



FORENSIC MEDICINE

STUDY GUIDE

MBBS YEAR III

2020-2021



BAQAI MEDICAL COLLEGE

BAQAI MEDICAL UNIVERSITY

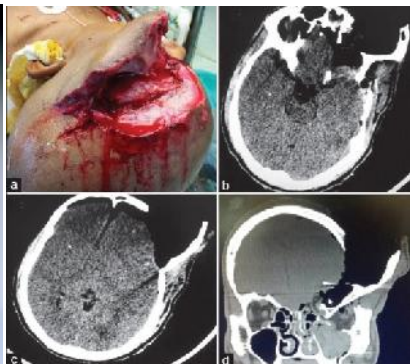
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DEPARTMENT OF FORENSIC MEDICINE & TOXICOLOGY



Contents

VISION & MISSION.....	4
Baqai Medical University Vision Statement:	4
Baqai Medical University Mission Statement:	4
Baqai Medical College Vision Statement:	4
Baqai Medical College Mission Statement:	4
OUTCOMES OF THE MBBS PROGRAM	5
POLICIES AND PROCEDURES	6
LIST OF FACULTY:	8
EDUCATIONAL HOURS:	8
CURRICULUM:	12
LECTURE BASED LEARNING OBJECTIVES:	15
PRACTICAL BASED LEARNING OBJECTIVES:	29
EDUCATIONAL STRATEGIES:	37
ASSESSMENT:	38
BOOKS & REFERENCES:	38

VISION & MISSION

Baqai Medical University Vision Statement:

Baqai Medical University is a community based and community oriented center of excellence striving to mold students to become competent and caring health professionals, groomed to be social leaders capable of improving health, education and socioeconomic well-being locally, nationally and globally.

Baqai Medical University Mission Statement:

The mission of Baqai Medical College is to be recognized as a center of excellence in education, research, patient care and community services by producing highly capable and knowledgeable professionals

Baqai Medical College Vision Statement:

Our vision is to enhance the access and excellence in medical education and research, with the aim of capacity building of students and faculty through innovations, and science and technology competencies, to achieve rapid and sustainable health. The medical graduate thus produced will be informed and trained enough to serve the community better, and to be advisor to the national and international health organizations.

Baqai Medical College Mission Statement:

The mission of the Baqai medical college is to produce medical graduates, who are accomplished individuals and have skills for problem solving, clinical judgment, research & leadership for medical practice at the international level and are also aware of the health problems of the less privileged rural and urban population of Pakistan.

OUTCOMES OF THE MBBS PROGRAM

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The Baqai University graduate of the MBBS program will be able to:

1. Utilize knowledge of basic and clinical sciences for patient care.
2. Take Focused history, perform physical examination, formulate a diagnosis and management plan for common health problems.
3. Require professional behaviours that embodies lifelong learning, altruism, empathy and cultural sensitivity in provision health care service.
4. Identify problems, critically review literature, conduct research and disseminate knowledge
5. Lead other team members as per situational needs for quality health service.
6. Apply evidence-based practices for protecting, maintaining and promoting the health of individuals, families and community.

POLICIES AND PROCEDURES

Code of Conduct and Maintenance of Discipline of Students Regulations

Under section 25(e) BMU Act.1996

All University students shall be under the full disciplinary control of the University. No students shall be allowed to participate in politics. The action against the act of indiscipline shall include fines, debarring from attending class and cancellation of admission, depending on the gravity of indiscipline.

The following shall constitute acts of indiscipline for which action may be taken against the student or students:

- (a) Breach of any rule public morals, such as:
 - Use of indecent or filthy language;
 - Use of immodest dress:
 - Use of undesirable remarks or gestures; and
 - Disorderly behavior, such as shouting, abusing, quarrelling, fighting and insolence.
- (b) Defiance of authority
- (c) Action, defamatory of and derogatory to Islam
- (d) Immorality
- (e) Being found under the effect of an intoxicant or misuse of drugs including marijuana, LSD dope and other opioids.
- (f) False personation or giving false information or willful suppression of information, cheating or deceiving.
- (g) Inciting or staging a walk-out, a strike or an unauthorized procession.
- (h) Shouting of slogans derogatory to the prestige of the University or the reputation of its officers or teachers.
- (i) Visiting without a pass places which are not to be visited without a pass.
- (j) Visiting places declared out of bounds for students

Every student must carry his / her Identity Card which will be open to examination and will be demanded at the time of entrance to the various University Faculties and functions.

No. student will be admitted to the facilities of the library, transport or the canteen unless he /she is in possession of the Identity Card

LIST OF FACULTY:

S. NO.	NAME	QUALIFICATION	DESIGNATION	CONTACT
1.	Dr. Tariq Mirza	MBBS, MCPS & M. Phil	Professor & Chairman / HOD	
2.	Dr. Jaan-e-Alam	MBBS, DMJ	Assistant Professor	
3.	Dr. Rafay A. Siddiqui	MBBS	Lecturer	
4.	Dr. Umaima Khan	MBBS	Demonstrator	

EDUCATIONAL HOURS:

Per Integrated Modular Curriculum, PMC has allotted 100 hours of teaching for Forensic Medicine & Toxicology. 50 hours are allocated to Theory portion to be taught during Lectures. The remaining 50 hours are allocated to Practical portion that will be covered in Museum / LRC Sessions, Audio-visual sessions, Radiology sessions and Mortuary / MLO section visits.

Table 1.1 shows the total contact hours calculation for the session 2020-21

Table 1.1

ACADEMIC WEEK	LECTURES	PRACTICALS/ DEMONSTRATIONS
1	3.5	2
2	3.5	2
3	3.5	2
4	0	0
5	3.5	0
6	3.5	2
7	3.5	2
8	3.5	2
9	3.5	0
10	3.5	0
11	3.5	2
12	3.5	2
13	3.5	2
14	3.5	2
15	1.5	0
16	3.5	2
17	3.5	2
18	3.5	0
19	3.5	2
20	3.5	0
21	3.5	2
22	2	2
23	2	2
24	2	2

25	0	0	
26	0	0	
27	0	0	
28	0	0	
29	0	0	
30	0	0	
31	3.5	2	
32	3.5	2	
33	3.5	2	
34	3.5	2	
35	3.5	2	
36	3.5	0	
37	0	0	
38	3.5	2	
39	3.5	2	
40	3	0	
41	0	0	
42	0	0	
42 WEEKS	105 HOURS	48 HOURS	153 HOURS

Table 1.2 shows Mortuary / MLO section visit time table for the session 2019-2020. Students attend public sector hospitals on Saturday and Sunday observing autopsies and medico legal cases for 2-3 hours per day.

Table 1.2

ROLL NUMBERS	VENUE & TIME
	ASHK, CHK & JPMC

01 – 25	KARACHI CASUALTY / MORTUARY ANY TIME
26 – 50	---- do ----
51 – 75	---- do ----
76 onwards	---- do ----
01 – 25	---- do ----
26 – 50	---- do ----

AND SO ON (EVERY REGULAR STAURDAY & SUNDAY) ----- TILL 31ST
AUGUST,2021

Thus the students of 3rd Year MBBS are exposed to more than 200 hours of Forensic Medicine in the academic year; either through Didactic Lectures or Practical Work.

CURRICULUM:

Table 1.3 shows the curriculum distribution

ACADEMIC WEEK	LECTURES	PRACTICAL / DEMONSTRATIONS
1	Introduction	Personal Identity
2	Introduction	Personal Identity
3	Winter Vacation	Winter Vacation
4	Legal Procedures / Doctor & the Law	
5	Legal Procedures / Doctor & the Law	Personal Identity
6	Death & Post mortem Changes	Personal Identity, Mass Disasters
7	Death & Post mortem Changes	Mass Disasters
8	Death & Post mortem Changes	Forensic Serology , Firearms
9	Death & Post mortem Changes	Medico-legal Reports
10	Medico-legal Autopsy	Medico-legal Reports

11	Medico-legal Autopsy	Medico-legal Reports
12	Medico-legal Autopsy	Medico-legal Reports
13	Deaths from Asphyxia	Sexual Jurisprudence
14	Deaths from Asphyxia	Sexual Jurisprudence
15	Deaths from Asphyxia	Sexual Jurisprudence
16	Mechanical & Regional Injuries	Sexual Jurisprudence
17	Mechanical & Regional Injuries	Sexual Jurisprudence
18	Mechanical & Regional Injuries	Sexual Jurisprudence
19	Mechanical & Regional Injuries	Introduction to Toxicology , Classification of poisons
20	Mechanical & Regional Injuries	<ul style="list-style-type: none"> • Diagnosis of Poisoning • General Principles of Rx of Poisoning • Duties of MLO/Doctor in

		suspected Poisoning cases
21	Fire & Thermal Deaths / Effects of Cold & Heat	Corrosives
22	Fire & Thermal Deaths / Effects of Cold & Heat	Corrosives

Table 1.3

ACADEMIC WEEK	LECTURES	PRACTICAL / DEMONSTRATIONS
23	Fire & Thermal Deaths / Effects of Cold & Heat	Metallic Poisons
24	Summer Vacation	Summer Vacation
25		
26		
27		
28		
29		
30	Fire & Thermal Deaths / Effects of Cold & Heat	
31	Fire & Thermal Deaths / Effects of Cold & Heat	Metallic Poisons
32	Domestic Violence , Custody related Torture , Violence & Death	Non-metallic Poisons & Animal Poisons
33	Infanticide & Child Abuse	Animal poisons , Inebriants , Kerosene
34	Forensic Psychiatry	Somniferous Poisons , Barbiturates , Benzodiazepines
35	Forensic Psychiatry	Agrichemical Poisons , Spinal Poisons
36	Medical Ethics	Vegetable Poisons

37	Medical Ethics	Cardiac Poisons
38	Euthanasia / Brain Death / Mercy Killing	Cocaine , Stupefying Poisons
39	Transplantation of Human Organs & Tissues (Legal & Ethical Issues)	Peripheral Nerve Poisons
40	Qisas & Diyat Ordinance 1990-91 Hudood Ordinance 2006 Mental Health Ordinance 2001, etc.	Asphyxiant Gases

LECTURE BASED LEARNING OBJECTIVES:

At the end of the lecture. The students of 3rd year MBBS will be able to :

ORIGIN & DEVELOPMENT / HISTORICAL PERSPECTIVES OF FORENSIC MEDICINE / FORENSIC PATHOLOGY :

LEGAL PROCEDURES / DOCTOR & THE LAW :

- Distinguish between Forensic Medicine, Medical Jurisprudence, Legal Medicine, Forensic Pathology, State Medicine, Forensic Science.
- Detail Major Subdivisions / Firm Pillars of Forensic Medicine.
- Describe Inquest & its Types.
- Learn about Medico-legal Systems.
- Define Law with the mention of its Types.
- Explain Organization of Law Courts in Pakistan.
- Enlist Punishments / Sentences authorized by Law as per PPC.
- Describe important Legal Terminologies such as Summons, Warrant, Perjury, Exhibit, Cognizable & Non-cognizable Offences, Oath, Conduct Money, Summons Case, Warrant Case, Bail, FIR, etc.
- Describe Oath / Solemn Affirmation.

- Explain Recording of Evidence of a Witness in a Court of Law.
- Describe Medical Evidence & its Types.
- Detail Kinds of Witnesses & Rules for giving Evidence by a Medical Witness in a Court + Volunteering of a Statement.
- Interpret documents prepared by a medical man like Medico legal Reports, Post mortem Reports, Certificates such as Birth ,Death , Sickness , Unsoundness of mind, Compensation, etc.
- Differentiate between Dying Declaration & Dying Deposition.
- Describe Pakistan Penal Code (PPC), Criminal Procedure Code (CPC), etc., their execution and delivery.

DEATH & POSTMORTEM CHANGES / FORENSIC THANATOLOGY:

- Define Death with Scientific Concepts.
- Describe the 2 Phases i.e., Somatic & Molecular Death.
- Detail Mode, Manner, Mechanism & Cause of Death as per WHO criterion.
- Enlist Gordon's Classification of Death with examples.
- Describe Brain Death with its ML aspects, especially in relation to Organ Transplantation.
- Define Suspended Animation/ Apparent Death & its Types with examples.
- Enlist Methods of Estimation of Time since Death / Postmortem Interval from the Immediate, Early & Late Signs of Death, & Factors influencing such changes.
- Differentiate between Postmortem Staining (PM Lividity or Suggilation) & Bruise, Hypostasis & Congestion, Rigor Mortis & Cadaveric Spasm, Rigor Mortis & Conditions simulating Rigor Mortis, Primary & Secondary Relaxation of Muscles, etc.
- Explain Presumption of Death & Survivorship.
- Detail Medical Certification of Cause of Death / A Doctor's Approach to Death Certification as per WHO.
- Enlist Causes of Sudden & Unexpected Deaths (Natural & Unnatural) of ML significance.
- Explain Preservation of Dead Bodies with special reference to Embalming Procedure.

POSTMORTEM EXAMINATION / MEDICO LEGAL AUTOPSY /

NECROPSY :

<ul style="list-style-type: none"> • Define Autopsy.
<ul style="list-style-type: none"> • List the Aims & Objectives of Autopsy.
<ul style="list-style-type: none"> • Discuss the Types of Autopsy.
<ul style="list-style-type: none"> • Differentiate between Medico - legal & Pathological Autopsy.
<ul style="list-style-type: none"> • Enumerate the Autopsy Protocol / Rules / Precautions.
<ul style="list-style-type: none"> • Enlist Instruments required for Autopsy.
<ul style="list-style-type: none"> • List the Autopsy Incisions for opening Cranial, Thoracic & Abdominal cavities, & Vertebral Column / Spinal Cord.
<ul style="list-style-type: none"> • Describe the Techniques of Autopsy.
<ul style="list-style-type: none"> • Describe the Procedure of Dissection of Neck Structures, Respiratory Tract, Heart, Abdominal Viscera & Pelvic Organs.
<ul style="list-style-type: none"> • Detail Autopsy Procedures (External & Internal Examination of the body).
<ul style="list-style-type: none"> • Detail Fetal Autopsy.
<ul style="list-style-type: none"> • Discuss Collection, Preservation, & Dispatch of Viscera and other Articles in Suspected Poisoning Cases & Rules for Transmitting to the Chemical Examiner / Histopathologist / Clinical Pathologist.
<ul style="list-style-type: none"> • Demonstrate Selected Special Procedures of Autopsy like Air Embolism, Fat Embolism, Pneumothorax, etc.
<ul style="list-style-type: none"> • Describe Examination of Mutilated Bodies or Fragments & Putrefied / Decomposed Bodies.
<ul style="list-style-type: none"> • Learn Precautionary Steps to be undertaken on Autopsy of a Body of HIV Infection (AIDS).
<ul style="list-style-type: none"> • Enlist Postmortem Artifacts with Examples.
<ul style="list-style-type: none"> • Describe Exhumation Autopsy.
<p><u>DEATHS FROM SUFFOCATION & ASPHYXIA:</u></p>
<ul style="list-style-type: none"> • Define Asphyxia with the mention of its Types.
<ul style="list-style-type: none"> • Demonstrate Anatomy of the Neck & Effects of Pressure on the Neck.
<ul style="list-style-type: none"> • Classify Asphyxial Deaths.
<ul style="list-style-type: none"> • Demonstrate Levels of Obstruction to Types of Mechanical Asphyxia.
<ul style="list-style-type: none"> • Describe Physiology, Biochemistry & Pathology of Fatal Asphyxia.
<ul style="list-style-type: none"> • Discuss the Etiology and Pathophysiology of Asphyxia.
<ul style="list-style-type: none"> • Detail Asphyxial Stigmata / Traditionally accepted Signs of Asphyxia on the basis of their Pathogenesis.

<ul style="list-style-type: none"> List Suffocation & its Types.
<ul style="list-style-type: none"> Discuss ML aspects of Smothering, Gagging, Choking, Traumatic Asphyxia, Burking, etc.
<ul style="list-style-type: none"> Discuss ML aspects of Poisonous Asphyxiant Gases like CO, CO₂, H₂S, Methane, etc.
<ul style="list-style-type: none"> Detail Mechanism of Death by Compression of the Neck.
<ul style="list-style-type: none"> Describe Types, Cause of Death, Autopsy findings & the Circumstances of Hanging.
<ul style="list-style-type: none"> Express Types, Cause of Death, Autopsy findings & the Circumstances of Strangulation.
<ul style="list-style-type: none"> Differentiate between Hanging & Strangulation Cases.
<ul style="list-style-type: none"> Detail Mugging, Garroting, Bandedola, Palmar Strangulation, etc.
<ul style="list-style-type: none"> Describe Autopsy Procedure in case of Death from Asphyxia where a detailed Study of Neck Organs / Structures is required.
<ul style="list-style-type: none"> Express Types, Mechanism & Cause of Death, Pathophysiology & Diagnosis of Death in Drowning, with Circumstances of Drowning.
<ul style="list-style-type: none"> Differentiate between Antemortem & Postmortem Drowning, Fresh- Water & Salt – Water Drowning.
<ul style="list-style-type: none"> Discuss the Diatoms & their Medico - legal significance.
<ul style="list-style-type: none"> Describe Sexual Asphyxia / Autoerotic Asphyxia.
<p><u>TRAUMA, HURT, INJURY, WOUND, ASSAULT & BATTERY /</u></p> <p><u>TRAUMATOLOGY / MECHANICAL & REGIONAL INJURIES :</u></p>
<ul style="list-style-type: none"> Define Injury, Hurt, Wound, Assault & Battery according to Pakistan Penal Code / Qisas & Diyat Act.
<ul style="list-style-type: none"> Classify Mechanical Trauma or Physical Injuries.
<ul style="list-style-type: none"> Describe the Blunt Force Trauma :
<ul style="list-style-type: none"> a) Abrasion.
<ul style="list-style-type: none"> b) Bruise or Contusion.
<ul style="list-style-type: none"> c) Laceration.
<ul style="list-style-type: none"> d) Fracture or Dislocation of a Bone, Tooth or Joint.
<ul style="list-style-type: none"> e) Injury to Internal Organs / Structures (Rupture, etc.).
<ul style="list-style-type: none"> Describe the Sharp Force Trauma :
<ul style="list-style-type: none"> a) Incised / Slash Wound.

b) Stab / Punctured Wound (Penetrating & Perforating).
c) Chop Wound (Chop Lacerations).
• Describe the Firearms & Explosive Injuries (Wound Ballistics) :
a) Smooth Bored Firearms (Shotguns, Tear Gas Guns, Muskets). Lacerated
b) Rifled Firearms (Pistols, Revolvers, Rifles & Air Guns). Punctured
c) Explosive Material (Nails & Screws, Nuts & Bolts, Ball Bearings, Wounds
Shrapnels, Iron Scrap Material, etc.).
d) Parts of Firearms Weapons & their Cartridges.
e) Gun Powder.
f) Assessment of Distance of Fire of Gunshot Wounds.
• Describe Thermal Injuries :
a) <u>DUE TO COLD</u> b) <u>DUE TO HEAT</u> c) <u>MISCELLANEOUS</u>
-Trench Foot (Wet Cold). -Heat Cramps. -Electrical Injury (Electrocution, Lightning).
-Frostnip & Frostbite (Dry Cold). -Heat Exhaustion / Prostration. - <u>Radiation Injury</u> :
(Sunrays, X-rays, -Heat / Sun Stroke. .Ionizing Radiation
Radioactive Substance). -Heat Rash / Prickly Heat.
-Flame Burns (Dry Heat). .Non- Ionizing Radiation (UV rays,
-Scalds (Moist Heat). Sunlight, Infrared rays, Microwaves).
-Injury due to Heated Solid .Blast Injuries. Object like Electric Iron, Cigarettes.
-Chemical Burns (Chemical Agents).
-Corrosive Burns (Strong Acids & Alkalis).

<ul style="list-style-type: none"> • Differentiate Antemortem Wounds / Fractures from Postmortem Wounds / Fractures.
<ul style="list-style-type: none"> • Express Dating / Age & Sub-classification / Types & Healing Phenomena of every Injury / Wound.
<ul style="list-style-type: none"> • Enlist ML Classification of Injuries :
- Suicidal, Homicidal, Accidental, Defense Wounds, Sports Injury.
- Fabricated / Fictitious / Forged Wounds (Self-Inflicted & Self-Suffered).
<ul style="list-style-type: none"> • Detail Regional Injuries :
- Define Head Injury as per National Advisory Neurological Diseases & Stroke Council.
- Classify Cranio-Cerebral Injury (Scalp , Skull & Brain).
- Classify Brain Injury with mention of Mechanism of its production.
- Explain Cerebral Concussion, Contusions & Lacerations.
- Describe Coup & Contre-Coup Injury.
- Enlist Bone Fragmentation / Skull Fractures.
- Express Diffuse Axonal Injury (DAI), Diffuse Neuronal Injury (DNI), Diffuse Vascular Injury (DVI).
-Discuss Intracranial Hemorrhages/Hematomas, & Brain Swelling (Cerebral Edema).
-Discuss Penetrating Wounds / Firearm Wounds & Contusion of the Spinal Cord, Railway Spine (Concussion of
the Spinal Cord).
-Explain Injury to Neck & Neck Structures / Cervical Trauma, specially Causes, Mechanism, Signs Symptoms &
Autopsy findings of Whiplash Injury.
-Differentiate between Suicidal & Homicidal Cut Throat Injury.
-Explain Injury to Chest / Thorax & Thoracic Structures like Traumatic Asphyxia etc., Injuries on Limbs & other
Areas, Limb Skeletal Bone Injuries (Fractures, etc.), & Joint Injuries.
-Demonstrate understanding of Injury to Pelvic Organs.
-Discuss Transportation Injuries (Pedestrians, Drivers & Passengers of Vehicles, RTA).
-Enlist the Complications / Effects of Injury like :
✓ Hemorrhage.
✓ Injury to Vital Organs.
✓ Vagal Inhibition.
✓ Infection & Septicemia.

- ✓ Pulmonary Thrombo-Embolism.
- ✓ Fat & Bone Marrow Embolism.
- ✓ Air Embolism.
- ✓ Amniotic Fluid Embolism
- ✓ Adult Respiratory Distress Syndrome (ARDS).
- ✓ Renal Failure following Trauma / Crush Syndrome.
- ✓ Disseminated Intravascular Coagulation (DIC).
- ✓ Subendocardial Hemorrhage.
- ✓ Sudden Death from Suprarenal Hemorrhage.

THERMAL INJURIES / FIRE & THERMAL DEATHS / EFFECTS OF COLD & HEAT :

- Explain Characters of Burns produced by Various Agents (X-Rays & UV Rays, Electricity & Lightning, Corrosives / Strong Acids & Alkalis).
- Classify & differentiate Types of Burns.
- Detail Rule of Nine /Calculation of % of Burnt Surface Area in Adults & Children.
- Enlist Causes of Death in Burns.
- Determine Nature of Burns Injury in the Absence of Death.
- Assess Age of Burns Injury.
- List the Autopsy Findings with the Mention of ML aspects of Death due to Burns.
- Differentiate Antemortem versus Postmortem Burns.
- Differentiate between Suicidal, Accidental or Homicidal Burns.
- Define Scalds with ML aspects.
- Differentiate Burns / Injuries due to Dry Heat, Moist Heat & Chemicals.
- Identify & Discuss the Causes, Clinical features & Treatment of Injuries due to exposure to Heat (Heat Cramps, Heat Exhaustion / Prostration, Heat / Sun Stroke, Heat Rash / Prickly Heat, Heated Solid Object like Electrical Iron, & Cigarettes, etc.).
- Discuss Pathophysiology of Hypothermia (Exposure to Cold).
- Discuss the Causes, Clinical features & Treatment of Injuries due to Cold (Frostbite, Trench foot, Chilblain).
- Explain Circumstances of Injury & Autopsy findings in Death due to Cold.
- Discuss Environmental Deaths (Drowning, Hyperthermia, Hypothermia, Lightning).

DEATHS BY ELECTROCUTION (ELECTRIC CURRENT / SHOCK),

LIGHTNING & RADIATION:

- Classify the Types of Fatal Electrocutation.
- Enumerate Factors influencing effects of Electricity.
- Describe the Mechanism / Pathophysiology of Death in Electrocutation.
- Describe the Autopsy findings in 'Medium-Tension' & 'High-Tension' Currents.
- Define "Joule Burn" (Endogenous Burn).
- Describe the Circumstances of Electrocutation.
- Define Iatrogenic Electrocutation with Examples.
- Detail Judicial Electrocutation.
- Appraise Lightning & Mechanism of Injury by it.
- Detail the Diagnosis of Death by Lightning Stroke along with Autopsy findings.
- Describe the Circumstances of Accidental Lightning Splash / Flash.
- List the Types of Radiation Exposure (X-Rays, UV-Rays, Laser Beam injury, Microwaves, Radioactive Substances, etc.).
- List the Effects of Radiation with ML aspects.

DEATHS ASSOCIATED WITH SURGERY, ANESTHESIA & BLOOD TRANSFUSION:

- Discuss Causes of Death during Surgical Intervention or Invasive Diagnostic Procedures.
- Discuss Causes of Death due to Respiratory Embarrassment, Cardiac Embarrassment, Hypovolaemia & Other Factors, Regional Spinal Anesthesia, Unforeseeable Problems, etc.
- Discuss Causes of Death related to different Anesthetic procedures.
- Discuss the Causes of Death related to Surgical Instruments & Instrumentation.
- List the Precautions for Autopsy & the Autopsy procedures.
- Appraise the ML Considerations.
- Enumerate the following in relation to Blood Transfusion :
 - Hazards & Risks.
 - Immunological & Non-immunological Complications.
 - Investigation of Transfusion Reactions.

DEATHS DUE TO STARVATION, NEGLECT & CRUELTY:

- Define Starvation / Inanition, its Types & Features.
- Detail the Patho-physiology, Cause of Death & Fatal Period with Medico-legal

implications.

- List the Autopsy findings in Death due to starvation.
- Explain the Circumstances of Death due to Starvation.
- Define Malnutrition.
- Detail the Pathophysiology of Death due to Dehydration.

ANAPHYLACTIC DEATHS :

- Appraise Anaphylaxis phenomena.
- Describe Autopsy appearance of a Case of Death due to Anaphylactic Shock.

DOMESTIC VIOLENCE / CRIME & CRUELTY AT HOME :

- Define Domestic Violence and its Types.
- Describe ML aspects of Domestic Violence.
- Detail the phenomenon of Cruelty on Women / Wives, Men / Husbands, Children, other Members of the Family, the Old & Disabled persons, etc.

CUSTODY RELATED TORTURE, VIOLENCE & DEATH / TORTURE & MEDICAL PROFESSION :

- Define Custody & Torture.
- List the Methods of Torture, Circumstances of Death with related Case Examples.
- Describe the Autopsy findings in Deaths due to Torture / Role of Autopsy Surgeon / Incisions at Autopsy.
- Appraise the ML & Ethical aspects of Torture.

INFANTICIDE , NEONATICIDE, FOETICIDE & CHILD ABUSE :

- Define Terminologies related to Pediatric Forensic Medicine (Infanticide, Feticide, Still - birth,

Dead- born baby, Maceration).

- Estimate Intrauterine Age of Fetus / Infant (Intra-gestational development / Degree of Maturity of an Infant).
- Determine Age of Viability & its ML significance.
- Describe Signs of Live-Birth (Proof / Forensic Criteria of Live-Birth), Hydrostatic Test & other Tests for Separate Existence.
- Differentiate between Still-Birth & Dead-Born Fetuses.
- Differentiate between Respired & Un-Respired Lungs of the Fetus.
- Explain probable Duration of Life of the Child / The Length of Survival of a Child

after birth.
<ul style="list-style-type: none"> Describe the Autopsy procedure of a case of Infanticide.
<ul style="list-style-type: none"> Determine Cause of Death, ie. Acts of Commission & Acts of Omission.
<ul style="list-style-type: none"> Analyze Precipitated Labor/ Delivery, Abandoning of Children & Concealment of Birth.
<ul style="list-style-type: none"> Appraise Non-Accidental Injury of Childhood --- Battered Baby syndrome / Caffey's syndrome/ Mal Treatment syndrome / Shaken Baby syndrome / Cruelty & Atrocity on Children.
<ul style="list-style-type: none"> Define COT Death / Crib Death / SIDS (Sudden Infant Death Syndrome).
<ul style="list-style-type: none"> Explain Child Sexual Abuse (CSA).
<u>SEXUAL JURISPRUDENCE:</u>
<u>I. VIRGINITY & DEFLORATION</u>
<ul style="list-style-type: none"> Define Virginity.
<ul style="list-style-type: none"> Describe Signs of Virginity on ML examination.
<ul style="list-style-type: none"> Define Hymen with mention of its different Types.
<ul style="list-style-type: none"> Differentiate between True Virgin & False Virgin.
<ul style="list-style-type: none"> Differentiate between Normal Fimbriated Hymen & Torn Hymen due to sexual intercourse.
<ul style="list-style-type: none"> Explain Defloration along with Causes of Rupture of Hymen.
<ul style="list-style-type: none"> Estimate Age of a Torn Hymen.
<u>II. PREGNANCY , DELIVERY & PATERNITY</u>
<ul style="list-style-type: none"> Diagnose Pregnancy in ML Cases, with Recognition of Signs of Pregnancy (Presumptive, Probable & Definite).
<ul style="list-style-type: none"> Explain Height of Fundus of the Uterus of Various weeks of gestation.
<ul style="list-style-type: none"> Give ML importance of Pregnancy.
<ul style="list-style-type: none"> Discuss Differential Diagnosis of Pregnancy.
<ul style="list-style-type: none"> Explain Motives of Feigned Pregnancy.
<ul style="list-style-type: none"> Detail Trauma & Pregnancy.
<ul style="list-style-type: none"> Describe Signs of Recent Delivery in the Living & Dead.
<ul style="list-style-type: none"> Describe Signs of Remote Delivery in the Living & Dead.
<ul style="list-style-type: none"> Discuss Medico-legal Importance of Delivery.
<ul style="list-style-type: none"> Diagnose Paternity & its ML importance.

<p>III. <u>IMPOTENCE / ERECTILE DYSFUNCTION, STERILITY, STERILIZATION, ARTIFICIAL INSEMINATION, IVF (TEST TUBE BABY), SURROGATE MOTHERHOOD, & CLONING.</u></p>
<ul style="list-style-type: none"> • Define Impotence / Erectile Dysfunction, Sterility, Sterilization, Artificial Insemination.
<ul style="list-style-type: none"> • Describe Causes of Impotence & Sterility in Males.
<ul style="list-style-type: none"> • Describe Causes of Impotence & Sterility in Females.
<ul style="list-style-type: none"> • Explain Frigidity in Women & its Causes.
<ul style="list-style-type: none"> • Discuss ML implications of Impotence.
<ul style="list-style-type: none"> • Recognize Types of Sterilization.
<ul style="list-style-type: none"> • Explain Methods of Sterilization.
<ul style="list-style-type: none"> • Recognize Types of Artificial Insemination along with its Indications & Procedure.
<ul style="list-style-type: none"> • Explain Recommended Guidelines / Precautions for Artificial Insemination along with its legal dictums.
<ul style="list-style-type: none"> • Define Test Tube Baby (IVF), Surrogate Mother & Cloning.
<ul style="list-style-type: none"> • Describe ML Examination / Report of a case of Impotence & giving Opinion in such a case.
<p>IV. <u>SEXUAL OFFENCES (RAPE, INCEST, SODOMY, etc.).</u></p>
<ul style="list-style-type: none"> • Define Natural Sexual Offences like Rape, Incest, Adultery, Indecent Assault.
<ul style="list-style-type: none"> • Define Unnatural Sexual Offences like Sodomy, Lesbianism, Buccal Coitus, Bestiality.
<ul style="list-style-type: none"> • Give Legal Definition of Rape.
<ul style="list-style-type: none"> • Describe ML Examination / Report of a Victim of Rape / Sexual Assault, as below :
<ul style="list-style-type: none"> - Findings in Nubile Virgins.
<ul style="list-style-type: none"> - Findings in Married / Deflorated Women Victims.
<ul style="list-style-type: none"> - Findings in a Child Victim.
<ul style="list-style-type: none"> • Discuss Complications / Dangers of Rape / Rape Trauma Syndrome / Accidents following Rape.
<ul style="list-style-type: none"> • Learn Examination of the Accused Man / Alleged Assailant committing Rape.
<ul style="list-style-type: none"> • Describe Identification of the Alleged Assailant.

<ul style="list-style-type: none"> • Detail Feigned Rape & ML Questions on Rape.
<ul style="list-style-type: none"> • Define Incest & its ML importance.
<ul style="list-style-type: none"> • Define Adultery & its ML importance.
<ul style="list-style-type: none"> • Define Indecent Assault.
<ul style="list-style-type: none"> • Detail ML Examination / Report of a Victim of Sodomy as per follows :
- Non-Habitual / Forcibly Victimized Passive Agent.
- Habitual Passive Agent.
<ul style="list-style-type: none"> • Detail ML Examination / Report of an Active Agent of Sodomy.
V. <u>ABORTION (MISCARRIAGE)</u>.
<ul style="list-style-type: none"> • Define Abortion / Miscarriage.
<ul style="list-style-type: none"> • Detail Types / Classification of Abortion, & Methods of Inducing Abortion.
<ul style="list-style-type: none"> • Learn Causes of Death & Dangers / Complications of Criminal Abortion.
<ul style="list-style-type: none"> • Describe Examination of the Alleged Woman (Victim) & Aborted Material.
<ul style="list-style-type: none"> • Enumerate Important Fetal Ages related to Abortion.
<ul style="list-style-type: none"> • Discuss Ethical & ML considerations of Abortion.
VI. <u>SEXUAL PERVERSIONS / DEVIATIONS (URANISM / PARAPHILIAS)</u>
<ul style="list-style-type: none"> • Define Sexual Perversion.
<ul style="list-style-type: none"> • Enlist & Classify Sexual Perversions (Pedophilia, Sadism, Masochism, Lust Murder, Fetichism, Transvestism / Eonism, Exhibitionism, Voyeurism, Frotteurism, Masturbation, Nymphomania, etc., etc.).
VII. <u>CONSUMMATION & NULLITY OF MARRIAGE, DIVORCE & LEGITIMACY</u>
<ul style="list-style-type: none"> • Define Consummation of Marriage & Non-Consummation / Nullity.
<ul style="list-style-type: none"> • Define Divorce & detail Various Grounds for Divorce.
<ul style="list-style-type: none"> • Define Legitimacy & describe Presumption in Favor of Legitimacy along with ML importance.
<u>FORENSIC PSYCHIATRY:</u>
<ul style="list-style-type: none"> • Describe salient features of Mental Health Ordinance 2001.
<ul style="list-style-type: none"> • Define Insane person as per law.
<ul style="list-style-type: none"> • Detail various Signs / Symptoms of Mental Illness / Disturbance with their ML Importance.
<ul style="list-style-type: none"> • Learn about Mental Retardation / Mental Sub-normality or Deficiency ----

Psychosis & Neurosis.
<ul style="list-style-type: none"> • Explain Personality Disorders like Schizophrenia, etc .
<ul style="list-style-type: none"> • Diagnose & Certify Mental Illness.
<ul style="list-style-type: none"> • Explain different Subjective Disorders like Delusion, Hallucination, Illusion, Obsession, Impulse
& their ML significance.
<ul style="list-style-type: none"> • Define various terms of ML significance such as Affect, Fugue, Confabulation, I.Q, Psychopath, Twilight state.
<ul style="list-style-type: none"> • Differentiate between True & Feigned Illness / Insanity.
<ul style="list-style-type: none"> • Describe Legal test of Insanity i.e. McNaughton's Rule.
<ul style="list-style-type: none"> • Detail Restraint of the Mentally ill (Insane) person.
<ul style="list-style-type: none"> • Recognize Motives of Feigned insanity.
<ul style="list-style-type: none"> • Explain Procedure of Admission to the Psychiatric Hospital / Mental Asylum.
<ul style="list-style-type: none"> • Explain Discharge of the Mentally ill from the Psychiatric Hospital.
<ul style="list-style-type: none"> • Discuss Civil & Criminal Responsibilities of the insane person.
<u>FORENSIC RADIOLOGY</u>
<ul style="list-style-type: none"> • Learn about the Identification of the body.
<ul style="list-style-type: none"> • Explain Radiology & Trauma.
<ul style="list-style-type: none"> • Explain Radiology & Battered Child.
<ul style="list-style-type: none"> • Explain Radiology & Firearm Injuries.
<ul style="list-style-type: none"> • Explain Radiology & Asphyxial Death.
<ul style="list-style-type: none"> • Explain Radiography & Narcotic Smuggling.
<ul style="list-style-type: none"> • Discuss Uses of Forensic Radiology.
<u>MEDICAL ETHICS:</u>
<ul style="list-style-type: none"> • Explain Systems of Medical Practice (Allopathic, Homeopathic, etc.).
<ul style="list-style-type: none"> • Learn about Composition of PMC (Pakistan Medical Commission) / Ex PM & DC.
<ul style="list-style-type: none"> • Explain Disciplinary Procedures against a Medical Practitioner.
<ul style="list-style-type: none"> • Discuss Privileges & Obligations of a Registered Medical Practitioner (RMP).
<ul style="list-style-type: none"> • Detail Functions of the PMC.
<ul style="list-style-type: none"> • Define Ethics & Medical Ethics with mention of Basic Ethical Principles.
<ul style="list-style-type: none"> • Describe Hippocratic Oath & Code of Medical Ethics.
<ul style="list-style-type: none"> • Discuss Professional Misconduct, Dangerous Drug Act 1930, Medical Examination & CONSENT.

- Describe Professional Negligence / Medical Negligence / Malpraxis, Res- Ipsa-Loquitar, Novus Actus Interveniens.
- Detail Investigation of Deaths Associated with Anesthesia & Surgical Procedure.
- Explain Professional Secrets / Medical Secrecy / Legal Obligation of Confidentiality.
- Discuss Privileged Communication.
- Explain Professional Misconduct (Infamous Conduct).
- Define Consent, its Types & the Role of Consent in Medical Examination.
- Discuss the Criteria for giving valid Consent.
- Describe the Doctrine of Informed Consent.

EUTHANASIA / BRAIN DEATH / MERCY KILLING / PHYSICIAN - ASSISTED SUICIDE :

- Define Euthanasia with mention of its Types.
- Discuss Methods of Practice / Considerations for Euthanasia, along with its ML aspects.
- Discuss Euthanasia & its Ethical aspects.
- Describe Requirements of Euthanasia along with Role of the Physician.

TRANSPLANTATION OF HUMAN ORGANS & TISSUES ACT- 2010 : LEGAL & ETHICAL ASPECTS :

- Describe Regenerative & Non-Regenerative Tissues & Organs.
- Learn Concept of Living & Cadaver Donors.
- Describe the Transplantation Human Organs & Tissues Act-2010.
- Discuss Restrictions of Removal & Transplantation of Human Organs.
- Describe Regulation of Hospitals along with the Process of Transplantation.
- List the Hazards & Complications of Transplantation, & ML aspects like Offences & Penalties.

AIDS : MEDICAL, SOCIAL, ETHICAL & LEGAL IMPLICATIONS : (FOR-LEC-28)

- Define Acquired Immune Deficiency Syndrome.
- Discuss English Law, US position & Indian position.
- Describe the Issues Raised.
- Learn about the Remedy.
- Coordinate AIDS & Autopsy.

PRACTICAL BASED LEARNING OBJECTIVES:

At the end of practical, the students of 3rd year MBBS will be able to :

PERSONAL IDENTITY / IDENTIFICATION OF AN INDIVIDUAL :

- Define Personal Identity with mention of its Types.
- Discuss Identification of the Living Persons.
- Discuss Identification of the Dead (Decomposed & Mutilated / Dismembered Bodies, Burnt Bodies, Fragmentary & Skeletal Remains).
- Explain the term Corpus Delicti (Body of Offence).
- Discuss Factors / Parameters establishing Personal Identity (Age, Sex, Race, etc).
- Determine Sex by Microscopic Study of Sex Chromatins (Nuclear Sexing --- Davidson & Barr Bodies) in Doubt full Cases.
- Explain Intersex States (Variations from Normal Sex).
- Determine Sex by Examination of Bones.
- Determine Age by examination of Teeth.
- Determine Age by examination of Lower Jaw (Mandible).
- Determine Age by Height (Stature) & Weight.
- Determine Age by Ossification Activity & other Changes of Bones.
- Describe Osteometric / Skeletal Indices & their Formulae for determination of Sex & Race.
- Detail the ML importance of Age.
- Detail the ML Report of Age estimation.
- Describe Anthropometry / Bertillon System.
- Define Dactylography / Dermatoglyphics with the Identification of various Types of Finger Prints.
- Describe Poroscopy, Foot Prints & Lip Prints, Occupational Marks, Scars, etc. with their ML importance.
- Discuss the ML Importance of Hair, Tattoo Marks, and Congenital & Acquired Deformities in Identification.
- Define Superimposition Photography.
- Describe Locard's Principle of Exchange & its ML Importance.
- Categorize Identification in "Mass Disasters" according to World Health Organization.

TRACE EVIDENCE FACTORS (SUBSTANCES) FOR HUMAN IDENTIFICATION / EXAMINATION OF BIOLOGICAL FLUIDS:

- a) Detail the Types of Blood Group Systems.
- b) Describe DNA Fingerprinting / Profiling / Testing / Patterning, & PCR Process.
- c) Differentiate between Human & Animal Blood.
- d) Differentiate between Human & Animal Semen (Seminal Fluid).

MEDICOLEGAL REPORTS:

- Write the Medico-legal Reports of:
 - Age Certification
 - Assault / Injuries
 - Impotence
 - Rape
 - Sodomy
 - Burn Victim
 - Vitriolage
 - Drunk / Alcoholic
 - Poisoning

GENERAL TOXICOLOGY:

- Define Toxicology & Poison.
- Differentiate between Poison & Medicine.
- Classify Poisons based on Medico-legal ground.
- Classify poisons based on Pharmacological ground / according to Site & Mode of Action or Source of Poison.
- Describe the Routes of Administration and Excretion of Poisons.
- List the Factors modifying Action of Poisons.
- Discuss the Methods of Diagnosis of Poisoning in the Living & Dead.
- List the Duties of a Doctor / MLO in a suspected case of Poisoning.
- Apply General Principles of Treatment of Poisoning.
- Describe the Procedure of Gastric Lavage / Stomach Wash.
- Define Antidote.
- List the different types of Antidotes and their Method of Administration.

CORROSIVES / STRONG ACIDS & ALKALIS (HCl, H₂SO₄, HNO₃, Carboic Acid, Oxalic Acid, Hydrogen Cyanide, NaOH & KOH):

- Classify Corrosives.
- List the Uses & Misuses of HCl, H₂SO₄, HNO₃, Carboic Acid, Oxalic Acid, Hydrogen Cyanide, NaOH & KOH.
- Describe the Mechanism of Action of all the above quoted Chemical substances.
- Differentiate between Organic and Inorganic acids.
- Diagnose the Acute Signs & Symptoms, and Treatment options of all these Poisonings.
- Diagnose Carbolism & Carboluria.
- Identify Fatal Doses & Fatal Periods of all these.
- Describe Postmortem Appearances of all these Poisonings along with ML Importance.

METALLIC POISONS (Arsenic, Mercury, Zinc, Copper, Lead, Antimony, Silver, Thallium, etc.) :

- List the Uses of all the above Heavy Metals.
- Describe the Mechanism of Action of all these.
- Diagnose the Acute Signs & Symptoms of all these Poisonings.
- Diagnose the Chronic Signs & Symptoms of all.
- List the Treatment options for Acute Poisoning as well as Chronic Poisoning of all.
- Identify Fatal Doses and Fatal Periods of all the above.
- Describe Postmortem Findings of all the Heavy Metals Poisoning along with the mention of ML significance.

NON-METALLIC POISONS (Phosphorus, Chlorine, Bromine, Iodine) :

- List the Uses & Mechanism of Action of these Poisons.
- Diagnose the Acute Signs & Symptoms of Phosphorus poisoning.
- Define Phosphorescence.
- Diagnose Phossy Jaw.
- List the Treatment options for Acute Poisoning of Phosphorus & Phossy Jaw.
- Identify Fatal Dose, Fatal Period, Autopsy Appearances & ML Importance of

Phosphorus.

VEGETABLE POISONS (Castor, Croton, Abrus precatorius, Semecarpus anacardium (Marking nut, Madar, Ergot, etc.):

- List the Uses of all the above Poisons.
- Identify the Active Principles contained in them.
- Diagnose the Signs & Symptoms of their Poisoning.
- Describe the Method of Sui Poisoning.
- List the Treatment options for Acute Poisoning by them.
- Identify Fatal Doses and Fatal Periods with mention of their Autopsy Appearances & ML Importance.

ANIMAL POISONS (Snakes, Scorpions, Spiders, Cantharides & Poisonous Insects) :

- Differentiate between Poisonous & Non-Poisonous Snakes.
- Differentiate between different Classes of Poisonous Snakes.
- Identify the Active Principles in Snake Venom.
- Diagnose the Signs & Symptoms of Snake venom poisoning.
- List the Treatment options for Snake bite poisoning.
- Identify Fatal Doses, Fatal Periods, Autopsy Appearances & ML Importance of different species of Snake bite Poisoning.
- Diagnose the Signs & Symptoms of Scorpion Venom Poisoning.
- Identify the Active Principles in Scorpion venom.
- List the Treatment options for Scorpion poisoning with the mention of ML significance.
- List the Uses of Cantharides.
- Diagnose the Signs & Symptoms, Treatment options & ML Importance of Cantharide Poisoning.

SOMNIFEROUS POISONS (OPIOIDS):

- List the Uses of Opioids.
- Describe the Extraction of Opioids from Poppy Plant.
- Identify the Active Principles contained in them.
- Diagnose the Acute Signs & Symptoms of Opioid poisoning along with Treatment

options.

- Diagnose the Chronic Signs & Symptoms of Opioid poisoning along with Treatment options.
- Identify Fatal Dose & Fatal Period with Postmortem Appearances + ML Importance.

INEBRIANT POISONS (Methyl & Ethyl Alcohol, etc.):

- List the Uses of Methyl & Ethyl Alcohol.
- Describe the Mechanism of Alcohol Oxidation in the Liver.
- Diagnose the Acute as well as Chronic Signs & Symptoms of both Alcohols Intoxication.
- List the Treatment options for their Poisoning.
- Identify Fatal Doses & Fatal Periods of both with the mention of Autopsy Findings & ML Importance.

ANESTHETICS (Chloroform, Diethyl Ether, Halothane, Nitrous Oxide, Barbiturates, Benzodiazepines, Morphine, Cocaine, Xylocaine, etc.) :

- List the Uses, Mode of Action, Signs & Symptoms, Treatment remedies, Fatal Doses & Periods, Postmortem Appearances, & ML significance of Acute Poisoning of all the above.

SEDATIVES & HYPNOTICS (Barbiturates, Benzodiazepines, Chloral Hydrate, Mandrax, etc.):

- List the Uses of Barbiturates, Benzodiazepines, Chloral Hydrate & Mandrax.
- Describe the Mechanism of Action of all these.
- Diagnose the Acute as well as Chronic Signs & Symptoms of all above Poisonings.
- List the Treatment options for Acute & Chronic Poisoning by them.
- Identify Fatal Doses & Fatal Periods, Autopsy Findings & ML Implications.

FUELS (Petroleum , Kerosene Oil, etc.):

- List the Uses of Kerosene Oil.
- Diagnose the Signs & Symptoms, describe Treatment measures, Fatal Dose & Fatal Period, and ML Importance of Kerosene Oil Poisoning.

AGRICHEMICAL POISONS / PESTICIDES (Chlorinated Hydrocarbons, Organophosphorus Compounds, Carbamate Compounds, Insect Repellents, etc.):

- Classify Agrochemical Poisons with Examples.
- List the Uses & Mode of Action of them.
- Diagnose the Signs & Symptoms & give the Treatment options of Poisoning by them.
- Identify Fatal Doses & Fatal Periods.
- Describe Postmortem Appearances with the mention of ML Importance of poisoning by them.

DELIRIANT POISONS (Datura, Cannabis indica, etc.):

- List the Uses of Datura & Cannabis.
- Identify the Active Principles in Datura & Cannabis.
- Describe the Methods of Administration of Datura by roadside robberers.
- Describe Different Preparations of Cannabis Indica.
- Diagnose the Acute Signs & Symptoms of Datura & Cannabis Poisoning.
- Diagnose the Chronic Signs & Symptoms of Cannabis Poisoning.
- List the Treatment options for Acute Cannabis Poisoning.
- Define Run Amok.
- List the Treatment options for Chronic Cannabis Poisoning.
- Identify Fatal Doses & Fatal Periods of both Poisons.
- Describe Postmortem Appearances with the mention of ML significance of both Poisons.

SPINAL POISONS (Strychnine, Gelsemium):

- List the Uses of Strychnine.
- Identify the Active Ingredients in Strychnine.
- Diagnose the Signs & Symptoms of Strychnine Poisoning.
- Identify important Body Postures associated with Strychnine poisoning.
- List the Treatment options for Strychnine poisoning.
- Identify Fatal Dose & Fatal Period of Strychnine.
- Describe Postmortem Appearances of Strychnine Poisoning with its ML

Importance.

PERIPHERAL NERVE POISONS (Curare & Conium Maculatum):

- List the Uses of Curare & Conium Maculatum.
- Identify the Active Principles in them.
- Diagnose the Signs & Symptoms of their Poisoning.
- List the Treatment measures for their Poisoning.
- Identify Fatal Doses & Fatal Periods.
- Describe Postmortem Appearances with mention of ML significance.

CARDIAC POISONS (Digitalis, Oleander, Aconite, Nicotine, Quinine, Adrenaline):

- List the Uses of Digitalis, Oleander, Aconite, Nicotine, Quinine & Adrenaline.
- Diagnose the Acute Signs & Symptoms of Poisoning by all above.
- Diagnose the Chronic Signs & Symptoms of Nicotine (Tobacco) Poisoning.
- List the Treatment options for Acute Poisoning by all above.
- List the Treatment options for Chronic Nicotine Poisoning.
- Identify Fatal Doses & Fatal Periods of them.
- Describe Postmortem Appearances of Poisoning by them.
- Give ML importance.

ASPHYXIANT POISONS (CO, CO₂, H₂S, Methane, War Gases, etc.):

- Describe the Sources & Manufacture Techniques of CO, CO₂, H₂S, Methane & War gases.
- Diagnose the Signs & Symptoms of Poisoning by all these.
- List the Treatment options.
- Identify Fatal Doses & Fatal Periods.
- Describe Postmortem Findings of their Poisoning.
- Give ML Importance.

MISCELLANEOUS POISONS (Analgesics / Antipyretics & NSAIDS, Antihistaminics, Antidepressants, Stimulants, Antipsychotic Drugs / Tranquillisers, Hallucinogens, Cytotoxic

/ Antitumour Agents, Bacterial Food Poisoning, Street Drugs & Designer Drugs, Common Household / Domestic Poisons, Drug Abuse / Body Packers / Stuffers / Swallowers):

- Classify all the above Substances.
- Diagnose the Signs & Symptoms of Over-dosage / Poisoning by them.
- List the Treatment options.
- Identify Fatal Doses & Fatal Periods.
- Describe Autopsy Findings of their Poisoning.
- Discuss ML Importance.

DRUG DEPENDENCE / HABITUATION / ADDICTION & DRUG ABUSE (Narcotic & Non-Narcotic):

- Differentiate between all the above Terminologies.
- Classify them.
- Diagnose the Sign & Symptoms of Over-dosage / Poisoning by them.
- List the Treatment options.
- Identify Fatal Doses & Fatal Periods.
- Describe Autopsy Findings of their Poisoning.
- Discuss ML significance.

DANGEROUS DRUGS ACT:

- Define Dangerous Drug.
- List Dangerous Drug.
- Discuss the Dangerous Drugs Act.
- Discuss the Offences & Penalties in 'Dangerous Drugs Act.

EDUCATIONAL STRATEGIES:

The educational strategies in this curriculum are multiple and aligned with domain of learning and according to the desired outcome

Didactic Lectures

The theory portion of the curriculum will be delivered in a traditional didactic format. Didactic education is considered to be a one-way transmission of material from teacher to learner; we cannot overlook the possibility of meaningful interaction between experts and learners during live lectures. This type of interaction, which allows for immediate clarification of concepts and extension of knowledge, may be particularly important for novice learners who have relatively little exposure to the subject matter, such as our study population.

Museum / LRC / Skill Lab Sessions

Museum / LRC sessions are important as they provide opportunity for experiential learning in terms of study of slides, poison specimen, radiographs and identification of tissues.

Mortuary Visits

Mortuary visits are an important part of curriculum to achieve psychomotor and affective outcomes. This provides an opportunity for medical students and will stimulate contextual learning. For proper orientation and practical demonstration, visits are made to Mortuary and MLO section

ASSESSMENT:

During the academic year, students appear in 4 modular tests each carrying 20 marks. After the academic year, the final exams are held. The final exam is divided into 2 parts i.e. Theory & Viva Voce each worth 100 marks for a total of 200 subject marks. Out of total 200 marks, 50% i.e.100 marks are allocated for internal evaluation, split 50-50 for Viva and Theory and 100 marks are allocated for external evaluation.

BOOKS & REFERENCES:

1. Textbook of medical Jurisprudence, Forensic Medicine & Toxicology
2. Textbook of Forensic Medicine & Toxicology.
3. Principles & practice of Forensic Medicine
4. Color Atlas of Forensic Medicine
5. Forensic Pathology
6. Atlas of Human Anatomy
7. Dorland's illustrated Medical Dictionary