2	Tue	
3	Wed	
<b>Week-2</b>		
4	Mon	<b>Blood Grouping</b>
5	Tue	
6	Wed	
<b>Week-3</b>		
7	Mon	<b>Seminal Stain Examination, Microscopy &amp; Basics</b>
8	Tue	
9	Wed	
<b>Week-4</b>		
10	Mon	<b>Hair Examination</b>
11	Tue	
12	Wed	
<b>24th TO 26th APRIL 2023 EID-UL-FITAR HOLIDAYS</b>		
<b>Week-5</b>		
13	Tue	<b>Autopsy Visit</b>
14	Wed	
15	Wed	
<b>Week-6</b>		
16	Mon	<b>Autopsy Visit</b>

17	Tue	
18	Wed	
<b>Week-7</b>		
19	Mon	<b>PFSA Visit</b>
20	Tue	
21	Wed	
<b>Week-8</b>		
22	Mon	<b>Stomach Content/Vomitus Examination</b>
23	Tue	
24	Wed	
<b>Week-9</b>		
25	Mon	<b>Renish's Test</b>
26	Tue	
27	Wed	
<b>Week-10</b>		
28	Mon	<b>Steam Distillation + Stas otto</b>
29	Tue	
30	Wed	
<b>12th TO 16th JUNE 2023 - Module-II Exams 2023</b>		
<b>Week-11</b>		
31	Mon	<b>Module-II Exam 2023</b>
32	Tue	
33	Wed	

<b>Module-III (Practical Schedule)</b>		
<b>Sr. No</b>	<b>Day</b>	<b>Topic</b>
<b>Week-1</b>		
1	Mon	<b>Thin Layer Chromatography</b>
2	Tue	
3	Wed	
<b>26th to 30th JUNE 2023 - EID-UL-ADHA HOLIDAYS</b>		
<b>Week-2</b>		
4	Mon	<b>Vegitable Poisons (Lecture + Practical)</b>
5	Tue	
6	Wed	
<b>Week-3</b>		
7	Mon	<b>Cardiac Poisons (Lecture)</b>
8	Tue	
9	Wed	
<b>Week-4</b>		
10	Tue	<b>Analytical Technique (Lecture)</b>
11	Wed	
<b>Week-5</b>		
12	Mon	<b>Observed Station (Revision)</b>
13	Tue	
14	Wed	
<b>Week-6</b>		
15	Mon	<b>Asprin + Paracetamol (Lecture)</b>
16	Tue	
17	Wed	



<b>Week-7</b>		
18	Mon	<b>Facial Reconstruction + Skull Superimposition</b>
19	Tue	
20	Wed	
<b>Week-8</b>		
21	Mon	<b>Forensic Radiology + Forensic Anatomy + Forensic Odontology</b>
22	Tue	
23	Wed	
<b>Week-9</b>		
24	Mon	<b>Spinal Poison (Lecture)</b>
25	Tue	
26	Wed	
<b>Send up Examination</b>		

## Tutorials:

<b>Module-I (Tutorials: Thursdays' Schedule)</b>		
<b>Sr. No</b>	<b>Day</b>	<b>Topic</b>
<b>Week-1</b>		
1	Thu	Discussion General Toxicology
<b>Week-2</b>		
2	Thu	TBL (Autopsy)
<b>Week-3</b>		
3	Thu	VIVA (Autopsy)
<b>Week-4</b>		
4	Thu	Flipped Classroom (Exhumation)
<b>Week-5</b>		
5	Thu	MCQs (Gen Toxicology, Autopsy)
<b>Week-6</b>		
6	Thu	MCQs (Gen Toxicology, Autopsy)
<b>Week-7</b>		
7	Thu	Death Certification + Declaration of Death (Observed Station)
<b>Week-8</b>		
8	Thu	Death Certification + Declaration of Death (Observed Station)
<b>Week-9</b>		
9	Thu	Death Certification + Declaration of Death (Observed Station)
<b>Week-10</b>		
10	Thu	Viva (Thanatology)
<b>Week-11</b>		
11	Thu	Viva (Thanatology)

<b>Module-II (Tutorials: Thursdays' Schedule)</b>		
<b>Sr. No</b>	<b>Day</b>	<b>Topic</b>
<b>Week-1</b>		
1	Thu	Viva (Thanatology)
<b>Week-2</b>		
2	Thu	PBL (Crime Scene Investigation) + Roleplay/Posters
<b>Week-3</b>		
3	Thu	PBL (Medicolegal Examination of Rape Victim) + Group Presentation/Posters
<b>Week-4</b>		
4	Thu	Roleplay (Confessional torture) + Posters/Models
<b>Week-5</b>		
5	Thu	Viva (Firearm)
<b>Week-6</b>		
6	Thu	Autopsy Visit
<b>Week-7</b>		
7	Thu	MCQs (Traumatology)
<b>Week-8</b>		
8	Thu	Observed Station (Alcohol +Forensic Psychiatry)
<b>Week-9</b>		
9	Thu	Flipped Classroom (Hanging) (Observed Station)
<b>Week-10</b>		
10	Thu	Flipped Classroom (Strangulation) (Observed Station)
<b>Week-11</b>		
11	Thu	Group Presentation (Manual Strangulation + Traumatic Asphyxia)
<b>Module-II Exams 2023</b>		

### Module-III (Tutorials: Thursdays' Schedule)

Sr. No	Day	Topic
<b>Week-1</b>		
1	Thu	Viva (Drowning)
<b>Week-2</b>		
2	Thu	Viva (Corrosives)
<b>Week-3</b>		
3	Thu	Viva (Phosphorus, Arsenic)
<b>Week-4</b>		
4	Thu	Analytical Technique (Lecture)
<b>Week-5</b>		
5	Thu	PBL (Court proceedings) (Roleplay)
<b>Week-6</b>		
6	Thu	PBL (Roleplay (Consent + Professional Misconduct))
<b>Week-7</b>		
7	Thu	MCQs (Accidents in Home & Environment + Irritants + Corrosives)
<b>Week-8</b>		
8	Thu	Observed Stations (Finger Printing + Collection of Visera etc)
<b>Week-9</b>		
9	Thu	Viva (Personal Identity)

**Field Visits:** Autopsy visits to Allama Iqbal medical college, Forensic Science Lab visits

**CMH Lahore Medical College**  
**Department of Forensic Medicine and Toxicology**

**Batch wise schedule for Autopsy & Medicolegal Training AIMC, Lahore**

<b>TIMINGS:- 11:00 AM To 03:00PM</b>		
<b>DATE</b>	<b>DAY</b>	<b>BATCH A/B/C</b>
02-05-2023	TUESDAY	As per schedule
03-05-2023	WEDNESDAY	''
04-05-2023	THURSDAY	''
08-05-2023	MONDAY	''
09-05-2023	TUESDAY	''
10-05-2023	WEDNESDAY	''

**Batch wise schedule for Medicolegal Training at PFSA, Lahore**

<b>TIMINGS:- 11:00 AM To 03:00PM</b>		
<b>DATE</b>	<b>DAY</b>	<b>BATCH A/B/C</b>
15-05-2023	MONDAY	As per schedule
16-05-2023	TUESDAY	''
17-05-2023	WEDNESDAY	''

## **LEARNING METHODOLOGY:**

- a) Theory in the form of Lectures, using Audio-Visual aids including Multimedia ( Tv, Projectors)
- b) Practical Training in the form of Lab. Drill, PBL, Interactive Tutorials, Presentations, Role Plays given to students .
- c) Periodical Evaluations (Provide feedback and Assess Adequacy of learning)

### **Theory Lectures:**



**Practical Demonstrations in the Lab / Museum:**



**ROLE PLAYS BY STUDENTS AND FACULTY :**



# AS JUDGES IN ROLE PLAY







**Visits to Autopsy Centre and Medico-legal Clinic at AIMC / KEMU:**

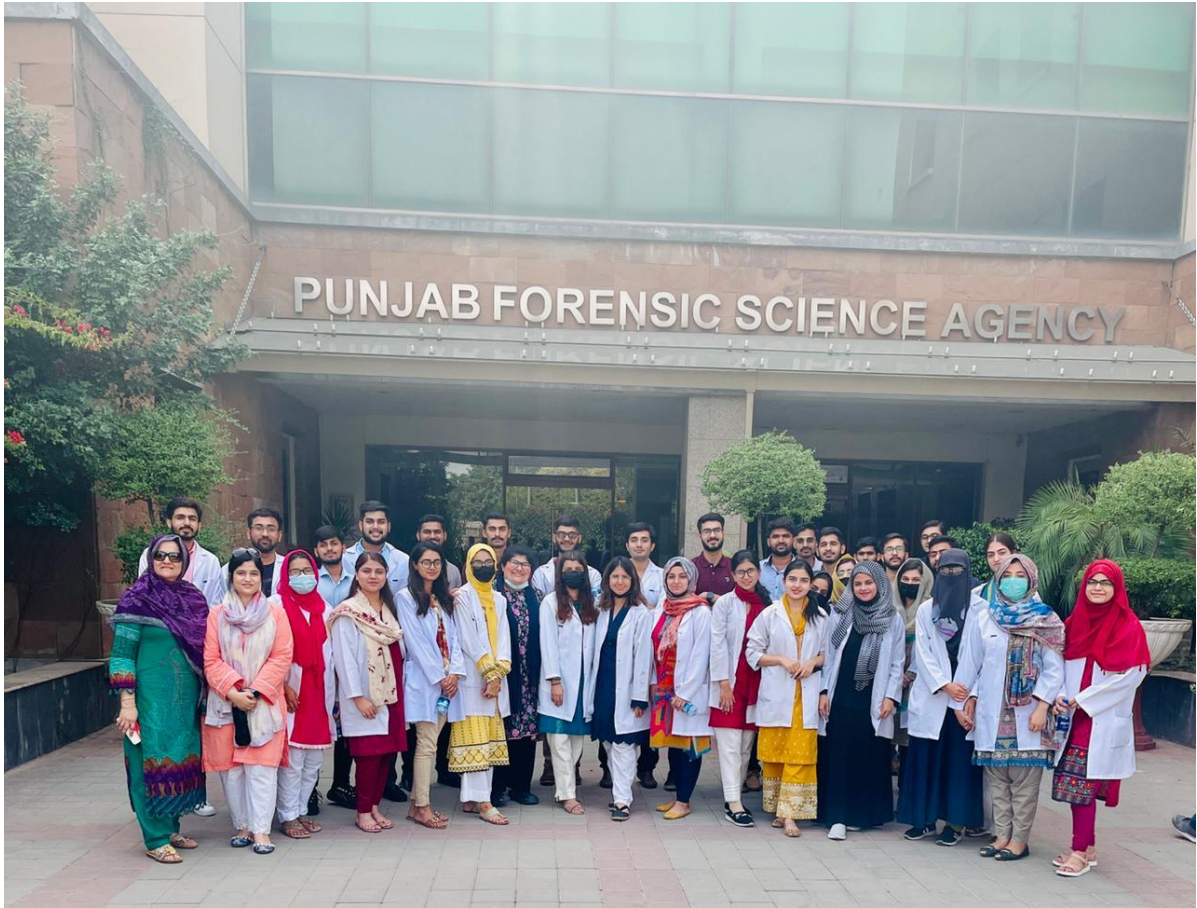






**Field Visit (Punjab Forensic Science Agency Lahore):**





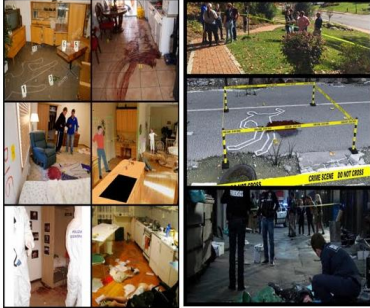
# PROBLEM BASED LEARNING ( PBL SAMPLES)

## PBL – II

### 3<sup>rd</sup> YEAR MBBS (FORENSIC MEDICINE & TOXICOLOGY)

#### Case Scenario: CRIME SCENE INVESTIGATION

At 1:00 AM on March 18<sup>th</sup> officers responded to 133-N, DHA Lahore in reference to a 1122 and 15 call by a neighbor who heard shots fired at this address. When officers arrived at the scene they found evidence of crime. The officers notified Homicide detectives and the PFSA Crime Scene Unit.



#### Learning Objectives:

To learn about importance of Crime Scene Investigation, its objectives, strategies and role of various experts in a Crime Scene Unit.

#### Learning Exercise:

- 1- What is the purpose of Crime Scene Investigation (CSI)
- 2- Who are the experts included in a Crime Scene Unit.
- 3- What are the basic stages of Crime Scene Investigation.
- 4- Explain the working and objective in each stage of CSI.
- 5- What is the universally accepted principal of transportation of dead body from the scene so that no evidence is lost.

#### Learning Resources:

- 1- INTERNET.
- 2- Forensic science it's application in crime investigation (Library).

## PBL: IV (2018-19)

### CASE SCENARIO:

#### Domestic Violence

The dead body of a moderately built female was brought to the mortuary for autopsy examination.

On examination bruises and abrasions of varying sizes, shapes and colour were present on different parts of the body. Diffuse swelling over vault of skull was seen and on opening of skull, subdural and extradural haemorrhage over both cerebral hemispheres observed. Fracture of base of skull and C-5 and C-6 notes. All other organs were normal, lungs were congested.

On investigation it was found that there was constant history of beatings at the hand of her husband due to substance abuse and unemployment. There was constant pressure for demand of money on the lady's family since their marriage of 3 years and a suicide note was recovered from her room at her parents house from where she jumped out from balcony leading to head injury.



#### Learning objectives:

- To understand domestic and gender-based violence that women face throughout their lives and gain information regarding the laws in place that provide females' safety in our society. To learn about the doctor's role in assessing and counselling victims of domestic violence.

#### Learning Exercise:

- Q1. Explain the cause of death in the given scenario.
- Q2. Define domestic violence.
- Q3. Describe the epidemiology and enlist the risk factors that lead to domestic violence.
- Q4. Domestic violence tends to be largely unreported, what is the underlying cause of this.
- Q5. What are the important steps in the physical and psychological examination of victims.
- Q6. Describe some prophylactic measure in spreading awareness and preventing domestic violence.

#### Learning Resources:

1. Internet

## PBL: I (2018-19)

### CASE SCENARIO:

#### Confessional Torture Injuries and Custody related Torture and Death

A wealthy family was robbed during the night. The police suspected an inside job and the driver who lived with the family was taken into custody for investigation. He confessed to be an informant to the armed robbers while in police custody but during court proceedings he alleged that he had made the confession only due to police torture.



#### Learning objective:

- To learn about the importance of torture as a global health issue and the doctor's role in assessing the consistency between allegations and medical findings.

#### Learning Exercise:

- What is the aim and justification of confessional torture.
- What is its prevalence in Pakistan and around the world.
- Describe some common methods employed to inflict confessional torture.
- Correlate physical and psychological findings with confessional torture on medical examination and at autopsy.
- What is the role of a medical practitioner in the investigation of such injuries.
- Enlist and briefly describe the steps of collecting evidence of alleged torture cases.
- Explain the role of medical complicity in such a scenario.

#### Learning Resources:

- Internet
- Textbook of Forensic Medicine and Toxicology by Krishan Vij

**Interactive Tutorials, Model and Poster Presentations by Students & Faculty :**





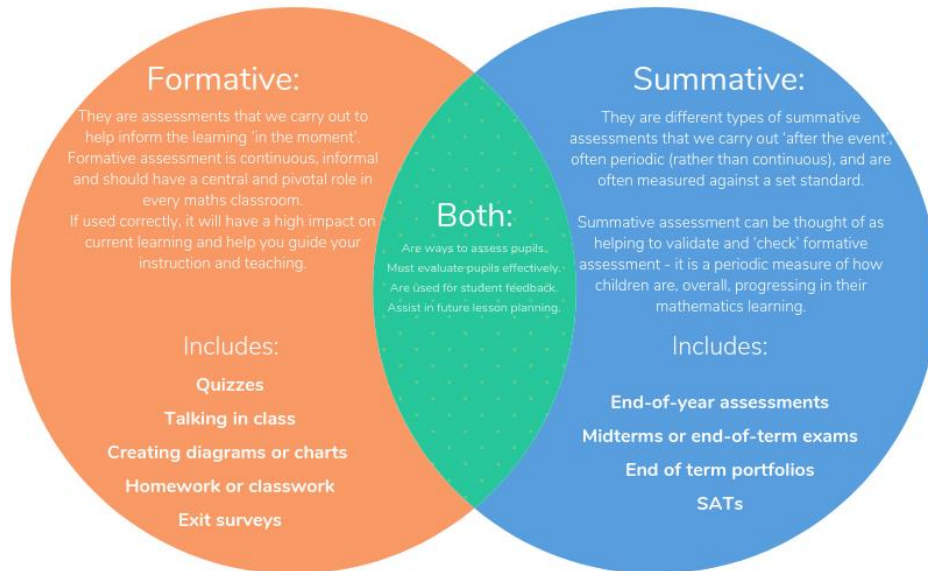




## Periodical Evaluations & Assessment:

### 1) FORMATIVE ASSESMENT

### 2) SUMMATIVE ASSESMENT



**"When the cook tastes the soup, that's formative assessment; when the customer tastes the soup, that's summative assessment."**

Paul Black



## **FORMATIVE ASSESMENT TOOLS USED :**

Practice in form of SEQ, MCQ Papers , Tutorials, group vivas with feedback to improve , quizzes ,poster presentations , role plays, field visits , puzzles, feedbacks , interactive sessions, OSPE practices.

## **SUMMATIVE ASSESMENT TOOLS USED :**

Class Tests, Module / Block Exams , Sendup Exams , Nums Annual Exams with Vivas



## **Practical work includes:**

### **1. FORENSIC MEDICINE**

- Viewing of Medico Legal Autopsies
- Medicolegal Examinations of injured
- Age Certification
- Examination of Biological Materials (Blood, Semen, Saliva, Hair, etc.)
- Study of Bones for determination of Age, Sex, Race, Stature, Time and Medico legal aspects
- Study of Radiographs for determination of Age, Sex, Foreign bodies, trauma, deformities etc.

### **2. TOXICOLOGY**

- Identification of Poisons
- Identification of Instruments/Equipment used in analytical techniques

## **Museum Forensic Medicine Department:**

### **MODELS:**

- 1- Self-Inflicted Fabricated wounds
- 2- Cut nose
- 3- Manual Strangulation(Throttling)
- 4- Contusion
- 5- Nail marks on neck
- 6- Defense Wound
- 7- Cut throat
- 8- Washer Woman's Foot
- 9- Stomach (corrosion)
- 10- Stab wound
- 11- Larynx, pharynx & esophagus
- 12- Finger Prints Patterns
- 13- Vitriolage
- 14- Hanging (ligature mark)
- 15- Wet Drowning
- 16- Post mortem Lividity
- 17- Gunshot wound (contact)
- 18- Gunshot exit wound
- 19- Gunshot on chest (collar of abrasion)
- 20- Gunshot pallet dispersion
- 21- Incised wound
- 22- Lacerated wound

- 23- Hanging
- 24- Electric Burn
- 25- Defense wounds
- 26- Avulsion
- 27- Multiple incised wounds with tailing phenomenon
- 28- Adepocere formation
- 29- Adepocere Formation
- 30- Putrefaction with maggot infestation
- 31- Putrefaction with ballottement
- 32- Mummification
- 33- Scald
- 34- Electric burn (high voltage)
- 35- Adepocere formation
- 36- Steering wheel injury
- 37- Nitric Acid burn.

## List of Specimen:

S. No	Items	Quantity
<b>a) Poisons</b>		
1.	Oleander Leaves	
2.	Kerosene Oil	
3.	Calotropins (Madar)	
4.	Hydrochloric Acid	
5.	Sulphuric Acid	
6.	Nitric Acid	
7.	Ethyl Alcohol	
8.	Arsenic	
9.	Nux Vomica Seeds	
10.	Capsicum Seeds	
11.	Abrus Precatorius (Ratti Seeds)	
12.	Castor Oil Seeds	
13.	Croton Seeds	
14.	Bhang Leaves	
15.	Poppy	
16.	Tobacco	
17.	Nitric Acid Crystals	
18.	Mercury	
19.	Aconite	
20.	Datura Seeds	
21.	CUSO <sub>4</sub>	
22.	5 Specimen of Snakes	
<b>b) Autopsy Instruments</b>		
1.	Hand Saw	
2.	Hooks with Retractor	
3.	Knife	
4.	Scalp Retractor	
5.	Catlin	
6.	Axe	
7.	Mallet (Hammed)	
8.	Curved Forceps with Lock	
9.	Plan Forceps	
10.	Forceps (3)	
11.	Needle Holder	
12.	Curved Artery Forceps	
13.	Straight Artery Forceps	
14.	Chisel	
15.	Mayo Scissors	

<b>S. No</b>	<b>Items</b>	<b>Quantity</b>
<b>c) Bones &amp; Skeleton</b>		
1.	Skull	02
2.	Pelvis	02
3.	Sacrum	02
4.	Sternum	02
5.	Clavicle	04
6.	Scapulae	04
7.	Radius	4
8.	Ulna	4
9.	Humerus	4
10.	Femur	4
11.	Tibia	4
12.	Fibula	4
13.	Mandible	02
14.	Male Skeleton Complete	01
15.	Female Skeleton Complete	01

## Dura Pictures:

S. No	Items
1.	Electric burn on foot.
2.	Electric burn on hand and arm.
3.	Electric Burn entry wound on foot.
4.	Graze on thigh (Friction Abrasion).
5.	Nail mark on neck and upper part of chest (A case of throttling).
6.	Cadaveric spasm – Hair grasped in hands + defense wound.
7.	A case of poisoning.
8.	Corrosive burn (Ingestion of acid). - Staining of lips & charring. - Chalky white teeth.
9.	Corrosive burn – spillage of acid on chest.
10.	Corrosive burn – spillage of acid on thighs.
11.	Bruises on buttocks (Police torture case).
12.	Bite mark on cloths.
13.	Bite marks on cloths chest corresponding with marks on cloths.
14.	Avulsion.
15.	Gun Shot entry wound on forehead.
16.	A case of suicide – multiple hesitation cuts on forearm.
17.	Defense wounds.
18.	Multiple stab wounds on chest with weapon in situ.
19.	Homicidal cut throat.
20.	Old healed fabricated wounds.
21.	Black eye.
22.	Contusion of kidney.
23.	Contusion of liver and viscera.
24.	Close Gun Shot entry wound with blackening.
25.	Gun Shot entry wound.
26.	Depressed fracture (signature fracture).
27.	Gun Shot exit wound on skull.
28.	Gun Shot entry wound with blackening on clothes.
29.	Gun Shot entry wound with blackening on body of victim.
30.	Gun Shot exit wound on the back of victim.
31.	Heroin capsule in stomach (body packer system).



S. No	Items
32.	A case of hanging
33.	A case of ligature strangulation (tied hands, mouth tied, congestion of face).
34.	Occupational Injury – Traumatic death.
35.	Putrefaction with maggot's infestation.
36.	Post mortem artifact.
37.	Ligature strangulation.
38.	Manual Strangulation – Bruises on neck.
39.	Case of ligature strangulation (homicide).
40.	Gun Shot wound with tattooing.
41.	Gunshot entry wound on chin, bruise on eye due to fall on ground.
42.	Star shaped gun shaped entry wound.
43.	Gun shaped entry wound.
44.	Gunshot entry wound showing correspondence on all clothes.
45.	Gunshot (smooth bored) pallet dispersion on clothes.
46.	Gunshot (smooth bored) pallet dispersion on body.
47.	Radiograph of the same person showing multiple pallets.
48.	Putrefaction – Ballotement with skin slip.
49.	Scalds.
50.	Third degree burn with pugilistic attitude.
51.	Putrefied dead bodies of a girl and boy recovered from a truck.
52.	Ligature strangulation.
53.	Hanging.
54.	Homicidal cut throat.
55.	Gunshot entry wound with tattooing.
56.	Fracture of hyoid with bruising and hemorrhages at the side of fracture.
57.	Heroin capsule in stomach (Body Packer)
58.	Heroin capsule in stomach (Body Packer)
59.	Dead body of a foetus with placenta.
60.	A primary autopsy incision (I – shaped incision).
61.	Ligature mark of along with marbling.
62.	Incised wound with sharp edge weapon on head.
63.	Multiple bruises on legs.
64.	Stab wounds on chest with weapon in situ.
65.	Third degree burn (complete burning).
66.	Skeletal remains – M/L important –age, origin, race, cause of death can be assessed.
67.	Friction abrasion on leg.
68.	Tentative marks on fore arm.
69.	Mummification.
70.	Putrefaction with ballotement and skin slip.
71.	Burn on feet – degloving appearance.
72.	Putrefaction with maggots infestation.
73.	Empty cartridge with percussion impression.

<b>S. No</b>	<b>Items</b>
74.	Exit wound on skull.
75.	Entry wounds on skull.
76.	Cadaveric spasm with weeds in hands (case of drowning).
77.	Case of bomb explosion → face of suicidal bomber with blackening.
78.	Case of bomb explosion → face of suicidal bomber with wasted blackening.
79.	Fabricated wound on chest (self-inflicted)

## Photo Transparencies:

S. No	Items
1.	Putrefaction (Maggots / Larva / Infestation)
2.	Fire Arm Injury
3.	Dead bodies recovered from truck (1 male and 1 female)
4.	Gunshot wound
5.	Post mortem lividity
6.	Burnt body with augmented breast
7.	Ligature strangulation with marbling
8.	Near gunshot wound on temporal region
9.	Cut throat
10.	Ligature strangulation
11.	Third degree burn
12.	Burn
13.	Gunshot (entry wound)
14.	Putrefaction (Ballotement)
15.	Stab wound with weapon in situ
16.	Entry wound (gunshot)
17.	Mummification
18.	Heroin capsule in stomach (Body packer syndrome)
19.	Fire arm injury
20.	Body packer's
21.	Self-inflicted fabricated wound
22.	Empty cartridge with percussion impression
23.	Prim autopsy incision (I – shaped)
24.	Exhumed skeletal remains
25.	Multiple stab wounds on chest and abdomen
26.	Homicidal cut throat
27.	Victim of bomb explosion (head ground) with injuries
28.	Cadaveric spasm (case of drowning)
29.	Multiple bruises on legs
30.	Empty wound (gunshot) skull
31.	Putrefaction with ballotement, skin slip, marbling
32.	Case of hanging
33.	Burn with degloving of feet
34.	Blunt weapon injury on head
35.	Rigor mortis
36.	Dead fetus with placenta
37.	Burn with breast augmentation
38.	Suicidal bomber with blackening
39.	Blunt weapon lacerated injury on head
40.	Third degree burn
41.	Suicidal bomber with washed blackening
42.	Dead body id distorted by animals

<b>S. No</b>	<b>Items</b>
43.	Body of suicidal bomber
44.	Dead fetus with placenta card attached
45.	Stellate shape contact wound
46.	Entry wound (gunshot)
47.	Breast implant
48.	Tattooing on arm
49.	Fracture of hyoid with bruises and hemorrhage
50.	Tentative cut (hesitation cut)
51.	Collection of viscera for Histochemical during autopsy
52.	Tentative cuts on forearm (suicidal attempt)
53.	Throttling
54.	Gun shot with tattooing
55.	Post mortem lividity
56.	Ligature strangulation
57.	Stab wound on abdomen
58.	Homicidal cut throat
59.	Gun shot with tattooing on head
60.	Gun shot with tattooing on abdomen
61.	Multiple stab wound on body of a female
62.	Post mortem lividity
63.	Gunshot wound on head with blackening and tattooing
64.	Ligature strangulation with hand tied
65.	Heroin capsule in stomach
66.	Entry wound in skull
67.	Self-inflicted wound
68.	Homicidal cut throat
69.	Putrefaction with ballottement
70.	Gunshot entry wound (close contact) on skull
71.	Gunshot (smooth bored) wound
72.	Ligature strangulation with cloth
73.	Gunshot entry wound with tattooing
74.	Fracture of hyoid
75.	Stab wound on abdomen
76.	Defense wound on hand
77.	Gunshot entry wound
78.	Extramural hematoma
79.	Hanging ligature mark
80.	Marbling
81.	Hanging
82.	Homicidal cut throat
83.	Electric burn on feet
84.	Incised wound on head with weapon in situ
85.	Homicidal cut throat
86.	Homicidal cut throat
87.	Fracture of hyoid with Hemorrhage at the site of fracture
88.	Putrefaction with maggots infester
89.	Putrefaction with skin slip and ballottement

<b>S. No</b>	<b>Items</b>
90.	Self-inflicted fabricated wound
91.	Gunshot wound with tattooing
92.	Gunshot entry wound skull
93.	Stab wounds on the body of female and male
94.	Incised wound, stab wound, weapon in situ
95.	Firm entry wound
96.	Heroin capsules
97.	A case of burn
98.	Tentative cuts
99.	Putrefaction with post mortem blister formation
100.	Gunshot entry wound
101.	Fire arm (gunshot) entry wound with tattooing
102.	Gunshot entry wound tattooing
103.	Ligature strangulation with signs of asphyxia
104.	Case of sexual assault
105.	Fracture of mandible
106.	Fire arm (gunshot) entry wound
107.	Heroin capsule in stomach
108.	Tattooing mark with keloid formation
109.	Hog lie
110.	Ligature strangulation
111.	Gunshot wound with tattooing
112.	Hanging
113.	A case of poisoning
114.	Gunshot wound
115.	Close contact (gunshot) with blackening
116.	Gunshot entry wound
117.	Gunshot entry wound tattooing
118.	Gunshot entry wound tattooing
119.	Homicidal cut throat
120.	fracture of hyoid
121.	Heroin capsule in stomach
122.	Gunshot entry wound
123.	Gunshot entry wound with tattooing
124.	Electric burn
125.	Homicidal cut throat
126.	Defense wound on hand
127.	Electric burn
128.	Gunshot (close contact) entry wound with blackening
129.	Hanging
130.	Self-inflicted wound
131.	Third degree burn
132.	Gunshot entry wound with blackening (close contact)
133.	Putrefaction
134.	Hanging
135.	Homicidal cut throat
136.	Defense wound on hand

<b>S. No</b>	<b>Items</b>
137.	Strangulation
138.	Putrefaction with maggots infestation
139.	Hanging
140.	A case of explosion
141.	Post mortem lividity
142.	Dead foetus with placenta
143.	Ligature strangulation
144.	Gunshot wound (smooth bored)
145.	A case of throttling
146.	Gunshot entry wound
147.	Gunshot entry wound
148.	Corrosive burn
149.	Ligature strangulation
150.	Gunshot entry wound with tattooing
151.	Gunshot exit wound
152.	Ligature mark hanging
153.	Gunshot entry wound
154.	Self-inflicted fabricated wound
155.	Industrial death
156.	Gunshot entry wound
157.	Putrefaction with maggots and flies' infestation
158.	Gunshot entry wound
159.	Incised wound on chin
160.	Fracture of hyoid bone
161.	Electric burn
162.	Ligature strangulation
163.	Gunshot entry wound
164.	Ligature strangulation
165.	Fracture of hyoid bone

## Medico Legal X-Rays:

- Fracture of Hyoid Bone
- X-Ray Knee Joint
  - MLA----- epiphesial end are not fused with the shaft. Age = > 18 years
- X-Ray Ankle Joint
  - MLA----- epiphesial end are fused with the shaft. Age = > 21 years
- X-Ray Wrist Joint
  - Ossification centers of 4 carpal bones appeared. Age = 4 years
- X-Ray Wrist Joint
  - Ossification centers for 3 carpal bones appeared. Age = 3 years
- X-Ray Wrist Joint
  - Ossification centers for 7 carpal bones appeared.
  - Ossification center for pisiform bone not appeared.
  - Epiphesial end not fused with the shaft
  - MLA----- age b/w 7-12 years.
- X-Ray Wrist Joint
  - Ossification centers for all carpal bones appeared including pisiform bone.
  - Epiphesial end are fused with the shaft. Age = 14 – 15 years
- X-Ray Wrist Joint (lateral view)
  - MLA----- Distal end of radius and ulna are fused. Age = 14 – 15 years
- X-Ray Wrist Joint
  - Ossification centers of 4 carpal bones appeared.
  - Distal end of radius and ulna not fused
  - MLA----- Age 4 years
- X-Ray Pelvic including Hip Joint (AP view)
  - Illiac crest not fused with the body
  - Greater Trochanter is not fused with the neck of femur
  - Angle of neck of femur is 90 degree
  - MLA----- age = 17 – 18 years, sex = female
- X-Ray Knee Joint
  - Epiphesial end are fused with the shaft. Age = 18 – 19 years
- X-Ray Skull (lateral view)
- X-Ray Skull (AP view)
  - Multiple foreign bodies
  - MLA----- Case of smooth bore pallet impression

- X-Ray Skull (lateral view)
  - Foreign body in temporo-occipital region
  - MLA-----case of refilled Firearm. Piece of bullet in the skull
- X-Ray Foetus
- X-Ray Foetus
- X-Ray Foetus
- X-Ray Tibia, Humerus, Femur
  - Distal end of long bones have fused with the shaft
  - MLA----- age b/w 19 – 25 years
- X-Ray Radius Ulna
  - Fracture of distal 1/3<sup>rd</sup> of shaft of ulna
  - MLA----- GURH GHIYAR JAIFA MUNNAQUILAH
- X-Ray Radius, Ulna and Femur
  - Distal ends are not fused with the shaft
  - Greater Trochanter is not fused with neck of femur
  - MLA----- Age = less than 17 years
- X-Ray Chest (PA View)
  - Foreign body in chest
  - MLA----- case of rifled Fire Arm Bullet and gunpowder residue in the chest cavity
- X-Ray Clavicle and Sternum
- X-Ray Shoulder Joint
- X-Ray Skull, Sternum, Clavicle



## LIST OF BOOKS FORENSIC MEDICINE:

Sr. No.	Title of Book	Author
1	Forensic Emergency Medicine	Jonathan S
2	Analytical and Practical Aspects of Drug Testing in Hair	Kintz, Pascal
3	Forensic Science the Basics	Jay A. Siegel
4	Textbook of Forensic Medicine and Toxicology	Krishan Vij
5	Concise Textbook of Forensic Medicine and Toxicology	R.K. Sharma
6	Practical Forensic Medicine	Nagesh Kumar
7	Ballistic Trauma: A Practical Guide	Peter F. Mahoney
8	Handbook of Forensic Pathology	Vincent J.M DeMaio
9	Encyclopedia of Forensic Science	Suzanne bell
10	Principals of Forensic Medicine	Apurba Nandy
11	Parikh's Textbook of Medical Jurisprudence, Forensic Medicine...	Parikh, C. K
12	Forensic Entomology and Introduction	Dorothy
13	Gold frank's Toxicology Emergencies	Elomanbaum
14	Forensic DNA Analysis	J Thomas
15	Comprehensive Medical Toxicology	Pillay
16	Forensic Science it's Application in Crime Investigation	Bapuly
17	Textbook of Forensic Medicine and Toxicology	Pillay
18	Color Atlas of Forensic Pathology	Jay Dix
19	Forensic DNA Typing Biology Technology	John M Butler
20	Forensic Science the Basic	Jay A Siegel
21	Gold frank's Manual of Toxicology	Robert S Hoffman
22	Gunshot's Wounds Practical Aspects of Fireman	Vincent
23	Knight's Forensic Pathology	Peeka Sukho
24	Smart Study Series: Forensic Medicine And Toxicology	Aggararwal, Gaurav
25	Smart Study Series: Forensic Medicine & Toxicology	Aggarwal, Gaurav
26	Textbook of Forensic Medicine and Toxicology	Vij, Krishan
27	Simpson's Forensic Medicine	Shepherd, Richard
28	Textbook of Forensic Medicine & Toxicology	Dikhit P.C
29	Forensic Pathology	DeMaio, Vincent J
30	Practical Bomb Scene Investigation	Thurman, James T
31	The Virtopsy Approach	Thali, Michael J
32	Forensic DNA Analysis	McClintock, Thomas J
33	Principles and Practice of Forensic Medicine	Awan, Nasib R.
34	Textbook of Forensic Medicine and Toxicology	Vij, Krishan
35	Textbook of Forensic Medicine and Toxicology	Dikshit, P C
36	Atlas of Forensic Pathology	Shetty, B Suresh Kumar.
37	Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology	Subrahmanyam, BV
38	Forensic Medicine & Toxicology	Aggarwal, Gaurav.
39	Textbook of Forensic Medicine and Toxicology	Vij, Krishan.
40	Child Forensic Psychology	Holliday, Robyn E.

**Sample Paper SEQ:**

**CMH Lahore Medical College, Department of Forensic Medicine & Toxicology,**

Q. No	Part	Question	Topic
01		What is Spark Electrical lesion. Explain with the help of a diagrammatic sketch.	<b>Accidents in Home &amp; Environment</b>
02		The dead body of an adult male dying suddenly under suspicious circumstance was disposed of by the family. After few months, on complaint of the spouse, orders for exhumations were passed by the court. Under what situations such orders are issued. What is the scope and limitations of the procedure.	<b>Autopsy and Exhumation</b>
03		Blood groups are inherited obeying Mendelian's laws of inheritance. State the two laws that govern the inheritance of blood groups. Write forensic applications of blood grouping.	<b>Personal Identity &amp; Trace Evidence</b>

**Q. 1** **KEY**

**Key: - Spark Electrical Lesion**

Loose contact, low voltage lesion

- Dry, Pitted lesion
- Central, Pitted black spot due to metallization
- Surrounded by white parchment zone
- Surrounded by peripheral hyperactive zone (05)

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 103)**

**Topic: Accidents in Home & Environment**

**Q. 2** **KEY**

1- where initial autopsy has not been done

2- Where initial autopsy has been conducted but to the dis-satisfaction of either party. (1)

**Limitations: -**

- Soft tissue injury cannot be elicited and should not be commented upon.
- Microscopic examination is of no value & no opinion about A/M or P/M nature of injury
- Organic, Vegetable, Volatile and Synthetic poisons very difficult to detect. (2)

**Scope: -**

- Finding in hard and keratin tissue
- Foreign bodies, metallic and other
- Inorganic metallic poisons (value corroborative mostly) (2)

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 128)**

**Topic: Autopsy and Exhumation**

**Q. 3** **KEY**

**Key: -** 1. Blood group gene cannot appear in child unless present in one or both parents

2. If one of the parents is Homozygous for a particular blood group gene, it must appear in blood group of child  
Examples. (3)

**ML Significant**

- \_i) Problems of disputed paternity
- ii) Problems of disputed identity
- iii) Ascertain source of blood in physical and sexual assault cases. (2)

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 149)**

**Textbook of Medical Jurisprudence & Toxicology by Parekh (P: 616)**

**Topic: Personal Identity & Trace Evidence**

**Sample Paper MCQ:**

**MCQ 1) A fact or information after its presentation to court of law by a witness is called**

- a) Evidence
- b) Inquiry
- c) Testimony
- d) Declaration
- e) Complaint

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 06 )**

**MCQ 2) A written statement given on oath, before any person authorized to administer an oath is called :**

- a) Declaration
- b) Affidavit
- c) Oath
- d) Evidence
- e) Cross examination

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 09 )**

**MCQ 6 ) The best parameter to calculate post mortem interval is :**

- a) Rate of cooling of body
- b) Cadaveric lividity
- c) Cadaveric rigidity
- d) Putrefaction
- e) Cadaveric spasm

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 21 )**

**MCQ 7 ) Rate of decomposition is faster in following order :**

- a) Air > water > soil
- b) Water > air > soil
- c) Soil > air > water
- d) Water > soil > air
- e) Air > soil > water

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 21)**

**MCQ 9 ) The characteristic feature of incised wound is :**

- a) Length is the greatest dimension
- b) Breadth is the greatest dimension
- c) Tissues running across base of wound
- d) Crushing of hair
- e) Blurred margins

**Reference:- Textbook of Medical Jurisprudence & Toxicology by Parekh (P: 221 ed 7)**

**MCQ 10 ) Dry pitted lesion , varying in size , with central white parchment zone, surrounded by hyperemic zone is known as**

- a) Spark burn
- b) Flash burn
- c) Lightening burn
- d) Arcing phenomena
- e) Sledge hammer effect

**Reference: - Principles & Practice of Forensic Medicine by Nasib R. Awan (P: 64)**

**KEYS :**

**MCQ 1 = C**

**MCQ 2 = B**

**MCQ 6 = A**

**MCQ 7 = A**

**MCQ 9 = A**

**MCQ 10 = A**