

b. & c. Sequential organisation of contents & their division**Topic wise distribution**

The course is designed to meet the needs of a General Practitioner and includes the following topics:

1.	Forensic Medicine	40 Hrs
2.	Toxicology	20 Hrs
3.	Medical Jurisprudence	12 Hrs
4.	Legal Procedures in Medico-Legal cases	08 Hrs
5.	Court attendance when medical evidence is being recorded	04 Hrs
6.	Integrated approach towards allied disciplines	06 Hrs
7.	Tutorial and Seminars	10 Hrs

Total: 100 Hrs

Part – 1 Forensic Medicine: (N=40)**Contents & division**

Note: Must Know (MK), **Desirable to Know (DK)** and **is Nice to Know (NK)**

A) DEFINITION, SCOPE RELEVANT TO SUBJECT

1. History of Forensic Medicine
2. **Need, Scope, Importance and probative value of Medical evidence in Crime Investigation**

B) PERSONAL IDENTITY NEED AND ITS IMPORTANCE.

1. **Data useful for Identification of Living and Dead**
2. **Age estimation and its medico-legal Importance**
3. Sex determination and its medico-legal importance
4. Other methods of establishing identity: Corpus Delicti, **Dactylography, Tattoo marks, Deformities, Scars and other relevant factors**
5. Identification of decomposed, Mutilated bodies and skeletal remains
6. Medico legal aspect of *DNA fingerprinting - a brief introduction
7. **Medico - legal aspect of blood and blood stains**

Collection, Preservation and Dispatch of Specimen for Blood and other ancillary material for identification and Medico-legal examination

C) MECHANICAL INJURIES AND BURNS

1. Definition and classification of injuries: Abrasions, Contusions, Lacerations, Incised and Stab injury, Firearm and Explosion injury, Fabricated and Defence injury
2. Medico-legal aspect of injury/hurt, simple and grievous hurts, murder, Ante -mortem, Postmortem Wounds, Age of the injury, cause of death and relevant sections of I.P.C., Cr.P.C.

3. Causative Weapon and appearance of Suicidal, Accidental and Homicidal injuries
4. Physical methods of Torture and their identification
5. Reporting on Medico-legal cases of Hurts
6. Regional injuries: Head injury, cut throat injuries and Road traffic accident injuries
7. Thermal injuries: Injuries due to heat and cold, Frostbite, Burns, Scalds and Bride burning
8. Injuries due to Electricity, Lightening

Collection, Preservation and Dispatch of Specimen for Blood and other ancillary material for Medico-legal examination

D) MEDICO-LEGAL ASPECTS OF SEX, MARRIAGE AND INFANT DEATH

1. **Sexual Offences and perversions:** Natural (**Rape**, Adultery, and Incest), Unnatural (**Sodomy, Bestiality** and Buccal coitus) Lesbianism, perversions and **relevant sections of I.P.C. and Cr.P.C.**
2. Fertility, **Impotence**, Sterility, **Virginity**, and Nullity of marriage and divorce on Medical ground
3. **Pregnancy, Delivery**, Paternity, Legitimacy, Artificial Insemination, *Fertilisation in Vitro, *Sterilization (Family Planning Measures)
4. **Abortions, Medical Termination of pregnancy, criminal abortions**, Battered Baby Syndrome, Cot deaths and relevant sections of I.P.C. and Cr.P.C., **M.T.P. Act of 1971 and foetal sex determination Act**
5. **Infant death (Infanticide)**
 - i. Definition Causes, Manners and Autopsy features
 - ii. **Determination of age of Foetus and Infant**
 - iii. **Signs of live-born, stillborn and dead born child**

Collection, Preservation and Dispatch of Specimen: Hair, seminal fluid/ stains and other ancillary material for medico-legal examination; examination of seminal stains and vaginal swabs

E) MEDICO-LEGAL ASPECTS OF DEATH

1. **Definition and concept of death, stages, modes, Signs of death and its importance**
2. **Changes after death**, Cooling, Hypostasis, Changes in eye, Muscle changes, Putrefaction, Saponification, Mummification, **Estimation of time since death**
3. **Death Certification**, Proximate causes of death, causes of sudden deaths, Natural deaths. Presumption of death and survivorship, disposal and preservation of dead
4. Introduction to *The Anatomy Act, *The Human organ transplantation Act. 1994
5. Medico-legal aspects and findings of post-mortem examination in cases of **death due to common unnatural conditions**
6. **Sudden unexpected death**, deaths from starvation, cold and heat and their medico-legal importance
7. **Medico-legal aspects of death from Asphyxia, Hanging, Strangulation, Suffocation and Drowning**

F) MEDICO-LEGAL AUTOPSY

1. **Autopsy: Objectives, Facilities, Rules and Basic techniques, Proforma for reporting medico-legal autopsy**
2. **Exhumation**, examination of mutilated remains, Obscure autopsy and **post-mortem artifacts**

Collection, preservation and despatch of material for various investigations to Forensic Science Laboratory

G) *FORENSIC PSYCHIATRY

1. **Definition, General terminology** and * Basic concept of normality and abnormality of human behaviour, Civil and Criminal responsibility
2. Examination, Certification, restraint and admission to Mental Hospital
3. Mental Health Act – Principles and Objectives

Part – 2 Toxicology: (N=20)

A) POISONS AND THEIR MEDICO-LEGAL ASPECTS

1. **Definition of poison, General consideration and Laws in relation to poisons** \Narcotic drugs and psychotropic substances Act, *Schedules H and L drugs, *Pharmacy Act, **Duties and responsibilities of attending physician**
2. **Common poisons and their classification, Identification of common poisons**, Routes of administration, Actions of poisons and factors modifying them, **Diagnosis of poisoning (Clinical and Confirmatory) , Treatment/ Management of cases of acute and chronic poisonings**
3. Addiction and Habit forming drugs, drug dependence
4. **Occupational and environmental poisoning, prevention and Epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act**
5. **Medico-Legal aspects and findings of postmortem examination in cases of death due to poisonings**

B) POISONS TO BE STUDIED

1. **Corrosive: Euphoric Acid**, Nitric Acid, Hydrochloric Acid, **Carbolic Acid** and Oxalic Acid, **Sodium and Potassium and Ammonium Hydro-Oxide**
 2. **Non-metallic, Metallic Poisons and Industrial hazards: Phosphorus** and compounds of Lead, Arsenic, Mercury, **Copper**, and Glass powder
 3. **Plant Poisons: Castor, Croton, Capsicum, Semicarpus Anacardium (Bhilawa), Calatropis Gigantea, Abrus Precatorius (Ratti), Dhatura, Cannabis Indica, Cocaine, Opium, Aconite, Yellow Oleander, Strychnine**
 4. **Animal and Bacterial Poisons: Snakes, Scorpion and Food poisoning**
 5. **Alcohol (Drunkenness) Ethyl Alcohol, Methyl Alcohol, Kerosene, Barbiturates**
 6. **Asphyxiant & Gaseous Poisons: Carbon Monoxide, War gases, Hydrocyanic acid, and Cyanides**
 7. **Insecticides, pesticides and Miscellaneous poisons: Organo-Phosphorus Compounds, Organo-Chloro Compounds, Carbamates (Carbaryl) and Rodenticides (Phosphides)**
- Collection, Preservation and forwarding of evidence, remains of poison, body discharges and viscera etc. to Forensic Science Laboratory in cases of poisoning**

C) FORENSIC SCIENCE LABORATORY: (BRIEF)

1. Aims, objects, general knowledge about Forensic Science Laboratory
2. General principles of analytical toxicology

Part – 3 Medical Jurisprudence: (N=12)**A) LEGAL AND ETHICAL ASPECTS OF PRACTICE OF MEDICINE**

1. The **Indian Medical Council**, the Act, Formation and Functions;
State Medical Council: Formation, Functions, and Registration
2. **Rights and obligations of Registered Medical Practitioners and patient, Duties of physicians and patients, Euthanasia**
3. **Infamous conduct, Professional secrecy and privileged communications**
4. **Codes of Medical Ethics, medical etiquette, Medical Negligence and contributory negligence, Precautionary measures and defences for Medical Practitioners against legal actions, Medical/Doctors indemnity insurance, Consumer Protection Act relevant to medical practice**
5. Medical Ethics and prohibition of Torture & care of Torture Victims

B) DEFINITION OF HEALTH AND ITEMS TO CERTIFY ABOUT HEALTH

1. **Common medico-legal problems in Hospital practice, Consent in Medical Examination and treatment, under treatment/ Sickness and Fitness certificate, maintenance of medical records**
2. Social, Medical, Legal and Ethical problems in relation to AIDS

C) ACTS AND SCHEMES RELATED TO MEDICAL PROFESSION IN BRIEF:

Workmen's compensation Act, * **Mental Health Act**, **Medical Practitioner Act**, Protection of human rights Act, 1993, * **National Human Rights Commission**, * **Human Organ Transplantation Act** and other relevant sections of I.P.C., Cr.P.C. and I.E. Act. Maharashtra civil medical code, Hospital administration manual

Part – 4 Legal procedures in medico-legal cases: (N=8)

- A. **Medico-Legal Investigations of death** in suspicious circumstances, different **Inquest**, type of offences
- B. **Types of Criminal courts and their powers**, punishments prescribed by law, **kinds of witnesses, Evidence, Documentary Medical evidence**, Dying declaration and Dying deposition
- C. The Trial of criminal cases, **Rules and Conventions to be followed by Medical Witness at Medical evidence, subpoena, conduct money**
- D. **Relevant Sections from the Indian Evidence Act, Indian Penal code and Criminal Procedure code**

NOTE : Must know, desirable to know and ‘ * ‘ is nice to know

d. Term-wise distribution

Terms Tuts/Sem/Allied	Lectures	Non – Lectures	Pracs.	Demos.
I Term	15	08	06	06
II Term	15	10	05	06
III Term	10	07	04	08
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Total	40	25	15	20

This period of training is the minimum suggested. Adjustments whenever required, depending on availability of time, be made

e. Practicals (including demonstrations) : Total no.of hours & contents

Practicals will be conducted in the laboratories.

Objective will be to assess proficiency in skills, conduct of experiment, interpretation of data and logical conclusion.

Emphasis should be on candidate's capacity in making observations and logical inferences in order to initiate enquiries in criminal matters and medico-legal problems.

Total Marks: 25 + 15 = 40

Contents:

Part 1 Forensic Medicine

Report on:

1. Estimation/Certification of Age
2. Recording of fingerprints
3. Examination/Certification of the Injured
[Prescribed Forms]
4. Examination of the Causative Agents in cases of Injuries
(e.g. Weapons, Instruments)
 - a. Hard and blunt weapons
 - b. Sharp cutting, sharp pointed and Sharp Heavy cutting weapons
 - c. Firearm weapons
5. Sexual offences :
 - a. Examination/Certification of Victim
 - b. Examination/Certification of Accused
6. Examination of Foetus to opine about age
7. Examination of Bones and teeth for Medico-legal purpose to determine age, sex, stature, cause of death, time since death
 - a. Skull and Mandible
 - b. Scapula, Sternum and Upper limb bones

- c. Sacrum and hip bone/ Pelvic bone
- d. Lower limb bones

Study of:

- 8. Medical certification of cause of Death as per Birth and Death registration Act [Prescribed Forms]
- 9. Studies of Skiagrams for estimation of age, bony injury, foreign body, and pregnancy
- 10. Photograph of different events of Medico-legal importance and post-mortem changes
- 11. Study of Various museum specimens of medico-legal significance
- 12. Study of Various slides of medico-legal significance
- 13. **Demonstration of Instruments:**
 - a. Used in treatment of acute poisoning cases
 - b. Used for causing abortions
 - c. Used for carrying out autopsy[Standard human autopsy dissection Box/set]

Part 2 Forensic Toxicology

- 1. Examination/Certification of Alcoholic [Prescribed Forms 'A' & 'B']
- 2. Study of Common poisons:
[Sulphuric Acid, Nitric Acid, Hydrochloric Acid, Carbollic Acid and Oxalic Acid, Sodium and Potassium Hydro-Oxide, Phosphorous, Lead, Arsenic, Mercury, Copper, Glass powder, Castor, Croton, Capsicum, Semicarpus Anacardium (Bhilawa), Calatropis Gigantea, Abrus Precatorius (Ratti), Dhatura, Cannabis Indica, Opium, Aconite, Yellow Oleander, Strychnine, Snakes, Scorpion, Alcohol, Methyl Alcohol, Kerosene, Barbiturates, Organo-phosphorus compounds, Organo Chloro compounds, Carbamates (Carbaryl)] and other commonly used poisons, antidotes and preservatives

Part 3 Medical Jurisprudence**Study of Medical Certificates [Prescribed Forms]**

- a. Sickness Certificate
- b. Fitness Certificate
- c. Certificate of Physical fitness
- d. * Medical certificate prescribed under Mental Health Act : 1987
- e. * Medical Certificate of Sound/ Unsoundness of mind.

Part – 4 Legal procedures in medico-legal cases**Study of the various prescribed Forms:**

Consent to surgery Anaesthesia and other Medical services, Request for sterilization, Consent to access to hospital records, Authorization for Autopsy, **Dead body Challan used for sending a dead body for post-mortem examination**, Request for the second inquest by Magistrate on the dead body, **Provisional post-mortem certificate**, **Post-**

mortem form, Pictorial Post-mortem form, Form for the Final cause of death, Forms for despatch of exhibits other than the viscera to chemical analyser, Forms for despatch of Viscera for Histopathological Examination, Form for dispatch of viscera to chemical analyser, Forensic Science Laboratory report form, Summons to witness.

Each student shall attend and record as a clerk

- a. As many as possible cases / items of medico-legal importance
- b. 10 cases of medico-legal autopsies

Both above 'a' and 'b' should be recorded in the approved Proforma in the single Journal. The Journal should be scrutinised by the teacher concerned and presented for the inspection and evaluation during the university examination.

Each student shall attend the court at least 2 cases when Medical Evidence is being recorded.

f. Books recommended

1. **Modi's Textbook of Medical Jurisprudence and Toxicology Ed. 22, 1999, by B.V. Subramanyam, Butterworth**
2. The Essentials of Forensic Medicine & Toxicology by K.S. Narayan Reddy
3. Parikh's Textbook of Medical Jurisprudence and Toxicology.
4. **Text Book of Forensic Medicine – J.B. Mukherjii VOL 1 & 2**
5. **Principles of Forensic Medicine - A. Nandy**
6. Toxicology at a Glance by Dr S.K. Singhal
7. Bernard Knight et. All: Cox's Medical Jurisprudence & Toxicology

Reference books

1. Russell S. Fisher & Charles S. Petty: Forensic Pathology
2. Keith Simpson: Forensic Medicine
3. Jurgen Ludwig: Current Methods of autopsy practice.
4. Gradwohl – Legal Medicine
5. A Doctors Guide to Court – Simpson
6. Polson C.J. : The essentials of Forensic Medicine
7. Adelson, L.: The Pathology of Homicide.
8. Atlas of Legal Medicine (Tomro Watonbe)
9. Sptiz, W.U. & Fisher, R.S.: Medico-legal Investigation of Death.
10. A Hand Book of Legal Pathology (Director of Publicity)
11. Taylor's Principles & Practice of Medical Jurisprudence. Edited by A.Keith Mant, Churchill Livingstone.
12. Ratanlal & Dhirajlal, The Indian Penal Code; Justice Hidayatullah & V.R. Manohar
13. Ratanlal & Dhirajlal, The Code of Criminal procedure; Justice Hidayatullah & S.P. Sathe
14. Ratanlal & Dhirajlal, The Law of Evidence; Justice Hidayatullah & V.R. Manohar
15. Medical Law & Ethic in India – H.S. Mehta
16. Bernard Knight : Forensic Pathology
17. Code of medical ethics : Medical Council of India, approved by Central Government, U/S 33 (m) of IMC Act, 1956 (Oct 1970)
18. Krogman, W.M.: The human skeleton in legal medicine.
19. FE Camps, JM Cameren, David Lanham : Practical Forensic Medicine
20. V.V. Pillay : Modern Medical Toxicology.