OBJECTIVES

At the end of the course in the forensic medicine, the MBBS student will be:
1. Able to understand the basic concept of the subject and its importance.
2. Aware of inquest, legal and court procedures applicable to medico-legal and medical practice.
3. Able to perform medicolegal postmortem/autopsy findings and results of other relevant investigations for logical conclusion and framing the opinion on cause, manner and time since death.
4. Able to reserve and dispatch relevant various articles, trace evidences including viscera in poisoning cases in medicolegal cases/ autopsy examination and handing over the same to appropriate agencies.
5. Able to identify the medicolegal cases, carryout medical examination in such cases and prepare medicolegal report as per the law of the land.
6. Aware of code of ethics, duties and rights of medical practitioner, duties towards patients and community, punishment on violation of code of ethics, various forms of medical negligence, duties towards his professional colleagues.
7. Able to diagnose and manage the cases of acute and chronic poisoning and can carry out medicolegal duties.
8. Diagnosis and treatment of common poisoning emergencies
9. Aware of general principles of analytical, environmental, occupational toxicology including toxic vigilance and predictive toxicology.
10. Aware of latest advances in Forensic Medicine & Toxicology and their medicolegal importance.

METHODOLOGY OF TEACHING
1. Lectures/Demonstration
2. Tutorials/Seminars

SUGGESTED TEXTBOOKS
1. Dr.K.S.N.Reddy- The essential of Forensic Medicine & Toxicology
2. Modi’s Textbook of Medical Jurisprudence and toxicology- Edited by BV Subramanyam
3. Dr. C.K.Parikh- A text book of Medical Jurisprudence, Forensic Medicine & Toxicology.
4. Dr. Apurba Nandy- Principles of Forensic Medicine.
5. Dr. Krishan Vij- Text book of Forensic Medicine & Toxicology- Principles and Practice.
Classes Schedule

1. Introduction & Jurisprudence
   a. Introduction
      Definitions, synonyms, history, modern, divisions
   b. Legal Procedure
      • Criminal procedure code, Criminal cases, Civil cases, Definition of Inquest, Different types of inquest procedures police inquest, magistrate’s inquest. Cognizable and non-cognizable offences, Different types of courts in India and their powers – Supreme court, High Court, Session Court, Magistrate’s court.
      • Court procedures: Summons, oath, affirmation, conduct money, types of witnesses, types of examination in court. Examination in chief, Cross examination, Re-examination, court questions, Evidence – Oral, Documentary, Medical evidence, Medical Certificate, Dying declaration, Dying deposition
      • Conduct of a doctor in witness box and Examination of dead body at the scene of crime.
   c. Medical Ethics
      • Medical council of India, state medical councils- Their functions and disciplinary control. Laws in relation to medical practice, duties of medical practitioner towards the patients and society. Indian Medical Register, rights & privileges of medical practitioner, penal erasure, infamous conduct, disciplinary committee, warning notice & euthanasia.
      • Code of medical ethics, unethical practices, dichotomy, consumer protection act , Prenatal diagnostic techniques act, Human organ transplantation act, ESI act, medicolegal issues in relation to family violence, Violation of human rights, NHRC and doctors, Doctors and media, ethics related to HIV patients.
      • Malpractice- Civil, Criminal and ethical
      • Consent, kinds of consent, informed consent, negligence, vicarious liability, the doctrine of res Ipsa Loquitur, Contributory Negligence, Therapeutic Privilege, Rules of Consent, Malingering, Therapeutic Misadventure, corporate negligence, Professional negligence, Professional Secrecy,
      • Human Experimentation, IPC related to medical Practice, Products liability, Medical Indemnity Insurance, Medical records.

2. Forensic Pathology
   a. Forensic Identity
      • Establishment of identity of living persons – Definition of Corpus Delicti, Race, sex, religion, complexion, stature, age determination using morphology, teeth eruption, decay, bite marks, bones ossification centres, medicolegal aspects of age.
      • Foetal age determination
      • Identification of criminals, unknown persons, dead bodies from the remains- hairs, fibres, teeth, anthropometry, dactylography, foot prints, scars, tattoos, poroscopy and Superimposition.
b. Thanatology

- Definition of death, Types of death-Somatic/Clinical/Cellular, Molecular and Brain death including cortical death and Brainstem death, Natural and Unnatural death, Suspended animation Moment of death, Modes of death – Coma, Syncope and Asphyxia, Presumption of death and Survivorship and Sudden death.
- Description of signs of death. Post-mortem changes after death – cooling of dead body, postmortem lividity, rigor mortis, cadaveric spasm, heat and cold stiffening, putrefaction, mummification, adipocere formation maceration and preservation of dead bodies.
- Estimation of time since death on postmortem examination.

c. Medicolegal Autopsy

- Definition of postmortem examination, Different types of autopsies, aims and objectives of postmortem examination, Legal requirements to conduct postmortem examination, Procedure to conduct medicolegal postmortem examination, obscure autopsy, examination of clothing, preservation of viscera on postmortem examination for chemical analysis and other medicolegal purposes, postmortem artefacts.
- Examination of mutilated bodies or fragments, bundle of bones and exhumation.

d. Asphyxial Deaths

- Definition and classification of asphyxia, medico-legal interpretation of postmortem findings in asphyxial deaths.
- Definition and types of hanging and strangulation. Description of clinical findings causes of death, postmortem findings and medico-legal aspects of death due to hanging and strangulation. Examination and despatch of ligature material.
- Definition, pathophysiology, clinical features, postmortem findings and medicolegal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation, sexual asphyxia.
- Definition, types, pathophysiology, clinical features, postmortem findings and medicolegal aspects of drowning, diatom test, Gettler test.

3. Clinical Forensic Medicine

a. Trauma / Mechanical Injuries

- Clinical features, postmortem finding and medico legal aspects of injuries due to physical agents heat (heat-hyper-pyrexia, heat stroke, sun stroke, Heat exhaustion (Prostration), heat cramps (miner’s cramp)), cold (hypothermia, Frostbite, trench foot, Immersion foot), lightening, electrocution and radiations.
- Clinical features, postmortem findings and medicolegal aspects of death due to starvation and neglect.
- Types of injuries, clinical features, pathophysiology, postmortem findings and medicolegal aspects in cases of burns and scalds.
- Types of Injuries – Simple,Grievous and Dangerous. Different types of weapons, Dangerous weapons and their examination. Antemortem and Postmortem Injuries, Medico-legal aspects of injuries.

Definition and classification of injuries, various types of injuries. Abrasion, bruise, laceration, stab wound, incised wound, chop wound, defence wound, self-inflicted/fabricated wounds and their medicolegal aspects.

Description of regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, Coup and countercoup injuries), Neck, Chest, Abdomen, Limbs, Genital organs, Spinal cord and skeleton.

Vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine, reconstruction of scene of crime.

Definition of Injuries, Assault and Hurt. IPC pertaining to injuries. Accidental, Suicidal and Homicidal Injuries.

Firearm injuries. Classification of fire-arms. Structure and components of various firearms, description of ammunition propellant charge and mechanism of fire-arms, various terminologies in relation of firearm – calibre, range, choking. Description of different types of cartridges

Description of wound ballistic, blast injuries and their interpretation. Preservation and despatch of trace evidences in cases of firearm and blast injuries. Various test related to confirmation of use of firearms.

b. Sexual Jurisprudence

Definition and types of sexual offences, Definition of rape. Section 376 IPC, Examination of the victim of an alleged case of rape, Examination of the accused of an alleged case of rape, preparation of report and framing the opinion in rape cases, preservation and despatch of trace evidences in cases of rape. Adultery, Unnatural Sexual offences Sodomy, Examination of accused and victim, preparation of report and framing of opinion, preservation and dispatch of trace evidences in cases of sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault. Sexual perversions. Fetichism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, necrophilia.


Definition of Virginity and defloration, anatomy of male and female genitalia, Hymen and its types, Medicolegal importance of hymen, Medicolegal importance of pregnancy, diagnosis of pregnancy, Superfoetation, superfecundation, Definition of Legitimacy and its medicolegal importance, disputed paternity and maternity, Medicolegal aspects of delivery, Signs of delivery, Signs of recent and remote delivery in living and dead.

Definition, Classification and complication of abortion, MTP act 1971, Methods of procuring criminal abortion, Evidences of abortion-Living and Dead, Duties of doctor in cases of abortion.

c. Infanticide

Definition of infanticide, foeticide and stillbirth. Signs of intrauterine death, Signs of live birth, viability of foetus, age determination of foetus,
demonstration of ossification centres, precipitate labour, Haase’s rule, Hydrostatic test, maceration, Sudden infant death syndrome, Munchausen’s syndrome by proxy, Battered baby syndrome.

d. Forensic Psychiatry
- Definition, Various types of mental disorder, Lucid interval, Classification of mental disorder, mental subnormality, Diagnosis of Insanity and Feigned insanity, Restraint, admission and discharge of Insane in accordance to Mental Health act 1994, Mental disorder and responsibility-Civil and Criminal responsibility, Testamentary Capacity, Mc Naughten’s rule.

4. Toxicology

a. General Principles
- History of Toxicology, Definition of Toxicology, Forensic Toxicology, Clinical toxicology and Poison, Laws in relation to poisons, Medicolegal aspects of poisons, Classification of poisons, Toxicokinetics and Toxicodynamics, diagnosis of poisoning in living and dead, General principles of management of poisoning, Antidotes and its types, Medicolegal autopsy in cases of poisoning, preservation and dispatch of viscera for chemical analysis.

b. Corrosives
- Sulphuric acid, phenol, oxalic acid, nitric acid, hydrochloric acid, organic acids and alkalis.

c. Irritants
- Non-metallic: Phosphorus, Halogens
- Inorganic: Arsenic, lead, iron, copper, zinc, thallium
- Vegetable: Abrus, ricinus, croton, ergot, capsicum, camphor, argemone, lathyrus & calotropis.
- Mechanical Irritants

d. Inebriants
- Describe and examine Alcohol poisoning (ethyl & methyl alcohol) and drunkenness, its medicolegal aspects & benzodiazepine poisoning.

e. Somniferous and Sedative Hypnotics
- Opium & its derivatives, synthetic preparations, pethidine & codeine.

f. Deliriants
- Datura, hemlock, cannabis, LSD, muscaline & cocaine

g. Insecticides
- Organophosphorous, Organochlorine. Classification and description of common insecticides and pesticides used in India

h. Cardiac/Spinal
- HCN, aconite, tobacco, quinine, digitalis and oleander.
- Strychnine, curare & domestic poisons

i. Asphyxiants
- Carbon monoxide, carbon dioxide, hydrogen sulphide, phosgene and phosphine

j. Domestic/Household poisons
- Kerosene, disinfectants, cosmetics, cleansing agents
k. Therapeutic drug toxicity
- Salicylates, paracetamol, antidepressants, antipsychotics

l. Food Poisoning

Practical Exercises (30)
Exercises
- Post-mortem certificate
- Estimation of age of foetus by postmortem examination
- Identification & description of weapons of medicolegal importance commonly used
- Identification & drawing of medico-legal inference from common poisons
- Identification & drawing of medico-legal inference from histopathological slides of Myocardial infarction pneumonitis, tuberculosis, brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, pulmonary oedema, brain oedema, soot particles, diatoms & wound healing.
- Description of the contents and structure of bullet & cartridges used & medico-legal interpretation drawn.
- Age estimation from X-ray
- Injury certificate
- Drunkenness certificate
- Death certificate
- Potency certificate
- Viscera Analysis
- Examination of rape victim
- Examination of rape accused
- Toxicology case
- Practical problems

“Let me give you a definition of ethics: It is good to maintain and further life it is bad to damage and destroy life.”  
Albert Schweitzer

I keep six honest serving men
(They taught me all I knew);
Their names are What and Why and When
And How and Where and Who

Rudyard Kipling