Forensic Medicine & Toxicology

Departmental Objectives:

At the end of the course in Forensic Medicine, the undergraduate student will be able to:

- 1. To produce competent, compassionate, reflective and dedicated health care professionals according to national goal. Practice medical and medico-legal works as per national goals and objectives.
- 2. Examine medico-legal cases and prepare reports or certificates in accordance with the law of land.
- 3. Perform medico-legal postmortem examination and interpret autopsy findings and results of relevant investigations to logically conclude the cause, manner and time since death.
- 4. Practice medicine ethically with humanly etiquette, discharge duties promptly and execute legal responsibilities of the physician toward his patient, profession, society, state and humanity at large.
- 5. Prevent and protect himself from medical and legal mishap.
- 6. Identify and apply relevant legal provisions applicable to the medico-legal and medical practice.
- 7. Collect, preserve and dispatch specimens in medico-legal case and other concerned materials to the appropriate Government agencies for necessary examination.
- 8. Diagnose, apply principles of management and understand medico-legal implications of common poisons.
- 9. Apply general principles of analytical, environmental, occupational and preventive aspects of toxicology.
- 10. Explain legal provision related to medical and medico-legal practice

List of Competencies to acquire:

- 1. Perform ethical medical practice and maintain proper doctor-patient relationship.
- 2. Capable to give deposition in the court of law as a medical expert.
- 3. Collect, preserve and dispatch the medico-legally important specimen.
- 4. Prepare, dispatch and store the proper medical records.
- 5. Perform proper examination of victim/assailant of physical assault and sexual assault.
- 6. Perform medico-legal examination (impotency, age determination, sex determination, mental fitness, mental state)
- 7. Perform medico-legal autopsy and interpret the findings.
- 8. Prepare certificates and medico-legal reports according to the law of the land.
- 9. Prepare referral or discharge certificate and death certificate properly and authentically as per ICD-10.
- Supervise and guide the medical team/practitioner regarding the ethical and legal consequence related to medical issues.
- 11. Handling dead body ethically and morally.
- 12. Explain legal provision and guide members related to medical and medico-legal practice
- 13. Record the dying declaration.
- 14. Diagnose and declare the death of a person.

The goal of teaching forensic Medicine in the undergraduate medical course is to produce a physician who will be well informed and alerts about his/her medico-legal responsibilities and is capable of being discharging medico-legal duties in medical practice.

Finally, on the basis of above context, those who are concern with Forensic medicine should initiate the thinking to redesign the curriculum where appropriate and give emphasis on those aspects in teaching learning and assessment of the students in under graduate medical education in Forensic Medicine.

Distribution of teaching - learning hours

Lecture		orial Practical to	Total	Integrated Teaching hour for Phase III	Formative		Summative	
	Tutorial		teaching hours		Prepar atory leave	Exam time	Prepar atory leave	Exam time
100 hrs	45 hrs	40 hrs + 12 days (8 days at mortuary + 4days for court visit, Police Station, OCC visit & DNA/Forensic lab visit)	185hrs + 12 days	20hrs	07 days	12 days	07 days	12 days

Time for integrated teaching, examination, preparatory leave of formative & summative assessment is common for all subjects of the phase

Related behavioral, professional & ethical issues will be discussed in all teaching learning sessions

Teaching-learning methods, teaching aids and evaluation

Teaching feat ming memous, teaching and evaluation						
Teaching methods				Teaching methods Teaching aids		
Large	Constl consum	Self	Others		evaluation	
group	Small group	learning				
Lecture	Practical:	Assignment,	Video & slide	Multimedia. Camera	Item exam	
Integrated	Demonstration,	self study &	presentation.	(Still & Video);OHP),	Card final	
teaching	Exercise,project work	self assessment	Community Oriented	Slide Projector,	Term exam	
teaching	Tutorial:		teaching and learning.	Black board;Flip chart,	Term final exam	
	Classroom exercise,		10days in mortuary	Handout / Charts,	(Written+SOE+	
	Question answering		6 days in OCC, Court	Reading materials,	Practical)	
	session,		visit, Police station	Paper cutting/Film strip,		
	Brain-storming and		visit & Forensic Lab	Textbook		
	discussion,		visit	Questionnaire,		
	Role play			Video film or slide tape		
	Problem solving					
	exercise					

3rd Professional Examination:

Marks distribution of Assessment of Forensic Medicine: Total marks – 300

- Written =100 (MCQ+ SEQ+ SAQ+ FA)
 - MCO-20 (50% SBA+50% MTF),
 - SEQ(Structured Essay Question)-20,
 - SAQ-50 (Short Answer Question) +
 - FA(formative assessment) marks 10
- Structured Oral Examination= 100
- Practical=50, OSPE= 40 & Others (PM report, Injury certificate & Practical assaignment)=10

Related Equipments, Aids, Specimen / Models:

- Post-mortem video tape, TV, Cassette Player (available on different events/topics).
- ➤ Module on Teaching Health Ethics (WHO, CME and BM&DC)
- ➤ Module on mass disaster:
- > Sexual Assault examination kit; MR Kit; Microscope; X-ray view box; chomaograph; X-ray film.
- Autopsy instrument set, dummy and photographs showing all major types of injuries and other cases.
- > Specimen of poisons and related instruments (Ryles tube, stomach wash tube etc.)
- Weapons: Mechanical weapons, Firearms and ammunitions.

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section -01: Introduction to Forensic Medicine

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Recent advances in Forensic Medicine

Learning Objectives	Contents	Teaching hrs
At the end of session the student will be able to- define forensic medicine, medical Jurisprudence. Differentiate forensic medicine from medical jurisprudence. explain the attributes and skills of physician for successful medico-legal practice describe DSD.Explain why combination of all tests are now practiced instead gene based test only. define and classify consent.Describe the reason of taken consent.Identify the criteria of valid consent. describe theelements of inform consent.List the indication of informed consent list the documents constitute medical records.describe the medical and legal purpose of keeping medical record. describe the reason for identification of dead in disaster. describe the procedure of identification of deceased in disaster victim(DVI). describe the legal issues related to age of child. describe the types,management of sports injury. Explain the medicolegal aspect related to sports medicine. describe the information provided by exam of a blood& hair list the blood groups. Describe the Medico-legal issues of blood group. differentiate hair from fiber, animal hair from human. define DNA profiling. Describe the method of DNA profiling. describe the samples collected for DNA profiling (living/dead) describe the importance of visit of crime scene and function of forensic lab.	 Core Introduction to Forensic Medicine& its subdivision; medical jurisprudence Recent advances in Forensic Medicine Emerging issues in sex verification and disorder of sex development(DSD) Medico-legal issues in consent; Euthanasia: legal,social and humanitarian aspect Legal and ethical issues in medical records. Legal issues in End life care & Paliative care Age of child: legal perspective Analytic and Clinical toxicology Mass disaster: Introduction, effect, management strategies, disaster victim identification (DVI). Sports medicine (type, mechanism, management and prevention of sports injuries. Forensic science: Trace evidence(blood stain, blood group, hair, semen); DNA Profiling. Optional: Forensic science: crime scene investigation, forensic lab. Cybercrime, Basics of ICT. History and landmarks of Forensic medicine HLA typing and Bioinformatics	L-9hrs T-4hrs

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section-02: Legal aspect (Legal structure; court procedure)

Learning Objectives	Contents	Teaching hours	
 At the end of session the student will be able to- define and classify courts Bangladesh. describe the power and function of session courts and magistrate courts of Bangladesh. define offence. Give examples of criminal offence. define and enlist the sentence approved in law. describe death reference. briefly describe various medico-legal systems. define summon, evidence, deposition, perjury, dying deposition, witness, and hostile witness. explain the parts of deposition. describe the procedure of recording evidence/ deposition in court of law. list the medical documentary evidences. Explain each type of evidence and witness. describe the procedure of taken dying declaration. differentiate dying declaration from dying deposition. explain the conducts of a doctor as an ideal witness. prepare medical certificate & report authentically as per expectation of court. 	Core: Legal structure (courts) of Bangladesh and their jurisdiction: Supreme Court, High Court, Sessions Court, Additional Sessions Court, Magistrates Court, Metropolitan Magistracy. Sentence Medico-legal system of Bangladesh; coroners system; Medical examiners system; continental Medico-legal systems. Legal (Court) procedures: Summons: definition, duties Evidence, perjury, deposition, parts of deposition, procedure of recording evidence, court questions. Witness, types of witness, conduct of doctor in witness box. Legal provision related for medical practice Medical certification and Medico-legal reports including dying declaration and medical documentary evidence. Additional: The Penal code; CrPc, Evidence act, Organ transplant act, Consumers protection act; MTP act; Workmen's compensation act Legal terminology applicable in court procedure.	L-4hrs T-2hrs	

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section 3: Medical Jurisprudence (Medical ethics)

Learning Objectives	Contents	Teaching hours
 The student will be able to – define ethics, etiquette. Describe etiquettes of a good doctor. explain the codes of Geneva declaration and its importance. describe the duties as per International code of medical ethics. explain the functions of BM&DC.Mention composition of it. describe the procedure and type of disciplinary action taken by BM&DC. describe the rights and privileges of a registered medical practitioner. describe the rights of patients. Mention the duties of patients. explain the responsibilities and duties of physician. define professional secrecy and privileged communication. describe the rules of professional secrecy. describe the conditions in which the physician can ignore the rules of secrecy. define Doctor Patient Relationship. Explain elements of it. explain the skills of effective doctor patient relationship. describe the issues in relation to DPR. describe models of doctor patient relationship. define infamous conduct, covering, dichotomy & malpraxis. describe the component of infamous conduct with example. explain the element to be proved in a plea of malpraxis. differentiate civil from criminal malpraxis and civil malpraxis. explain the measures to prevent malpraxis. explain the defenses of a doctor in malpraxis case. 	 Medical ethics: WMA declaration	L-10hrs T-04hrs
 describe therapeutic misadventure, medical maloccurance, product liabilities. describe the procedure of dealing ethical dilemma and conflict. describe the ethical and legal issues in end life care. 	 Additional: Code and law of medical ethics, its history Tokyo declaration 1975, Helsinki declaration .Other important WMA declaration Ethical review board. Procedure of ethical review in a research proposal. Dealing ethical dilemma and conflict. Organ transplant Act. MTP Act. Consumers Protection Act Legal provision related to medical practice. 	

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section 4: Forensic Pathology (L-24hrs; T-16hrs)

Learning Objectives	Contents	Teaching hours
 The student will be able to- define autopsy. Describe types of autopsy. describe the objective of medico-legal autopsy. describe the prerequisite of medico-legal autopsy. describe the procedure of external and internal examination. describe cause of negative and obscure autopsy. describe the procedure of exhumation and second autopsy. describe the rules of autopsy. Mention the hazards of autopsy. list the viscera preserved for chemical analysis. define inquest. Describe the content of an inquest. List the indication of magistrate inquest. describe the safe working and proper utilization of a modern morgue and laboratory facilities. Additional: describe the special procedure in HIV/Corona, custodial death, mutilated and highly decomposed. describe the methods of dead body preservation. describe the procedure of autopsy as per UNHCR 	 O1. Autopsy: Definition; Type; prerequisite; objective; Procedure: external, internal (opening body cavity, 3rd incision, removal of viscera, internal exam) and laboratory procedure; Report writing; opinion. Collection and dispatch of specimen. Inquest report: definition, type, content, magistrate inquest. Modern morgue. Exhumation: definition, procedure; importance; 2nd autopsy. Forensic anthropology: Post Mortem exam of mutilated and skeletal remains. Additional: Virtual autopsy procedure, Academic autopsy; Special Autopsy & disposal of radioactive corpse. Recommendation of autopsy as per human right commission. Clinical autopsy: Legal formalities, Procedure; Precaution; Importance Methods of preserving dead body. 	L-5hrs T-4hrs

Forensic Pathology-contt

At the end of session the student will be able-	Core:	
 describe the modes of death. Mention the unnatural death. give examples of death due to asphyxia, coma and syncope. describe the changes after death.Mention changes in eyes. define hypostasis. Differentiate hypostasis from bruise. define rigor mortis. explain the mechanism, sequence of appearance and medico-legal importance of rigor mortis. define putrefaction, adipocere formation & mummification. describe the mechanism, cardinal sign, external features and medico-legal importance of putrefaction, adipocere formation and mummification. describe the procedure to estimate time since death. define sudden death. Describe the cause & ML imp of it. list the postmortem artifacts. Explain its importance. describe the autopsy finding to be looked in custodial death. list the questions to be answered to assess the fatality and liability in anesthetic and operative deaths. 	 O2. Death Mood and manner of death (natural/ unnatural) ➤ Asphyxia; syncope; coma PM changes after death: ➤ Immediate ➤ Early change: skin change, eye change, cooling of body, hypostasis, rigor mortis ➤ Late change: putrefaction, adipocere formation and mummification Post mortem artifacts: Resuscitative artifact, agonal artifact and postmortem artifact. Sudden death. Custodial death. Anaesthetic and operative deaths. Additional: Radioactive carbon(C₁4) estimation Forensic entomology Death due to occupational and environmental hazards Dead body management & handling in disaster 	L-6hrs T-3hrs
 The student will be able to- define infanticide. Describe the signs of live born, stillborn and dead born. Differentiate live born from dead or stillborn. describe the cause of death in case of infanticide and its modes of death. describe maceration, spalding sign and umbilical cord change. 	Core 03. Infanticide: definition, legal bearing, cause of death, mode of death. a. Dead born(def, spalding sign, maceration) b. Live born c. Still born Additional: Precipitated labor Cot death, SIDS, foeticide Death due to neglect	L-2hrs T-1hrs

Forensic Pathology-contt

 The student will be able- define hanging, strangulation, drowning, smothering, choking. describe the types of hanging, strangulation & drowning. describe postmortem findings of hanging, strangulation and drowning. describe the cause of death and medico-legal imp of hanging and strangulation. differentiate hanging from postmortem suspension and strangulation. 	 Core: 04. Violent asphyxial death: Hanging: def, types, cause of death, mechanism of death, PM finding, ML imp. Strangulation: definition, type, throatling, ligature strangulation, cause of death, PM finding, ML imp. Drowning: Definition, types, pathophysiology, PM findings, cause of death, ML imp. Suffocation: smothering, choking, and gagging. 	L-5hrs T-3hrs
 Students will be able to - describe the medico-legal importance of crush syndrome. describe the features of traumatic asphyxia. describe the cause of traffic accident and objectives of autopsy in traffic wound. explain the injuries sustained by pedestrian, driver, motorcyclist, and passenger. describe the objectives of autopsy in traffic accident. describe importance of seat belt syndrome. define forensic ballistic.classify firearms. list the composition of cartridge. Enumerate diferent cartridges. differentiate exit from entry firearm wound. Describe the features of suicidal firearm arm injuries. describe the composition of bomb and effects of bomb blast. define joule burn. describe complication of electrocution. describe the cause of death and postmortem features of electrocution. 	 Core 05.Wound: (L-6hrs; T-3hrs) Transportation wound: ➤ Trauma in RTA; cause, preventive device (helmet, seat belt syndrome); ➤ Injuries sustained by pedestrian; driver, motorcyclist; passenger; Crush syndrome. ➤ Objectives of autopsy in traffic wounds. Firearm and explosives: ➤ Fire arms, cartridge composition, fire arm injuries (entry and exit) according to range, medico-legal aspect. ➤ Bomb blast and explosion Electrocution and lightning. Autopsy (mass disaster) protocol 	L-6hrs T-2hrs
	 Additional: Transportation: Trauma in Railway disaster; River traffic, Air crush. 	

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section 5: Clinical Forensic Medicine (L-18hrs; T-12hrs)

Learning Objectives	Contents	Teaching hours
 At the end of session the student will be able to- define& classify death. Differentiate death from suspended animation.Mention the medico-legal importance of somatic death. mention the signs of brain stem death. Describe the diagnostic criteria of brain death. describe the criteria to declare death. Define death trance. Prepare death certificate as per ICT-10. 	 Death: Basic of death: definition, type, ML imp of somatic death; signs of death; cause, manner, mechanism of death; Brain death: types, signs, diagnostic criteria. Declaration of death. Suspended animation; presumption of death 	L-2hrs T-2hrs
 define injury, wound, hurt, battery, assault and homicide. list the components of grievous hurt. classify homicide with examples. Describe the defense and fabricated wound. Mention the cause of death due to wound. classify wounds. Describe the consequence of wound. define, classify and describe the medico-legal importance of abrasion, bruise, laceration, incised and punctured wound. how to determine the age of wound(abrasion,bruise,incised). describe the features of incised wound and chop wound. differentiate incised wound from incised looking wound; suicidal from homicidal cut throat wound; antemortem from postmortem wound; homicidal,suicidal & accidental wound. describe the types of skull fracture, types of intracranial hemorrhage and brain injuries. Mention whiplash injury. describe flail chest; describe the effect of chest wound define domestic violence. Briefly describe features of BBS. describe Manchausen syndrome; Battered wife syndrome. define burn, scald. Describe the types, management, complication and cause of death in burn. define torture. Describe the methods and effects of torture. 	 Wound: Medico-legal aspect: injurywound, hurt, battery; grievous hurt; cause of death due to wound; homicide; defense wound; fabricated wound. Mechanical wound: abrasion, bruise, laceration, incised wound and puncture wound Regional injury: Head injury: Scalp, skull fructure, Intra cranial hemorrhage, brain injuries. whiplash injury. Crush syndrome. Domestic Violence: Battered Baby syndrom(BBS); Manchausen syndrome; violence against women. Thermal injury: Heat (Burn scald) and cold. Torture Neglect and starvation Additional: Chest injury, abdominal injury, genital injury and extremity injury. 	L-09hrs T-04hrs

Clinical Forensic Medicine-Contt

Learning Objectives	Contents	Teaching hours
 explain the medico-legal issues in marriage. describe when marriage become null and void. Outline conditions where a women can demand divorce. differentiate between true & false virginity, impotency & sterility.describe the causes of impotency & sterility in male or female.Outline the procedure to examine impotency case. describe the medico-legal issues. describe the prerequisite and procedure of examination of victim or accused of sexual assault. identify signs of rape and other sexual offences with their medico-legal importance. Describe the complications of rape. classify hymen. Differentiate fimbriated from ruptured hymen. describe the genital and extragenital sign of virginity. describe collection, preservation, and dispatch of swab, blood, stains, hair and body fluid. describe different sexual deviations 	CORE: 03. Forensic aspect of sex: • Medico-legal aspect related with marriage. • Impotency, sterility; Medico-legal aspect. • Legitimacy; Paternity and maternity. • Hymen:Type, cause of rupture; medico-legal aspect. • Virginity and defloration. Sexual offences: • Natural: Rape, Adultery, Incest. • Unnatural: sodomy, Lesbianism, Buccal coitus, Bestiality • Investigations: collection & dispatch of specimen (HVS,stain,hair,blood); radiology Medico-legal report preparation: Impotency, fixation of paternity & maternity, report on sexual violence; rape. Sexual perversions: sadism, masochism, voyuerism, necrphilia, necrophagia.	L-7hrs T-3hrs
	Additional:Psychosexual instinct;legal provisions related.	

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section 6: Identification

Learning Objectives	Contents	Teaching hours
 The student will be able to- describe the objectives/purpose of identification. enumerate the traits of identification. identify those traits that are applicable for living. describe how to differentiate different race. explain the technique of sex determination. Describe the ML imp of sex. describe the medico-legal importance of age. Mention the prerequisite & procedure of age estimation. explain the role of forensic radiology and forensic odontology in identification. define dactylography. Describe its type & importance. define scar. Describe nature & importance. define trace evidence. Describe the information that could be concluded by blood stain, hair and semen. determine the cause and nature of death from the trace evidences. 	CORE: Identification: Definition, types, objectives, and method of identification. Identification traits; Identity of living persons & dead bodies. Race, religion, sex. Age: medico-legal importance; estimation of age. Tattoo, scar, stature, mole, birthmark Stature, occupational marks. Trace Evidence. Forensic Dactylography. Forensic Radiology: introduction, scope and medicolegal issues. Forensic Odontology: introduction, scope and forensic issues. Bite marks; Modern technologies used in identification Identification in mass death & examination of human remains. Additional: X-ray identification.	
 evidences. describe the information provided by examination of bite marks. describe procedure of identification in mass death & skeleton remain. 	 X-ray identification. Superimposition. Lip print Brain fingerprinting; Lie detector. Biometrics; retina scan, Iris scan. Forensic Voice analysis Questioned document examination Forensic ballistic 	

Learning Objectives	Contents	Teaching hours
 explain the procedure of artificial insemination with their medico-legal importance.describe the medico-legal issues in IVF. Diagnose pregnancy and delivery with their medico-legal importance.describe the signs & PM findings of pregnancy. describe the signs of recent delivery in living and dead. defineabortion with its type. Describe the method, complication, management, duties and medico-legal importance of criminal abortion. List the indication of therapeutic abortion. describe medico-legal importance of viable age. 	 Forensic aspect reproduction: Artificial insemination and other artificial methods of conception with medico-legal implication (IVF,cloning). Surrogated mother & baby. Pregnancy: Medico-legal importance; Signs of pregnancy& duration. PM finding of pregnancy. Delivery: signs of recent & remote delivery in living & dead. Abortion: types, methods, complication, managementandduties of medical practitioner. Indication of therapeutic abortion. Spontaneous, Artificial (justifiable and criminal abortion). Additional: Feticide and viability; IUF death. MTP act; Infertility & its medico-legal issues; Invitro Fertilization 	L- 5hrs T-3hrs
Section -08: Forensic Psychiatry	,	
 Students will be able to: define forensic psychiatry. describe the features of mental illness. how to diagnose a case of mental disorder. describe how to fix-up civil, criminal and social responsibilities of an insane person. define delusion, illusion, hallucination & delirium. Describe the types of hallucination and delusion with its medico-legal importance. Explain McNaughten's rule. Describe the civil & criminal responsibilities. Explain the role of personality disorder and substance abuse related with crimes and its medicolegal importance. Differentiate true from false insanity. 	 CORE: Definition of forensic psychiatry. Classification of mental disorder, lucid interval, testamentary capacity. Important terms of forensic psychiatry. Elements of forensic psychiatry(psychosis, neurosis,delirium, delusion, illusion, hallucination, confabulation, phobia, impulse etc) Issues of incompetency to stand trial/event. Criminal responsibility of an insane person. Personality disorder related with crime. Aggressive behavior and medicolegal issues Diminished responsibility. Civil and Social responsibilities. Substance abuse affecting mental state True insanity and feigned insanity: Rules in relation to forensic psychiatry. Additional: Mental health act Advances in forensic Psychiatry. Psychosexual instinct 	L-4hrs T-2hrs

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section-09: Forensic Toxicology

Learning Objectives	Contents					
 describe the factors modifying the action of poisons. describe the duties of a doctor in case of poisoning. outline the principles of management of acute poisoning. outline the principles of management of chronic poisoning. describe the mechanism, FD, features, complication, management, ML imp & postmortem finding of specific poison. describe post mortem appearances in respective poisoning cases. describe preventive measure of drug abuse, domestic, insecticides and food poisoning. define drunkenness, vitriolage. 	CORE: General aspects of poisoning:	L- 20hrs T- 05hrs				

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section-10: PRACTICAL (40hrs)

Learning Objectives	Contents	Teaching hours
Practicals: The students will be able to: • perform examination of medico-legal cases individually. • perform medico-legal autopsies under supervision. • attend the court as a witness and give deposition as an expert witness. • prepare/write certificates on injury cases, births, deaths, sickness & fitness, discharge etc. • prepare ten reports on medico-legal autopsies. • prepare dying declaration. • recognize medico-legal cases individually.	 A. Demonstration: (18hrs) Demonstration & observation of ten medico-legal autopsies. Observation/examination of intoxicated persons in the ward (Indoor). Flip chart Weapons: Blunt weapons; Sharp Cutting weapons; sharp pointed Dangerous weapon: firearms Forensic photograph: Identity: Tattoo; fingerprint; Barr body & Davidsons body Thanatology: Marbling, degloving, demonstration rigor mortis Asphyxial death: Ligature marks; FB in trachea(Choking) Hanging; Strangulation; Partial hanging; smothering; sexual asphyxia; traumatic asphyxia; diatoms; drowning. Trauma: Hesitation cut; fabricated injury; incised wound; cut throat wound with hesitation mark; defence wound; shotgun injury; pattern abrasion; graze abrasion; contact rifle entry wound; chop wound; pugilistic attitude; soot particle in the trachea; Lacerated wound; Toxicology specimen(poison) Corrosives:Hcl,H₂SO₄, HNO₃, carbolic acid;Oxalic acid; Salicylic acid; corrosive alkali. Inorganic: lead; copper; Arsenic; Mercury; Phosphorus. Organic: chili seeds; Snake. Systemic:	2hrs 2hrs 2hrs 2hrs 2hrs 2hrs 2hrs 2hrs

 explain the procedures of examination of victim of sexual offences, physical assault. explain and describe the procedure of postmortem examination. explain the procedures of determination of age. describe the suspected poisoning cases and can describe the emergency management of an intoxicated patient in the ward. prepare injury report, postmortem report; age estimation report, mental state report, death certificate, death note for patients record, Sickness and fitness certificate, discharge certificate, 	B. Exercise: (22yrs) Preparation of certificates on following Medico-legal situations: Prepare 5-10 Injury report Prepare 10 Postmortem reports Prepare death certificate according to ICD-10 with recording of death note. Prepare medical(fitness & sickness) certificate; discharge certificate; Birth certificate. Prepare report on Insanity. Prepare age estimation report. Prepare report of sexual assault. Recoding Dying declaration. Examine for estimation of the age of a person. Examine victim of physical assault. Examine victim of sexual assault. Examine a drunkenness case Management of poisoning case Age estimation from bones by X-rays. Assignment. C. Observation	2hrs 2hrs 2hrs 2hrs 2hrs 2hrs 2hrs
	D. Experiment: E. Role play: Drunkenness Infamous conduct F. Presentation G. Problem solving:	

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section-11: Observation of ten Medico-legal Autopsies (10days)

Learning Objectives	Contents	Teaching hours
 The student will be able to: note the particulars of deceased, case no, Police station referencecase/GDE no with date; name & number of the police constable, date of time of dispatch and arrival of dead body. scrutinize the documentary prerequisites and other prerequisites for medico-legal autopsy observe and note the changes of death on the dead body. observe and note the marks in relation to identification. observe and note the external injuries. observe and note the external examination. observe and note the incisions for opening body cavities. observe and note the findings of internal examination & viscera. observe and note the procedure of viscera preserved, preservative used, packed & labeled. 	 College authority will contact and fix the schedule with suitable time & date to attend. Transport will be provided by the college authority. 	8 days

Learning Objectives and Course Contents in Forensic Medicine & Toxicology Section-12: Day visit-06

Learning Objectives	Contents	Teaching hours	
 The student will be able to: note the name of the court students attend & other type of courts present here; date observe the court environment and court etiquette. observe role of public prosecutor office. observe the role of judge,publicprocecutor& defense lawyer observe the court procedure and gain a practical experience. prepare an assaignment on your experience of court visit. 	Visit to court.	 College authority will contact and fix suitable time & date to attend. Transport will be provided by the institute. 	One day

 The Student will be able to: note the name of police station and the administrative structure observe the procedure of first information report (FIR); Inquest report; chalan form and general diary entry (GDE). observe the activities perform in police station. prepare experience report. prepare an assaignment on the activities perform in police station. 	Visit to police station	 College authority will contact and fix suitable time & date to attend. Transport will be provided by the institute. 	One day
 The Student will be able to: note the name of hospital and the administrative structure. observe the victim of sexual assault; victim of domestic violence; victim of battered baby syndrome. observe the activities of OCC. prepare experience assaignment. prepare report on the case you observed here with findings and opinion. 	One stop Crisis Center (OCC)	 College authority will contact and fix suitable time & date to attend. Transport will be provided by the institute. 	one day
 The Student will be able to: note the name of DNA lab or forensic lab. observe the activities perform by forensic lab. observe the problems in collection, packing & dispatch of samples for forensic lab. prepare report on your observation. 	DNA lab. Forensic lab.	 College authority will contact and fix suitable time & date to attend. Transport will be provided by the institute. 	One day

Existing summative assessment of Forensic Medicine & Toxicology

Assessment systems and mark distribution.

Components	Marks	Total Marks
Formative assessment	10	10
WRITTEN EXAMINATION		
MCQ (50% Single Best Answer+50% Multiple True False)	20	
SEQ (Structured Essay Question)-20	20	90
SAQ (Short Answer question)	50	
Practical Examination		100
ORAL EXAMINATION (Structured Oral Examination).		100
	300	

- There will be separate Answer Script for MCQ.
- Pass marks 60 % in each of theoretical, oral and practical.

Example of a "Format" for Integrated Teaching

Teacher of	Teacher of	Teacher of	Teacher of Forensic Medicine
Anaesthesiology	Pharmacology	Medicine	
Hazards of anaesthesia and causes of death, injury and disability.	The Pharmacological aspects of opium and opoids.	Clinical aspects of acute opium and opoids poisoning.	 When and how far anaesthetists are responsible for such death? Legal responsibilities of an anaesthetist. Forensic aspects of acute opium and opoid poisoning. Determination of causes of death due to above poison. Methods for determination and confirmation of the poison.

TIME SCHEDULE

Sl no	Section	Topic	Lecture	Tutorial				
01	Section -01	Introduction to Forensic Medicine and Recent advances in Forensic Medicine	09hrs	04hrs				
02	Section -02	Legal structure and court procedure	4 hrs	02hrs				
03	Section -03	Medical Jurisprudence and Medical ethics	10hrs	04hrs				
	Section -04:	Forensic Pathology (L-24hrs; T-13hrs)						
04		Medico-legal Autopsy	05hrs	04hrs				
05		Death: Mode, manner; Changes after death; Artifact Sudden death; Custodial death. Anesthetic & surgical death	06hrs	03hrs				
06		Infanticide	02hrs	01hrs				
07		Violent asphyxia	05hrs	03hrs				
08		Wound: Transportation wound; Firearm & explosives; Electrocution & lightning	06hrs	02hrs				
	Section-05:	Clinical Forensic Medicine (L- 53hrs; T- 22hrs)						
09		Basics of Death	02hrs	02hrs				
10		Wound: Mechanical wound; Regional wound; Thermal wound; domestic violence; Torture & Neglect.	09hrs	04hrs				
11		Forensic aspect of sex	07hrs	03hr				
12	Section -06	Identification	06hrs	03hrs				
13	Section -07	Forensic aspect of Reproduction	05hrs	03hrs				
14	Section -08	Forensic Psychiatry	04hrs	02hrs				
15	Section -09	Forensic Toxicology	20hrs	05hrs				
		Total	100hrs	45 hrs				
16	Section -10	Practicals (demonstration; exercise; observation; role play; problem solving)	-	40hrs				
				85hrs				
17	Section -11	Autopsy observation at Mortuary 12 days						
18	Section -12	Court Visit; Thana visit; OCC and forensic lab visit						
		Grand Tot	tal :100+45+40=1	185 hrs + 12 days				

Item card

		Department of Forensic Medicine & T Name	Medical collegeRollBatchSession						
		First Term	Second Term						
		Item no	Date	Mark obtained			Item no Date Mark obtained		
Introduction & Recent advances	01	 Introduction to Forensic Medicine; Branches; history & Scope Recent advance in Forensic medicine: DSD; age of child. Consent; Euthanasia; Medical records; 			Forensic aspect of Reproduction	11	living & dead; PM finding • Abortion: Therapeutic, Justifiable & Criminal abortion.		
Introd Recent	02	 Mass disaster, DVI; Sports medicine. Forensic science & Trace evidence: Blood stain Blood group, Hair, Semen; DNA Profiling 			Forensic Psychiarty	12	Personality disorder; agrrasive behavior; true insanity Civil,criminal & social responsibilities; Important rules		
Legal aspect	03	 Law & Legal aspect: Legal structure: courts, power & function; penal code; sentence. Legal (courst) procedure:Evidence, witness; ideal witness; summon. Certificate & medico-legal reports 			Medical Jurisprudence	13	WMA declaration (Geneva declaration, others)		
ology	04	 Basics of Death:definition,type, mode, manner, cause, diagnosis, declaration, somatic death, apparent death, brain death Changes of death: immediate,early, Late change Post mortem artifact 			Med Jurispr	14	Doctorine res Ipsa loquito, contributory, therapeutic misadventure, corporate negligence, ethical dilemma.		
Path	05	 Sudden death. Custodial death; Anaesthetic and operative deaths. Torture and neglect(BBS, Starvation) 				15	Principles of management/objectives.		
Forensic Pathology	06	 Autopsy:def; type;prerequisite, procedure; laboratory procedure, report writing; Special autopsy & autopsy of special situation Modern mortuary; Exhumation; Inquest; Ml system Infanticide: Live born, dead born, still born 			gy	16	Metainc: Arsenic, Copper, Mercury Insecticide(OPC); kerosene oil		
8	07	 Define injury, hurt, assault, battery, homicide Medicolegal aspect: grievous hurt, defence wound, cause of death. Mechanical wounds: Abrasion; Bruise; laceration; Incised, Stab wound Regional injury; Transpotation; Thermal and electrical wound 			Toxicology	17	Delerient: Dhatura, Cannabis; coccaine Narcotic & hypnotic: Opium; Barbiturate Inebrient:Alcohol, methyl alcohol Sbstance abuse; solvent abuse		
Clinical forensic medicine	08	 Hanging: Definition,type,mechanism,cause of death, postmortem finding; ML imp, difference from PM suspension. Strangulation: def,type,cause of death, PM finding,ML imp,. Drowning: def, type, pathophysiology; PM finding; cause of death; Ml imp, diatom; lab investigation Suffocation: smotherinf;chocking; gagging; 				Forensic 7	18	Yellow olender	
ical foren	09	Forensic aspect of sex, sexual offence Impotency, sterility; Marriage, divorce; legitimacy; paternity, maternity Hymen, Virginity, defloration Sexual offence: rape, adultery, incest Unnatural sexual offence: sodomy, bestiality, lesbianism Sexual perversion, Sexual instinct				19	Analytic toxicology		
Clin	10	 Identification: trait, objectives, Ml imp. Race; Sex; age Dactylograpy, Tattoo, scar Modern technique, comparism data; superimposition 				20	 Overall conception regarding forensic medicine Attitude, Interpersonal skill, Extra academic skill Soft skill, management skill, leadership skill 		

Academic Schedule for Forensic Medicine & Toxicology

					3 rd Pl	nase									
First Term								nd Term							
01	02	03	04	05		05		06	07	08	09		10	11	12
(July)	(Aug)	(Sept)	(Oct)	(N	lov)	(Dec)	(Jan)	(Feb)	(Ma	r)	April	May	June		
o Introde o Recent conser medici o Mass o o Forens DNA I • Legal so o Legal o o Certifi • Medical J o Medical o WMA • Forensic o Autope morter o Asphy o Trans • Clinical f Death:Bas Mechanic	disaster& DVI. dic science: blood Profiling pect: structure (courst)procedure cate & medico-leg furisprudence al ethics: Health E al ethics; Professio &C declaration& app Pathology sy &Infanticide C n artifactes xial death potation; therma forensic medicin sics, braindeth al wounds &Me aspect of sex, sei	Medicine nsic medicine: nedical record stain &group, gal reports thics; Rights & s of doctor. Co onal secrecy died ethics changes after de land electricate edicolegal asp	DSD; Is; Sports Hair, Semen; Privileges of ode & law of eath and Post- al wound	9 hrs 4hrs 10hrs 24hrs 6hrs	1st Internal assessment	• Forens:	rtificial inser- sputed pater aternity regnancy regnancy relivery regnancy respectation relivery reliver	reproduction: mination and nity & logy t of poisoning on on, inebriants of acute ons,	4hrs 5hrs 20hrs	2 nd Internal assessment		3' Pr exa	of		
Lecture-71hrs; Tutorial-35hrs: Practical-27hrs +12 days(8 days for observation of autopsy at mortuary + 4 days court, thana,OCC, DNA& forensic lab visit)								Lecture Tutoria	l-10hrs			d:195 12 da			
+	4 days court, t	nana,OCC,	DNA& Ioren	isic lab	visit)	1		Practica	u-13nrs						

01. Postmortem report form: Students has to prepare 10 PM report

বাংলাদেশ কর	ম নং- ৫৩৭২					6 4					স্টেশন			
				ময়না	তদন্তের	রিপোর্ট			२०	সনের	ম	সের	তারিখ	
				(পি,আর,বি য	त्रम नः दद,	২৮৪ নিয়ম দ্রষ্টব্য)							7. S. C.	
	নাম, লিঙ্গ, বয়স ও কোথা হইতে আনা হইয়াছে - গোত্র গ্রাম ও থানা।		যে কনষ্ট্যাবল কর্তৃক ও তাহার নাম এবং স আত্মীয় - সম্ভনের	গানা হইয়াছে ংগে আসা	য়াছে প্রেরণের দিন ও না ক্ষণ।		লাশ কাটা মর্গে আনয়নের দিন ও ক্ষণ	পরীক্ষার দিন ও ক্ষণ		পুলিশ কর্তৃক প্রদন্ত তথ্য		যে ব্যাক্তি মেডিক্যাল অফিসারের সামনে সনাক্ত করিয়াছেন।		
1	বিশেষ দ্রষ্টব্য ঃ- যাবতীয় ১ - ব্যাক্তির অবস্থা - ব	া অঙ্গ-প্রত্যঙ্গের ত কল্লান সীর্গ গুলি	বিস্থা লক্ষ্য করুন		এবং কোন রোগ অথবা যখমের চিহ্ন না পাইলে স্বাস্থ্যব ২- যথম - অবস্থান, আকার ও ধরণ			ন। ৩ - আঘাত - অবস্থান, অ		৪ - গলা ব্যবচ্ছেদের	च्याच क्षांक	will be brush		
১ - बाह्यिक मन्त्रल					(4)-1, SITIA	0 4 1		७ - जापाल - जपश्न,						
২ - মাথার খুনি এবং মেরুদন্ডের নল	১ - মাথার বহি	ইরাররণ - মাথার	খুলি এবং মেরুদ	তের অস্থি খডসমূহ			۷-	ঝিক্বী	৩ - ম	স্তিস্ক এবং <i>ত</i> ভাহা	মরুদন্ত রচ্ছু (যদি কোন ইইলে মেরুদন্তের নল গ	রোগ অথব শরীক্ষার দর	া যথমের নিদর্শন না থাকে কার নাই)।	
ন্তে শুক														
6	১ - প্রকার - পাজর এবং ২ - যু কোমলাস্থিসমূহ।		ফুস আবরণী	৩ - বাগযন্ত্র ও শ্বাস	নাপী	৪ - ডান ফুসকফুস	দ	৫ - বাম ফুসফুস	৬ - হ	দ্ধরা ঝিক্সী	৭ - স্কৃৎপিং	5	৮ - রক্ত নালী	
तक देव व														
	১ - প্রকারসমূহ ২ - উদরের		উপরের ঝিস্বী ৩ - মুখ, শ্বাসনালী এবং অন্ননালী		ाशी	৪ - পাকস্থলী এবং উহার অভ্যন্তরস্থ ৫ - ক্ষুদ্র বস্তুসমূহ।			দ্রায় ও উহার অভ্যন্তরস্থ ৬ - কল্পসমূহ।		হদার ও উহার অভ্যন্তরস্থ কন্তুসমূহ।			
৪ - উপর	৭ - য	৭ - যকৃত		৮ - প্রীহা		৯ - মূত্রা		শ্যুসমূহ	১০ - মূত্ৰাস্থলী		22	১১ - প্রজনন অঙ্গসমূহ, '		
24												ভিতরের।		
		১ - যখম			রোগ অথবা বি	a dist			অস্থিভঙ্গ			8 - इ	and the	
মাংসপেশী, হাড় এবং জোড়সমূহ।						11191			पार्य			0 - 21	Wild	
রোগ অথবা যখমের ভারও বিস্তৃত বিবরণ।														
		হ্যুর কারণ সম্পরে			~ ~					সিভিল সাং	র্জনের মন্তব্য			
f	বঃ দ্রঃ - যথমের ক্ষেত্রে, য	াখমে হ্রার, তআ	অহত্যার বা অন		কিনা তাহা দি		۵۵	সনের	মালের		তারিখ		সিভিল সার্জন	

02. Students has to write 6 death certificates according to this form(ICD-10)

Directorate General of Health Services International Form of Medical Certificate of Cause of Death																															
Hospital Name:																															
Hospital Code No:] A	dmis	sion	Reg	. No:			I			T													
Name																															
Father's Name																															
Mother's Name											Ī	T						T	Ť	T	T	Ť	T	T	Ť	T	T	T	Ť	Ť	T
Address	House/I (Name/	Road [Villa	age/A	Area/		_	_		_		_	_			nion/			_			-	
	Post Off	Г							Pos	st [Town			Upa	zila/							=	stric	F						
Sex:		male [_	Ma	ile		Thir	rd ge	Coo		elig	ion:		Isla		ana	Hin	du		Bur	idha	Г			_	7	othe				
Sex: Female Male Third gender Religion: Islam Hindu Buddha Christian Other Occupation: Service Business Govt. Service Student Housewife Retired Other																															
Date of Birth Age if DoB is not																															
		H	=	H	+	ł	4	+	+	=					ilab					+	+	-	-	4	_						
Date of admission		\vdash	=	L	+	1	1	+	+	-						Adm		on			L	+	4	4	_						
Date of Death Time of Death																															
NID of Deceased/Spouse/ Parents NID (< 18 years) Deceased Spouse Parents																															
Family Cell Phone number (If available)																															
Frame A: Medical d	lata: Par	rt 1 an	d 2			-								_																	
1 Report disease o								Cau	se o	f de	ath	1															Т	ime nset	inter to de	val f	rom
directly leading					6	3	а																				-				
directly leading to death on line a Report chain of events in due to order (if applicable) State the underlying cause on the																															
State the underlying cause on the lowest used line																															
2 Other significant conditions contributing to death																															
(time intervals can be included in brackets after the condition) Frame B: Other medical data																															
Was surgery performed within the last 4 weeks? Yes No Unknown. If yes please specify date of surgery d d m m y y y y																															
If yes please specify reason for surgery (disease or condition)																															
Was an autopsy requ	,	- 1		Yes	5		No		7 0	nkn	owi	n. If	yes v	vere	the	findi	ngsı	used	in th	ne ce	rtific	atic	n?		Yes		1 No	1		Jnk	nowi
Manner of death:			_																						103	_	1			21111	10001
Disease	Assaul	t [Cou	uld no	ot be	9] A	ccid	ent		Le	egal	Inte	rvent	ion			P	endi	ng i	nves	tigati	on		In	tenti	onal	self	harm
War	Unkno	wn. It	fext	tern	al ca	use	or po	oison	ing:										1	Date	of ir	njur	y		11	111		У			Y
Please describe how external cause occurred (If poisoning please specify poisoning agent)																															
Place of Occurrence												-																			
	Resider				7 Sc	hoo	l, oth	ner in	stitu	ution	n, ea		Spo	orts a	and	athle	tics	area		S	treet	t an	d hig	hwa	y		Trac	de ar	nd sei	vice	e area
Industrial and construction area Farm Other place (please specify):																															
Fetal or infant Death	1																								-						
Multiple pregnancy					Ye	s			No				Unk	nov	vn;	St	illbo	rn?		Y	es			N	0] U	nkno	wn		
If death within 24h s	pecify n	umbe	rof	hou	rs su	rvive	ed	h	- In							Bir	th v	veig	ht (ir	gra	ms)	[В	В	€.	8					
Number of completed weeks of pregnancy d d Age of mother (years)																															
If death was perinatal, please state conditions of mother that affected the fetus and newborn																															
For women of reproductive age																															
Was the deceased pregnant within past year? Yes No Unknown																															
If yes, was she pregnant When she died Within the 42 days preceding her death Within 43 days up to 1 year preceding her death Exact pregnancy timing unknown																															
		_			42 da	ays p	rece	ding			th			nin 4	s day	-		_	-	eding	ner c	ieat	n L	E	xact	pre	gnan	cy ti	ming	unk	now
Did the pregnancy co	ntribute	e to th	e de	ath			_		Ye	S			No		L] 0	nkn	own		_											
Date d d m	m	У		4	У										De	signa	ted	Sign	atur	e											

• Hours of Teaching:

• Large group

* Lecture - 100 hours.

• Small group * Practical

* Practical - 40 hours. * Tutorial - 45 hours.

* Integrated teaching/ Assignment - 10 hours.

Total = 195 hours.

Summary of the Forensic Medicine Academic Programme

	1st Term	2 nd Term	Total		
Lecture/Revision	71 hrs	29 hrs	100 hrs		
Practical/ Demonstration/ exercise	27 hrs	13 hrs	40 hrs		
Tutorial	35 hrs	10 hrs	45 hrs		
Integrated Teaching/ Assignment	5 hrs	5 hrs	10 hrs		
8 days for attending mortuary for 4 days for court visit; PS (Thank	12days				
Total			195 hrs + 12days		