Operational Manual of MBBS Curriculum 2021

Subject:
Forensic Medicine & Toxicology

Developed By
Research, Publication & Curriculum Development Wing
Directorate General of Medical Education (DGME)
Mohakhali, Dhaka-1213

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Preface

Curriculum is not the sole determinant of the outcome, it is very important as it guides the faculty in preparing their instruction and tells the students what knowledge, skills and attitude they are to develop through the teaching learning process. The ultimate indicators of assessing curriculum in medical education is the quality of health services provided by its graduates with required competencies.

To implement that curriculum all concerned such as teachers, students, deans, administrators, policymakers to be more dynamic, should run smoothly with the time & appropriate pace. This operational manual to implement the curriculum will act as a catalyst, will give momentum in implementing the curriculum. This operational manual will help to implement the curriculum uniformly, effectively, efficiently & smoothly at all the govt. & non govt. medical colleges under all the universities all over the country.

I would like to mention that the curriculum planning process is continuous, dynamic and never-ending as it is not static. If it is to serve best, the needs of the individual student, teacher, educational institution and the community to whom we are ultimately accountable, must be assessed. Before that assessment we should seriously concentrate for the better implementation of the curriculum. Implementation in regards to teaching-learning, integrated teaching, teaching on generic topics on medical humanities, clinical teaching, ambulatory care/OPD based teaching and acquiring identified competencies of each subject. There is a proverb that "Assessment drives Learning". To ensure students' learning formative and summative assessments should be taken care of properly. This operational manual on developed MBBS curriculum 2021 will play a vital role in those regards.

I congratulate all who were involved in developing this operational manual implement MBBS curriculum 2021, particularly the Director (Research, Publication & Curriculum Development), DGME, focal persons, teachers, members of the concerned society, seniors, juniors, legendary teachers & heads of the departments of Forensic Medicine & Toxicology Different Govt. and non Govt. medical colleges. Special appreciation to the Deans, Faculty Medicine of different medical Universities who were requesting to develop this operational manual and will take lead to implement this operational manual. They contributed a lot to complete this activity, a commendable job and deserve special appreciation.

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Acknowledgement

It is easier to change a graveyard than to change a curriculum. Yet then time & society demand for the change of the curriculum. In such a situation MBBS curriculum 2012 was reviewed and updated in 2021 to fulfill the need of the stakeholders. The updated MBBS curriculum 2021 was started to implement from the August 2022. For implementation of that reviewed & updated curriculum operational manual is also the demand of the present time.

For better implementation of integrated teaching, teaching as per identified competencies, teaching on generic topics on medical humanities, planning, designing, constructing assessment tools for formative and summative assessment, this operational manual will act as the road map.

Research, Publication & Curriculum Development (RPCD) of DGME in association with heads of the departments of Forensic Medicine & Toxicology of different Govt. & non govt. medical colleges & Deans Offices, DGME, ME, FWD, BM&DC took the initiative to develop the operational manual. Concerned stakeholders meetings were held through active participation of different professional groups, focal persons, faculty members, heads of the department of Forensic Medicine & Toxicology of Phase II of different govt. & non govt medical colleges of Bangladesh.

I hope this operational manual will help to serve as guiding principle for the students and as well as for faculty members.

Last but not least, I would like to extend my deep gratefulness to the Director General, DGME, ADG(ME) & ADG(Admin), DGME, all Directors of DGME, faculty members of Forensic Medicine & Toxicology of different Govt & non Govt medical colleges and others who shared their expertise, insights, contributed and worked hard to develop this precious document. Efforts given by the focal persons providing their valuable time, opinions & efforts during the development process of this operational manual for Phase II of MBBS curriculum are duly acknowledged.

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Background and Rationale

Curriculum is a study track along which students travel throughout the course of study. In this journey teachers play an important role in regards to teaching learning and assessment. To produce need based, community oriented, competent graduate medical doctors, MBBS curriculum was reviewed and updated in 2021. The updated MBBS curriculum 2021 was started to implement from the August 2022. For better implementation of MBBS curriculum 2021 effectively, uniformly & competently an operational manual of each subject was felt by each of the Faculty of Medicine of all universities. In this regard Director (Research, Publication & Curriculum Development (RPCD) of Directorate General of Medical Education (DGME) has taken the time felt initiative under the gradience of Director General, DGME. Thanks to DG, DGME, Director (RPCD), DGME, focal persons, members of the concerned society, senior, junior and legendary teachers and heads of the department of concerned subject of different government & non government medical colleges to finalise this operational manual. This operational manual will work as the skeleton of the curriculum in a comprehensive manner. This user-friendly document will serve the purposes of the faculty to ensure better teaching-learning and assessment to produce knowledge competent and compassionate physicians in Bangladesh.

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Overview of Assessment in 2nd Professional Examination Implementing MBBS Curriculum 2021

Common Information and Activities of Phase II

A. Departmental aim & Objectives

Aim: To produce competent, compassionate, reflective and dedicated health care professionals who practice medical and medico-legal works as per national goals and objectives.

Objectives: At the end of the Forensic Medicine and Toxicology course, the students should be able to

1) Examine medico-legal cases and prepare reports or certificates as per law of the land.
2) Perform medico-legal postmortem examination and interpret autopsy findings and results of relevant investigations to logically conclude the cause, manner and time since death.
3) 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.
4) Prevent and protect himself from medical and legal mishap.
5) Identify and apply relevant legal provisions applicable to the medico-legal and medical practice.
6) Collect, preserve and dispatch specimens in medico-legal case and other concerned materials to the appropriate Government agencies for necessary examination.
7) Diagnose, apply principles of management and analyze medico-legal implications of common poisons.
8) Apply general principles of analytical, environmental, occupational and preventive aspects of toxicology.
9) Explain legal provision related to medical and medico-legal practice

B. List of competencies to acquire:

1) Perform ethical medical practice, establish effective doctor-patient relationship and guide professional in medical and medico-legal practice of ethical and legal consequence.
2) Demonstrate the ability to examine victim/assailant for medico-legal purpose [physical assault, sexual assault, impotency, age determination, sex determination, mental fitness, mental state**]** and note scientific finding to conclude opinion.
3) Demonstrate the ability to perform medico-legal autopsy and interpret the findings.
4) Record dying declaration, prepare certificates and ML reports according to law of land.
5) Prepare referral and discharge certificate, write death note and issue death certificate authentically as per International Classification of Diseases.
6) Guide medical professional in diagnose of death and declaration of death of a person.
7) Able to give deposition of scientific fact in the court of law as a medical expert.
8) Collect, preserve and dispatch the medico-legally important specimen.
9) Prepare, dispatch and store the proper medical records.

C. Teaching-Learning and Assessment Process

The teaching learning process includes large group teaching, integrated teaching, small group teaching, practical sessions, Self-directed learning, Problem Based learning (PBL), Flipped class room, Task Based Learning (TBL), simulation, portfolios and assignments. Both formative and summative assessments are included.

Teaching-learning methods, teaching aids and evaluation:

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

D. Educational Strategies

- Outcome based, student centered, problem solving through stimulating metacognitive strategies along with integration in structured way to achieve competencies.
- Principle-oriented understanding and application of forensic fundamentals to demonstrate the ability of applying knowledge and skill of all branches of medicine shall be practiced exploiting its full potential.
- Examples from everyday physical, physiological, and clinical experiences will be used as examples for understanding the descriptions and forensic implications of basic, para-clinical and clinical entities, processes and mechanisms.
- Examples given will be culturally relevant as far as justifiable.
- Problem-based or problem-oriented approach will be taken at every possible juncture of learning, teaching and assessment.
- Assessment will have multiple approaches and free from repetitions that would make guessing easier.
- Structuring will be practiced in curriculum design/operational manual design and implementation in teaching and assessment; other methods of achieving objectivity in assessment will be applied.
- Appropriate test matrices will be used to ensure proper and representative sampling of topics in assessment.
- Newer technologies including digital techniques will be incorporated timely in teaching – learning and assessment. Learning video/ three-dimensional device shall be used in learning autopsy procedure, Crime scene investigation and other topics.
- Practical exposures will be made meaningful regarding the students own learning to be a teacher and researcher.
- In addition to understanding forensic medicine, 'How to teach forensic medicine' aspects of learning will be practiced as important objective of the course. The philosophy behind this is to learn Forensic Medicine by teaching others.
- A 'visual first, text second' approach that has been taken in the teaching-learning of Anatomy department may be adopted emphasizing three-dimensional and sectional aspects as far as applicable.

E. Integration of Teaching-Learning and Assessment in Forensic Medicine:

Forensic Medicine is the multi-disciplinary collective skill and knowledge to aid in administration of justice as well as ethical and legal guidance in practice of medicine. The forensic medicine practice demand sound understanding of basic science, paraclinical science and clinical maneuver. In the new curriculum the importance of review and update of previous knowledge and skill as well clinical integration in learning Forensic Medicine has been emphasized, necessary guidelines have been provided. There are though other sorts of integration that are already indicated in the textbooks, and we need to correlate them into our everyday Teaching-Learning and Assessment activities. These include-

Forensic Medicine (Impotency/DSD)–**Anatomy** (Embryology -Gross Anatomy) **–** Physiology (Hormone) Integration.

For example, Understanding of different stages of changes in the breast/gonad/ external genitalia according to embryological, gross anatomy and endocrine basis in interpretation of forensic aspect of sex and reproduction.

Anatomy (Surface Anatomy –regional anatomy-Gross Anatomy)**–Pathology** (inflammation/ healing)**- wound** integration

For examples, understanding the surface anatomy and gross anatomy in interpretation of wound/report preparation and the organ involve in interpretation of wound to solve forensic issues.

Sexual offence – Regional Anatomy Integration.

Pelvic region and neck region integration will be done in learning death due to asphyxia and sexual offences.

Descriptive Anatomy – Physiology (Functional Anatomy) -Death integration.

For example, Longitudinal muscle layer of the intestines is arranged along the length of the intestines (Descriptive Anatomy) it's contraction brings it's distal part proximally; thus, the food material move relatively distally (Functional Anatomy) to estimation of time since death.

Toxicology –Pharmacology Integration.

Analysis of entire toxicology need to understand the pharmacokinetics, pharmacodynamics, toxico-kinetics and toxico-dynamics. One important aspect of pharmacology integration will be used in learning Surgical and Anesthesia related death.

Radiology -Forensic medicine integration

Basic findings of X-ray, MRI, CT-scan, USG to interpret radiological finding(ossification, fracture & healing, pregnancy following rape) to solve forensic issues(age estimation, nature & age of wound, Pregnancy profile).

Transfusion medicine-Forensic medicine integration.

Role of Blood group in identification and determining inheritance with hazards of Blood transfusion has tremendous solving properties of forensic medicine (paternity & maternity estimation, death caused by transfusion).

Information- Principles Integration

For example, The large intestine from the left one-third of transverse colon to the anal canal upto the pectinate line are supplied by branches of the inferior mesenteric artery (Information); all parts of the gut developing from the hind gut are supplied by branches of the inferior mesenteric artery (Principle). Like this factual information of basic science, paraclinical science and clinical science will be integrated to solve forensic issues and identify the principles.

F. Inspiring students

Teachers shall inspire to do the following:

- Avoid surface study, rather initiate critical thinking, why need to study.
- Draw relationships.
- Ask 'what' / 'which' / 'where' / 'when', only to understand 'why' and 'how'.
- Stimulate the metacognitive strategies as their first forensic-learning-tools.
- Try to use words like **because** and **therefore** to join forensic medicine information.
- Explain the meanings of the legal terminologies. In some instance students need to memorize in addition to understanding as the **definition** is define by law.
- Look for as many information-oriented sentences under any principle-oriented sentence.
- Try to create principle-oriented sentence that can be driven from several information-oriented sentence.
- As the fellows of Forensic Medicine will have to perform autopsy and also need to perform other medicolegal works including interpretation of injury, hence a fellow shall have the expertise as anatomist and as pathologist.
- Review of anatomical structure and pathology in detail along with radiological anatomy and principles to solve forensic issues with question why and how is essential to understand the concept of medicolegal works. Look at the structure first- in the living body, skeleton, cadaver, tissue, cell or any of their visceral representations like photographs, drawing, micrographs, diagnostic images etc.
- Apply the Anatomical principles / features to correlate regional anatomical features to solve forensic issues.

1.1 Common Information & Activities of Phase II

Subject		Lecture (in hrs)	Tutorial (in rs)	Demonstration/ Practical (in hrs)	Others (in hours)	Integrated teaching (IT) (in hours)	Clinical bedside teaching (in weeks)	**Formative Exam**		**Summative Exam**		Total (in hours)
								Preparatory leave	Exam time	Preparatory leave	Exam time	
Teaching-learning, both formative and	Pharmacology & Therapeutics	100	30	50	Clinical Pharmacology (15)	**17**	-	10 days	15 days	10 days	15 days	195 hrs
	Forensic Medicine & Toxicology	100	**45**	**40 hours** and **12 days** [Visit to morgue, Thana & court].			-					185+12 days
Teaching,- learning and only formative assessment	General Pathology	**35**	**40**	**07**	**-**	**-**	**-**	**-**	**-**	**--**	**-**	**82**
	General Microbiology	**13**	**07**	**15**	**--**	**-**	**--**	**-**	**-**		**--**	**35**
	Medicine & allied subjects	**28**	**-**	**-**	**-**	**-**	**21wks**	**-**	**-**	**-**	**-**	**28**
	Surgery & allied subjects	**35**	**-**	**-**	**-**	**-**	**20wks**	**-**	**-**	**-**	**--**	**35**
Total		311 hrs	122 hrs	122+ 12 **days**	**15hrs**	17 hrs	**41wks**	25 days		25 days		560 hrs + 12 days
Grand Total		577 hrs + 12 days					**41wks**	**50 days**				560 +17 (IT) = 577 hrs + 12 days
Generic Topics on Medical Humanities: (i) Communication skill, (ii) Doctor–patient relationship (DPR) & (iii) Physicians'/bedside manner, etiquette and rapport building with patients will be taught within 2nd phase												**5hrs**
Time for integrated teaching, examination preparatory leave and formative & summative assessment is common for all subjects of the phase												
Preventive aspects of diseases will be given due importance in teaching learning considering public health context of the country and others parts of the world.												
Related behavioral, professional & ethical issues will be discussed in all clinical and other teaching learning sessions												

1.2 Basic information

i) Total duration of Phase II is 12 months including Second professional MBBS examination.
ii) Second professional examination to be started on first working day of May & November.
iii) Time for Human generic topic and integrated teaching, examination, preparatory leave for Formative and Summative assessment is common for all subjects of the Phase-II
iv) Assessment:
   a) There will be in-course (item/presentation/assignment/term) and end-course (professional) assessment for the students.
   b) Formative assessment will be done through presentation/ assignment, results of term ending examination and class attendance.

1.2.1 Common Classes of Phase:

Generic topics on Medical Humanities for Phase I:

- Behavioral science
- Medical Sociology
- Etiquettes of using of social media
- Self-directed learning including team learning
- Medical Ethics

Generic topics on **Medical Humanities** for Phase II:

- **Communication Skill**
- **Doctor -patient relationship.**
- **Physicians /bedside manner, etiquette and rapport buildings with patients**.

Generic topics on Medical Humanities for **Phase III**

- Integrity and accountability of medical profession.
- Aspect of good doctor.

Generic topics on Medical Humanities for **Phase IV**

- Medical professionalism.
- Inter-professionalism.
- Patient safety and medical error.

Generic topics on Medical Humanities for Internship:

- White coat ceremony.
- Carrier planning.
- CME & CPD.
- Cause of death.
- Infection control strategies.

1.2.2 Methods of teaching on Medical Humanities

- Each session will be taught under supervision of Phase II coordination Committee in collaboration with Medical Education Unit (MEU).
- Sessions will be under the guidance of Principal and Vice-principal coordinated by the department of Anatomy, Physiology and Biochemistry.
- Sessions will be delivered by concerned experts of the topics.
- Each session will be one and half hour duration.
- Attending these session will be mandatory.
- Student's attendance will be reflected in the formative and summative assessments.

*Generic topics on Medical Humanities for **Phase II is three**. But teacher of forensic medicine should keep in mind the importance in forensic medicine of Etiquette of using social media and communicate, Integrity and accountability of medical profession, Aspect of good doctor, patient safety and medical error are quite relevant.

1.2.3 Generic topics on Medical Humanities for **Phase II:**

Topics of humanities.	**Learning objective**	**List of Contents**	**Method**	**Time**
Communication Skill	• Explain concept of communication: verbal and non-verbal. • Describe the importance of communication skill in medical & ML practice. • Describe the importance of non-verbal communication in building & maintaining interpersonal relationship. • Describe the skills of communication in teaching & learning • Identify the skills of communication skill to build Doctor-patient relationship. • Describe the ways to develop of oral communication and written communication as medical leader. • Discuss the opportunities and challenges in good communication as medical professional and as in personal life.	• Concept of verbal and non-verbal communication. • Communication skill in medical practice and in public gathering. • Communication skill in Teaching & learning. • How to develop of Oral communication and written communication? • Non-verbal communication in interpersonal relationship. • Communication skill to build interpersonal relationship. • Opportunities & challenges in good communication as medical professional and as in personal life.	Interactive lecture or Seminar Learning video	**1½ hrs**
Doctor -patient relationship DPR).	• **E**xplain the concept & aspect of DPR. • Describe the elements of DPR. • Describe the skills for effective DPR. • Describe the models of DPR. • How to choose DPR model in different situation. • Describe the challenges in maintaining DPR.	• Concept & aspect of DPR. • Elements of DPR. • Effective DPR & skills of effective DPR. • Models of DPR. • Challenges in maintaining DPR.	Interactive lecture or Seminar. Learning video	**1½ hrs**
Physicians /bedside manner, etiquette and rapport buildings with patients	• Describe the concept of bedside manner & etiquette. • Describe effective etiquette in maintaining bedside manner. • Describe the ways in building rapport with patients. • Describe the barriers in building rapport and etiquette in effective bedside manner	• Bedside manner & etiquette. • Effective etiquette in maintaining bedside manner. • Ways in building rapport with patients. • Challenges in building rapport and etiquette in effective bedside manner	Interactive lecture or Seminar Learning video	**1½ hrs**

1.2.4 Integrated Teaching in Phase II

All the departments of Phase II (Pharmacology, Forensic Medicine & Toxicology) must be present and take part in the integrated teaching while the faculty representatives from concerned clinical & others departments will also participate actively (mention in in the column four in the table below).

Teachers will be the speakers/facilitator in each session. Participation of the students of **phase- II** should be ensured. Concern audiovisual aid, equipment and patient will be used.
Students need to get some 'take home message' from every session. The students must actively participate in these sessions and have to submit the summary of each session to the concerned teacher/department as their assignments.
This assignment will be a part of practical note book in the summative assessment and will be marked as 10 (ten) marks.
Schedule for integrated teaching session will be set at the phase II committee meeting in collaboration with medical education unit (MEU).

Total -**17 hour**.

Each session will be for **at least 2 hours**

A) Term-01:
1. Electrocution and lightening; Burn
2. Drowning
3. Death
4. Anesthetic and surgical death

B) Term-02
5. Poisoning
6. Substance abuse
7. Pulmonary Tuberculosis
8. Malaria

** Out of 08 topics of Integrated Teaching, four (4) assignments will be submitted by the students to the department of Forensic medicine and toxicology. These assignments must be available during practical part of professional examination.

1.2.5 Integrated Teaching of Phase -11:

Term-01:			
Subjects	Learning Objectives	Core Content	Discipline involved
Electrocution and lightening. Burn	• Describe the effect of electrocution, complication and management. • Describe the cause of death, postmortem features of electrocution and lightening. • Preventive measure of electrocution and lightening. • Describe the mechanism of septicemia & multiorgan failure. • define burn, scald. Describe the types, management, complication and cause of death in burn. • Medicolegal issues related to burn.	• Effect of electrocution, types of current, it's complication and management; Post-mortem feature & cause of death in electrocution, lightening; Preventive measure of electrocution and lightening. • Burn, scald: types, management, complication and cause of death in burn. • Medicolegal issues related to burn.	Forensic medicine, Pathology, Surgery, & Pharmacology
Drowning	• Discuss in brief about drowning: Definition, types, pathophysiology, PM findings, cause of death, ML imp. • Describe secondary drowning, immersion syndrome &dry drowning. • Preventive measure in relation to public health	• Drowning: definition, types, pathophysiology, PM findings, cause of death, ML imp. • Preventive measure of drowning. • Resuscitation and management of secondary drowning.	Forensic Medicine, Medicine & Pharmacology department.
Death	• Define the concept of death, differentiate from suspended animation, and the ML imp of somatic death. • Describe the standard of death declaration and neurological criteria of brain death declaration. • Describe the criteria to declare death & writing of death note in patient file. • Prepare death certificate as per ICT-10.	• Concept of death with its types. • Philosophical & Scientific basis of death and causes of death. • Sudden death. • Standard of death declaration and its criteria. • WHO guideline to declare death	Department of Forensic Medicine; Medicine, Pharmacology, Pathology.
Surgical & Anesthetic death.	• Describe the drugs and others used during OT procedure as well as precaution to prevent per-operative & post operative mishap. • Describe the pharmacological aspect of anesthetic drugs both local & systemic	• Drugs/others used during OT procedure and to prevent per-operative & post operative mishap (Anesthesia) • Pharmacological aspect of both local & systemic anesthetic drugs(Pharma).	Department of Forensic medicine, Anesthesia, & Pharmacology, Pathology, microbiology,

	• Explain the functions of the instrument and equipment used during anesthesia, in OT and handling those effectively. • Describe the causes of death during anesthesia and surgery. Discuss the way to investigate of surgical or anesthetic death and mishap identification.	• List the instrument and equipment used during anesthesia and in OT • Causes of death at OT during anesthesia and surgery (FM) • Investigate of surgical or anesthetic death and mishap identification(FM).	surgery & allied branch.
Term-02			
Poisoning	• Describe the pharmacokinetics and pharmacodynamics of drugs and chemicals. • Describe poison, common poison, ML classification, principles of management ethical & legal issues related. • Discuss the preparation, mechanism of action, signs & symptoms, management, prevention and PM finding of OPC.	• Pharmacokinetics and pharmacodynamics of drugs and chemicals. • Poison, ML classification, commonly used poison, principles of management ethical & legal issues related. Types, mechanism of action, signs & symptoms, management, prevention and PM finding of Insecticides	Department of Pharmacology, forensic medicine, and Medicine & allied subject.
Substance abuse	• Enlist the substance & drugs used as substance abuse. Explain their source, action, effect, management, complications, cause of death and ethical & legal issues.	• Substance & drugs used as substance abuse; Their source, action, dose, effect, management, complications, cause of death and ethical & legal issues.	Pharmacology, Forensic Medicine & Psychiatry
Pulmonary Tuberculosis	• Describe the types & features of mycobacterium tuberculosis. • Describe the Pathophysiology of Pulmonary Tuberculosis and its sign & symptoms. Describe the management, complication, prognosis, public health issues & preventive measure.	• Types & features of mycobacterium tuberculosis. • Pathophysiology &pathogenicity of Pulmonary Tuberculosis with the sign & symptoms. Diagnostic criteria, management, complication, prognosis, public health issues & preventive measure.	Pharmacology, Pathology, Medicine Forensic Medicine
Malaria			Pharmacology, Microbiology, Medicine Forensic Medicine

1.3 Duration of Each Term

i) Term I: July to November.
First Term Final Exam: 1st and 2nd week of November.

ii) **Term II :** December to March
Second Term Final Exam: 3rd and 4th week of March

iii) Eligibility **list of sent up** for Prof Exam: last week of March (31th March)

1.4 Time schedule regarding TL & Assessment in Forensic Medicine.

<table>
<tr><th colspan="14">2nd Phase</th></tr>
<tr><th colspan="6">First Term</th><th></th><th colspan="7">Second Term</th></tr>
<tr><td>01 (July)</td><td>02 (Aug)</td><td>03 (Sept)</td><td>04 (Oct)</td><td></td><td>05 (Nov)</td><td>06 (Dec)</td><td>07 (Jan)</td><td>08 (Feb)</td><td>09 (Mar)</td><td></td><td>10 April</td><td>11 May</td><td>12 June</td></tr>
<tr>
<td colspan="4">
• Forensic Medicine & forensic science
o Introduction to Forensic Medicine
o Recent advance in Forensic medicine: DSD; consent; Euthanasia; medical records; Sports medicine
o Mass disaster& DVI.
o Forensic science: blood stain & group, Hair, Semen; DNA Profiling
• Legal aspect:
o Legal structure
o Legal (courts)procedure
o Certificate & medico-legal reports
• Medical Jurisprudence
o Medical ethics:Health Ethics; Rights & Privileges of Doctors & patient, Duties of doctor. Code & law of medical ethics; Professional secrecy
o BMD&C
o WMA declaration& applied ethics
• Forensic Pathology
o Autopsy &Infanticide;Changes after death and Post- mortem artifacts
o Asphyxial death
o Transportation; thermal and electrical wound
• Clinical forensic medicine
Death: Basics, brain death
Mechanical wounds & Medicolegal aspect. Forensic aspect of sex, sexual offence
• Identification
</td>
<td>9 hrs

4hrs

10hrs

24hrs

18hrs

6hrs</td>
<td>1st Internal assessment</td>
<td colspan="3">
• Forensic Psychiatry
• Forensic aspect of reproduction:
o Artificial insemination and disputed paternity & maternity
o Pregnancy
o Delivery
o Abortion
• Forensic Toxicology
o General aspect of poisoning & Management of acute poisoning
o Corrosives
o Metallic poison
o Deliriant poison.
o Inebriants
o Gaseous poisons,
o Insecticides,
o Snake bite
o Substance abuse
o PM finding; preservation and dispatch of viscera
o Analytic, occupational, clinical toxicology
</td>
<td>4hrs

5hrs

20hrs</td>
<td>2nd Internal assessment</td>
<td>Review class ,Block posting & preparatory leave</td>
<td colspan="2">2nd Prof exam</td>
</tr>
<tr>
<td colspan="10">
• Generic Topics on Medical humanity: Communication Skill; Doctor -patient relationship; Physicians /bedside manner, etiquette and rapport buildings with patients.[4.5 hrs].
• Integrated Teaching(Term-1): Electrocution and lightening & Burn; Surgical & Anesthetic death; Drowning; Death.
• Integrated Teaching(Term-I1): Poisoning, Substance abuse, Pulmonary Tuberculosis, Malaria. [17hrs]
</td>
<td></td><td></td><td></td>
</tr>
<tr>
<td colspan="6">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)+ 4.5hrs</td>
<td colspan="5">Lecture-29hrs Tutorial-10hrs
Practical-13hrs</td>
<td colspan="3">Total:195hrs
+ 12 days+ 17hrs</td>
</tr>
</table>

1.5 Item cards of Forensic Medicine & Toxicology:

Department of Forensic Medicine & Toxicology……. …… …….Medical college
Name…… ……..……. Roll…….. Batch……. Session…….

		First Term					Second Term		
		Item no	**Date**	**Mark obtained**			**Item no**	**Date**	**Mark obtained**
Introduction & Recent	**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**	• Artificial insemination; surrogate mother • Pregnancy: Ml imp, Sign, PM finding • Delivery: Ml imp, sign of recent/remote delivery in living & dead; PM finding • Abortion: Therapeutic, Justifiable & Criminal abortion.		
	02	• Mass disaster, DVI; Sports medicine. • Forensic science & Trace evidence: Blood stain Blood group, Hair, Semen; • DNA Profiling			**Forensic Psychiatry**	**12**	• Forensic psychiatry, Types of mental disorder; • Elements/terms of psychiatry (phobia, delirium, delusion, hallucination, illusion, psychosis, neurosis, impulse etc) • Personality disorder; aggressive behavior; true insanity • Civil,criminal & social responsibilities; Important rules.		
Legal	**03**	Law & Legal aspect: • Legal structure: courts, power & function; penal code; sentence. • Legal (court) procedure: Evidence, witness; ideal witness; summon. • Certificate & medico-legal reports			**Medical (Ethics) Jurisprudence**	**13**	• Principles of medical ethics; Ideal etiquette, Codes • BMDC; right & privilege of doctor/patient; • Duties of doctor/patient, • Professional secrecy • WMA declaration (Geneva, Int code, Helsinki, Tokyo)		
Clinical forensic medicine & Forensic Pathology	**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				**14**	• Doctor patient relationship (def, element, skills, model) • Ethical malpractice(infamous conduct); • Negligence(Malpraxis):def, element, prevention, defence, Doctorine res Ipsa loquitor, contributory, therapeutic misadventure, corporate negligence, ethical dilemma.		
	05	• Sudden death. • Custodial death; Anaesthetic and operative deaths. • Torture and neglect(BBS, Starvation)			**Forensic Toxicology**	**15**	• General aspect of poisoning: • Domestic & therapeutic poison. • Poison: def, classification, factor, effect, diagnosis • Principles of management /objectives.		
	06	• Autopsy: def; type; prerequisite, procedure; laboratory procedure, report writing; Special autopsy & autopsy of special situation. • Modern mortuary; Exhumation; Inquest; MLS • Infanticide: Live born, dead born, still born				**16**	• Corrosive poisons: strong acids and alkalis. • Acetaminophen(paracetamol) • Metallic: Arsenic, Copper, Mercury • Insecticide(OPC); kerosene oil		
	07	• Define injury, hurt, assault, battery, homicide • Medicolegal aspect: grievous hurt, defense wound, cause of death. • Mechanical wounds:Abrasion; Bruise; laceration; Incised, Stab wound • Regional; transportation; thermal,electrical wound				**17**	• Delerient: Dhatura, Cannabis; coccaine • Narcotic & hypnotic: Opium; Barbiturate • Inebrient:Alcohol, methyl alcohol • Substance abuse; solvent abuse		
	08	• **Hanging** : Definition,type,mechanism,cause of death, postmortem finding; ML imp, difference from PM suspension. • **Strangulation**: cause of death, PM finding,ML imp,. • **Drowning**:type, pathophysiology; PM finding; cause of death; Ml imp, diatom; lab investigation • **Suffocation** : smothering; chocking; gagging;				**18**	• Cabon monoxide poisoning; war gas. • Snake Bite. • Food poisoning. • Potka fish(Puffer fish) • Yellow olender		
	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**	• Clinical toxicology; Imp & forensic aspect • Environmental toxicology; • Occupational toxicology; • Analytic toxicology		
	10	• **Identification**: trait, objectives, Ml imp. • Race; Sex; age • Dactylography, Tattoo, scar • Modern technique, comparism data; superimposition			Soft Skill	**20**	• Overall conception regarding forensic medicine • Attitude, Interpersonal skill,Extra academic skill • Soft skill, management skill, leadership skill		

1.6 Related Equipment, 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; chromatograph; X-ray film, MRI, USG, ECG.
- Autopsy instrument set, dummy and photographs showing all major types of injuries and other cases.
- Specimen of poisons and related instruments (Ryles tube, Foleys catheter, stomach wash tube etc.)
- Weapons: Mechanical weapons, Firearms and ammunitions.
- Simulation; Mankins.
- CPR.

1.7 In-course assessment

i) Item examination.
ii) Presentation and Assignment
iii) Term Final Examination (both regular and supplementary) will be written**,** oral and Practical, and will be organized by the Phase II committee.

1.8 Pre-requisite for appearing in Term Final Examination

i. Students must complete all items of the cards.
ii. Attendance is mandatory in Generic topic and integrated teaching.
iii. Mandatory submission of assignment on summary of Generic topics on Medical Humanities and Integrated teaching topic.

1.9 Leave

Following leaves will be granted to the students:

i) Pre-term: Total 10 days, 5 days before each term (Term I & II).

ii) Term exam: Post-term: Total 5 days only after term I (These leaves may be utilized for organizing cultural week, sports, games or any other extra-curricular activities).

iii) Preparatory Leave for Professional Examination: Ten (10) days preparatory leave will be granted to students before Second Professional Examination.

1.10 Term examination schedule: **Term-I** + **Term-II**: **07 days** + **07 days.**

Examples of Scheduling of Term Final Exam:

Date & Time(9.00-12.00)	**Written**	
	Sunday	Pharmacology & Therapeutics
	Tuesday	Forensic Medicine & Toxicology
	Thursday	Pathology

Date & Time (9.00-12.00)	Pharmacology & Therapeutics	Forensic Medicine & Toxicology	Pathology
Saturday	Batch-A	Batch -B	Batch-C
Sunday	Batch-D	Batch-A	Batch-B
Monday	Batch-C	Batch -D	Batch-A
Tuesday	Batch-B	Batch-C	Batch -D

1.11 Formative marks

Academic performances of the students must be properly documented. Calculation of formative marks will be completed in the following way:
Total mark: 10 +15 (Medical humanities-05+Integrated teaching-10)+20 (Khata-10 +ML report & certificate) marks.

First 10 marks will be incorporated with written portion of Summative examination as follows:

i) Six mark (06) marks will be taken from marks obtained in term examination.
ii) Two (02) marks will be for class attendance.
iii) Two (02) marks will be for class performance [Item card, Place in term, attitude, conduct, motivation, debate, extracurricular activities]

Marks will be calculated maintaining the following proportion:

i) For Terms:
Total mark will be calculated out of 06 from total mark obtained in 2 term examinations.
Example:
a) If the total score in two term is 60-65% his formative marks will be assigned- 04.
b) If the total score in two term is 66-70% his formative marks will be assigned- 05.
c) If the total score in two term is 71% & above, formative marks will be assigned 06.

ii) For class attendance:

≥ 80%: 2 marks
75% to 80% : 1 mark

iii) Class performance-02:

Term exam place, Debate, presentation, good behavior and interpersonal relationship, extra academic activities (social work, sports).

Second part of Formative marks will be incorporated in practical portion of summative examination is **35 marks**.

iv) For Generic topics on Medical humanities presentation-**05 marks**. [attendance 01 marks+ assignment/homework/summary of two topics-04 marks].

v) For Topic of Integrated Teaching -**10 marks**. [attendance 02 marks (≥ 80%-2 marks; 75% to 79%-1 mark) + 08 marks for four assignment/homework/summary of four topics]

vi) Forensic Medicine Practical Khata/assignment- 10 marks.

vii) Preparation Medicolegal report and Medical certificates-10 marks

Lowest mark of formative assessment for an eligible student of Second Professional Examination:

Pass mark 60%, so students have to obtain minimum.360 out of 600 So lowest mark in two terms = 3.6 (360 x 6/600)

Lowest mark in case of class attendance = 1

Lowest mark in Integrated Teaching = 06

Lowest mark in Generic topics on Medical Humanities = 1

So, lowest mark of formative assessment for sent up = 12 (3.6+1+6+1)

Without scoring ‘12 marks’, students are not eligible to sit for professional examination.

1.12. Pre-requisite for appearing in Second Professional Examination

i. Students must pass all the term examination. If a student fails in a term examination, he/she will have to pass the supplementary term examination.
ii. Certificate from the respective Head of departments regarding students attendance which must be at least 75% in all classes (lecture, practical, tutorial etc.) during the Phase.
iii. Attendance of generic medical humanities and integrated teaching topics and submission of assignment 01+04 respectively.
iv. Observe 10 autopsy cases.

1.13 Summative Examination

1) **Ten (10) marks** of Formative Assessment will be added to the written marks of professional examination and 35 marks [**05** marks of generic medical humanities, **10 marks** of integrated topics and **20 marks** (Practical khata-10 marks & ML reports-10 marks; these khata & reports must be made available during professional examination)] will be incorporated in practical marks of Professional examination as formative marks. The practical khata will contain at least following 10 topics and this khata will made available at professional examination:

    1. Historical mile stone, attributes of forensic physician, scope of forensic medicine, Principles of forensic evidence analysis and Physical evidence/ trace evidence.
    2. *Definition, types, complications, age of injury and ML imp of* **Basic wounds** (abrasion, bruise, laceration, crush, incised, stab wound and burns), ***Medicolegal aspect*** *of wound* (injury, grievous hurt, defense & fabricated wound, hypostasis & bruise; causes of death due to wound, homicide) and **complication of wound**(DIC, Multi-organ failure).
    3. *Legal structure of Bangladesh,* Court procedure(summon, evidence, witness) and sentences.
    4. *Death & Changes after death, sudden death and PM artifact*.
    5. *Autopsy[prerequisite, external exam, Incisions, internal exam(chest cavity, cranial cavity & abdominal cavity) and special procedure of autopsy of asphyxia death, Heart, lung, Liver, Brain, kidney and pneumothorax.*
    6. *Identification (traits, Sex, age, dactylography, scar, tattoo, biometric and DNA profiling, Forensic* ***aspect of sex, Sexual offense*** *and* ***reproduction***.
    7. *Forensic psychiatry and Principles of Forensic science used to solve problem.*
    8. *Forensic Toxicology (Source, FD, FP, mechanism of action, complications, S/S, Investigation, diagnosis, management- of common poisoning.*
    9. *Procedure of examination of physical assault, sexual assault, drunkenness, Insane/mentally impaired, impotency case, fitness and sickness.*
    10. *WMA declaration; BMDC function, Medical ethics, Infamous conduct, Malpraxis, Consent, Doctor-patient relationship.*

2) For MCQ (50% SBA & 50% MTF) 20 marks are allocated. OMR sheet will be provided for MCQ part of examination. Total number of MCQ will be 20 for each paper.

3) For SAQ and SEQ of each paper, 70 marks are allocated.
4) Oral part of the Professional examination will be structured and allocated mark is 100 (one hundred) shall be conducted by two boards, each have two examiners.
5) OSPE will be used for assessing competencies. Practical marks allocated is 100 makes and 65 marks allotted for OSPE. The OSPE questions will centrally moderated and conducted centrally as that of OSPE conduction of clinical subject. Single date will fixed by the university for OSPE of all center. Separate convenor for OSPE and internal will conduct OSPE. Later on the script will be examined by examiners.
6) Pass mark in examinations is 60% of total marks. Student will have to pass in written, oral and practical examination separately.

2.1. Distribution of TL hours (Time allocation) in Phase II [Forensic Medicine; Pharma; Path; Mico; Medicine; Surgery]

Subject		Lecture (in hrs)	Tutorial (in hrs)	Demonstration/ Practical (in hrs)	Others (in hours)	Integrated teaching (IT) (in hours)	Clinical bedside teaching (in weeks)	**Formative Exam**		**Summative Exam**		Total (in hours)
								Preparatory leave	Exam time	Preparatory leave	Exam time	
Teaching-learning, both formative and summative	Pharmacology & Therapeutics	100	30	50	Clinical Pharmacology (15)	**17**	-	10 days	15 days	10 days	15 days	195 hrs
	Forensic Medicine & Toxicology	100	**45**	**40hours & 12 days** [Visit to Morgue, Thana & court].			-					185+12 days
Teaching,- learning and only formative assessment	General Pathology	**35**	**40**	**07**	**-**	**-**	**-**	**-**	**-**	**--**	**-**	**82**
	General Microbiology	**13**	**07**	**15**	**--**	**-**	**--**	**-**	**-**		**--**	**35**
	Medicine & allied subjects	**28**	-	-	-	-	**21wks**	-	-	-	-	**28**
	Surgery & allied subjects	**35**	-	-	-	-	**20wks**	-	-	-	--	**35**
Total		311 hrs	122 hrs	122+ 12 **days**	**15hrs**	17 hrs	**41wks**	25 days		25 days		560 hrs + 12 days
Grand Total		577 hrs + 12 days					**41wks**	**50 days**				560 +17 (IT) = 577 hrs + 12 days
Generic Topics on Medical Humanities: (i) Communication skill, (ii) Doctor–patient relationship (DPR) & (iii) Physicians'/bedside manner, etiquette and rapport building with patients will be taught within 2nd phase												**5hrs**
Time for integrated teaching, examination preparatory leave and formative & summative assessment is common for all subjects of the phase												
Preventive aspects of all diseases will be given due importance in teaching learning considering public health context of the country and others parts of the world.												
Related behavioral, professional & ethical issues will be discussed in all clinical and other teaching learning sessions												

2.2. Distribution of Teaching-Learning hours (Forensic Medicine & Pharmacology).

	Lecture	Tutorial	Practical	Others	Total Teaching hours	Clinical bedside teaching (in weeks	Integrated teaching for phase II	Formative Exam		Summative exam	
								Preparatory leave	Exam time	Preparatory leave	Exam time
Pharmacology & Therapeutics	100	30	50	Clinical Pharmacology (15)	195 hrs	Medicine + Surgery= 41 wks	17 hrs	5+5= 10 days	7+7= 14 days	10 days	15 days
Forensic Medicine & Toxicology	100	**45**	**40**	Visit to Morgue, Thana & court = 12 days	185+12 days						
	Time for integrated teaching, examination, preparatory leave for F*ormative & Summative assessment is common for all subjects of the phase*										
	Relevant behavioral, professional & ethical issues will be discussed in all teaching learning sessions										

2.3. Distribution of Time allocation in (Forensic Medicine) Lectures and Review- [100 hours]:

<table>
<tr><td colspan="13">2nd Phase</td></tr>
<tr><td colspan="6">First Term</td><td></td><td colspan="6">Second Term</td></tr>
<tr><td>01
(July)</td><td>02
(Aug)</td><td>03
(Sept)</td><td>04
(Oct)</td><td></td><td>05
(Nov)</td><td>06
(Dec)</td><td>07
(Jan)</td><td>08
(Feb)</td><td>09
(Mar)</td><td>10
April</td><td>11
May</td><td>12
Jun</td></tr>
<tr>
<td colspan="4">• Forensic Medicine & forensic science
o Introduction to Forensic Medicine
o Recent advance in Forensic medicine: DSD; consent; Euthanasia; medical records; Sports medicine
o Mass disaster& DVI.
o Forensic science: blood stain & group, Hair, Semen; DNA Profiling
• Legal aspect:
o Legal structure
o Legal (courts)procedure
o Certificate & medico-legal reports
• Medical Jurisprudence
o Medical ethics:Health Ethics; Rights & Privileges of Doctors & patient, Duties of doctor. Code & law of medical ethics; Professional secrecy
o BMD&C
o WMA declaration& applied ethics
• Forensic Pathology
o Autopsy &Infanticide;Changes after death and Post- mortem artifacts
o Asphyxial death
o Transportation; thermal and electrical wound
• Clinical forensic medicine
Death: Basics, brain death
Mechanical wounds & Medicolegal aspect.
Forensic aspect of sex, sexual offence
Identification</td>
<td>9 hrs

4hrs

10hrs

24hrs

18hrs
6hrs</td>
<td>1st Internal assessment</td>
<td colspan="3">• Forensic Psychiatry
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o PM finding; preservation and dispatch of viscera
o Analytic, occupational, clinical toxicology</td>
<td>4hrs

5hrs

20hrs</td>
<td>2nd Internal assessment</td>
<td>Review class ,Block posting & preparatory leave</td>
<td colspan="2">2nd Prof exam</td>
</tr>
<tr>
<td colspan="10">• Generic Topics on Medical humanity: Communication Skill; Doctor -patient relationship; Physicians /bedside manner, etiquette and rapport buildings with patients.[4.5 hrs].
• Integrated Teaching(Term-1): Electrocution and lightening & Burn; Surgical & Anesthetic death; Drowning; Death.
• Integrated Teaching(Term-I1): Poisoning, Substance abuse, Pulmonary Tuberculosis, Malaria. [17hrs]</td>
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<td colspan="6">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)+ 4.5hrs</td>
<td colspan="4">Lecture-29hrs Tutorial-10hrs Practical-13hrs</td>
<td colspan="3">Total:195hrs
+ 12 days+ 17hrs</td>
</tr>
</table>

2.4. Weekly Class schedules of Phase II: [Pharmacology, Forensic Medicine, Surgery, Medicine, Pathology, Microbiology.]

Days	Lecture 7.30-8.30	Lecture 7.30-8.30	Break 8.30-9.00	Ward 9.00-11.00	Lecture 11.00-12.00	Tutorial/Practical /item 12.10-2.10PM
Saturday	Forensic Medicine	Forensic Medicine	*****	Hospital Ward	Forensic Medicine	Forensic Medicine
Sunday	Pharmacology & Therapeutics	Pharmacology & Therapeutics	*****	Hospital Ward	Pharmacology & Therapeutics	Pharmacology & Therapeutics.
Monday	Forensic Medicine	Forensic Medicine	*****	Hospital Ward	Forensic Medicine	Forensic Medicine
Tuesday	Pharmacology & Therapeutics	Pharmacology & Therapeutics	*****	Hospital Ward	Pharmacology & Therapeutics	Pharmacology & Therapeutics
Wednesday	Pharmacology & Therapeutics	Forensic Medicine	*****	Hospital Ward	**Pathology**	
Thursday	**Medicine**	**Surgery**	*****	Hospital Ward	**Pathology/ Microbiology**	**Pathology/ Microbiology**

2.5. Distribution of Tutorial & Practical in Forensic Medicine

Term	Topics	Tutorials / Review			Total Hours
		Tutorial	Practical		
First Term	Forensic Medicine & forensic science ○ Introduction to Forensic Medicine ○ Recent advance in Forensic medicine: DSD; **Consent**; Euthanasia; Medical records; ○ Sports medicine ○ Mass disaster& DVI. ○ Forensic science: blood stain & group, Hair, Semen; DNA Profiling	• Fundamental of FM: attributes of Forensic physician. Scope & historical milestone. • Medical records • DSD • Mass disaster • Forensic science	• Trace evidence: Blood stain;Blood group; hair; Semen. • DNA Profiling		**10**
	Legal aspect: ○ Legal structure ○ Legal (courts)procedure ○ Certificate & ML reports ○ Hospital management	• Legal structure(courts) • Court-procedure (summon; Evidence; witness)	• Certificates & report writings • Dying declaration • Witness in court.		**8**
	Medical Jurisprudence ○ Medical ethics: Rights & Privileges of Doctors & patient, Duties of doctor. Code & law of medical ethics; Professional secrecy ○ BMD&C, WMA declaration & applied ethics	• BMDC; WMA declaration • Duties& rights. • Malpractice • Consent; euthanasia. • Clinical governess • Hospital management	○ Consent ○ Ethics analysis [Right/wrong; Justice; autonomy)		**10**
	Forensic Pathology & Clinical Forensic Medicine ○ Death & its changes;PM artifacts; Autopsy ○ Asphyxial death ○ Transportation;Firearms & explosion Regional wound, thermal and electrical wound. ○ Torture & neglect. ○ Mechanical wound ○ Medicolegal aspect of wound	• Basic of death & PM changes • Sudden death • Autopsy • Death due to asphyxia • Death due to thermal & electrocution. • Transportation injury • Regional wound • Firearm & explosives	• Death note;Death determination; Death declaration. • Weapons • Wounds • Preparing Death and injury certificate		
	• Identification	• Traits,Primary & secondary data. • Age,sex, race,scar, dactylography tattoos. • Identification by Trace evidence • DNA profiling	• Age determination • Molecular identification • Finger printing/AFIS		
Second Term	• Forensic Psychiatry.	• Classification, Mental retardation, Child Psychiatry. • Juvenile delinquency, elements of psychiatry, SCZ, • Personality disorder, Anxiety disorder, Psychoanalysis. • Ethical & legal issues in psychiatric practice. • Medicolegal issues	• Examination of mental status • Psychoanalysis • Report on mental impairment		
	• Forensic aspect of reproduction: ○ Impotency, sterility, Artificial insemination, disputed paternity & maternity. ○ Pregnancy, Delivery, Abortion	○ Impotency & sterility. ○ Artificial insemination ○ Marriage, Legitimacy & paternity, hymen, virginity ○ Pregnancy ○ Abortion [therapeutic & criminal] ○ Delivery [Ml imp, recent sign]	○ Artificial insemination.		
	• Forensic Toxicology ○ General aspect of poisoning & Management of acute poisoning ○ Specific Poison, ○ Analytic, occupational, clinical toxicology	○ General aspect ○ Corrosives ○ Metallic poison ○ Deliriant poison. ○ Inebriants ○ Gaseous poisons, ○ Insecticides, Snake bite ○ Substance abuse ○ PM finding; preservation and dispatch of viscera	○ Exam of drunkenness ○ Stomach wash. ○ Diagnosing of poisoning ○ Management		
Grand Total					

2.6. Teaching-learning and assessment must be Organized.

- Organized teaching-learning and assessment is a demand for achieving the departmental objectives of the curriculum and developing a habit of correlating the acquired knowledge and skill in real life situations for solving medicolegal issues and in clinical perspectives.
- Forensic medicine is a subject where knowledge in multi-disciplinary approach is essential to understand the concept to solve medicolegal issues. Thus each item should cover relevant basic and functional/clinical aspect as well as application of critical thinking and reasoning to understand.
- If we have a look at the prefaces of the principal textbooks, we will find that each new edition comes up with increasing number of medicolegal and ethical correlates, clinical illustrations and problem solving.
- Approaches for teaching learning and assessment different functional, medicolegal and clinical phenomena from basic science, paraclinical science or embryological basis.
- Start the classes with a real-life event/story, medicolegal/clinical scenario or medicolegal/ clinical problem that can gain students' attention and make them feel more attached.
- Practice explaining then 'why' and 'how' aspects more, rather than just delivering the 'what' and 'where' types of information.
- Keep in mind to use more of different appropriate 'forms' of illustration and real and animated videos than conventional text-oriented slides while making multimedia Slides.

3.1. Examinations

Prerequisite to appear in Term Final examination:

i. Students must complete all items of the cards.
ii. Attendance in generic topic and integrated teaching is mandatory.
iii. Mandatory submission of assignment on summary of generic humanity and integrated teaching topic.
iv. Have to submit Term related assignments/ practical note book/medicolegal report/certificate.

3.2. Marks allotment for 1st term final examination:

Written- 100 marks {MCQ-20 questions, 20 marks (SBA-10 + MTF-10)+ SAQ-70 marks+ 10 marks as formative(assessed on attendance, Item exam, assignment, Presentation and practical khata)

- SAQ will be in four groups as Group-A, Group-B, Group-C, Group-D.
- Each group will be allotted 17.5 marks.
- There will be five questions among which only four questions to be answer in each group. [7+3.5+3.5+3.5=**17.5 marks**]
- Q no-01 from each group is mandatory.
    - Q no 01 of group-A and group-C will be SEQ (Structured Essay Question] and each will be allotted 07 marks. Total marks allotted for SEQ are 14 marks.
    - Q no 01 of group-B and group-D will be SAQ(problem based) which leads two questions. These questions also will be allotted 7 marks(3.5X2) individually.

SOE: 100 marks.

[Each student will be allowed 15minutes to be assessed in SOE. The student will choose ***one card having 10 questions*** covering the term topics and objectives (50% Recall; 30% Interpretation & 20% problem solving/application) types. The examiners will marked according to prepared rubrics and record the time needed (whether all the questions of the card, students can answer in 15 minutes time or not).

The Forensic medicine department prepare at least 50 such cards in each term examination and post-examination evaluation of those card regarding item validation and time (15 minutes)] The above procedure will be easy if you follows the following and take your institutional MEU guidance.

NB: The department will collect at least 06 six questions form the **faculty** following each ***lecture / Small group session*** (two-recall, two-interpretation and two problem based question) with probable answer and thus enrich your question bank. In the mean time you have to prepare two **test blue prints**. Two months before term examination prepare 50 cards and refine by reviewing. Each card contain 10 questions having recall(five), interpretation(three) and problem based(two) of must know(**Core**). Pre-validation and post-validation of each cards will improve the tools. This exercise will be the path finder for adaptation of modern assessment system. In this way, all the faculty will be involve without burden. Individual medical college will have to be committed to trained up their faculty regarding assessment system.

Practical 100 marks.

The Practical mark shall be allotted as follows: In-course assessment (**Formative) marks -35**. [Practical khata and certificate-20 marks, Humanities topic assignment & attendance-05 and Integrated topics assignment and attendance-10]. Remaining 6**5 marks** of practical shall allotted for 13(Thirteen) OSPE stations. Two stations will be procedure stations and the rest of thirteen OSPE stations will be as follows:

Weapons/Poisons- Three(0**3**) +
Documents (Inquest report,challan,death certificate, fitness, summon, certificate(0**3**)+ Forensic Phottograph-**03**+
Practical exercise (Blood stain, Y chromosomes, semen analysis, blood group,Finger print)-**02** + Radiology & imaging (Xray, MRI, CT, USG)-**02.**

Time allotted to each stations will be 5 minutes.

(Qualifying (Pass) marks - 60% in Written, Oral and Practical separately).

**If a student fails in Term final examination, he/she will appear in the Supplementary examination and have to pass.

NB: Marks distribution, question format of **2nd term final examinations** will be same as that of Professional format.

3.3. Examinations & distribution of marks of Second Professional Examination

Second Prof Examination	Total marks	Pass marks
Written	100	60%
Oral	100	60%
Practical	100	60%
Grand Total	**300**	

3.4. Components and marks in Second Professional MBBS written examination in paper of Forensic Medicine & Toxicology

Components	**Marks**	**Total**
A. Formative Assessment	10	**100**
B. Summative assessment- Written MCQ:{SBA- 10 marks + MTF- 10 marks (20 questions ×01 mark each=20)}	20	
The **SAQ** part of written paper have **four groups.** Each groups will be allotted **17.5 marks**. The questions and marks shall be as follows in each group. Q no-01**:** SEQ-07marks; There will be another four questions among which only three questions to be answer in each group. [7+3.5+3.5+3.5=**17.5 marks**]. The Q no 01 is mandatory from each group. The examinee has to answer four questions from each group including mandatory Q no 01. The examinee will use separate answer script for each group.	70	

3.5. Instructions & **Question format** for Second Prof written Examination:

Answer to the **Q no-01** of each groups are mandatory and will be **SEQ** type.

Levels of cognitive domain to be addressed:

- Recall- 50%
- Understanding- 30%
- Application- 20%

Multiple Choice Questions (MCQ):

Time allocation: 1st 30 minutes within 3 hours of written examination. Number of questions: 20
Each question will carry 1 mark.
50% MCQ will be single best answer type (SBA).
50% MCQ will be multiple true-false type (MTF).

Each SBA question will consist of 1 stem and 4 branches. Each SBA type question will carry 1 mark (only one alternative is to be chosen). Each MTF question will consist of 1 stem and 5 branches. In case of MTF, each branch will carry 0.2 mark. No negative marking.

3.6. Syllabus for SBA, MTF, SAQ, SEQ and PBQ Questions.

Group-A

1) Introduction to Forensic Medicine and recent advance.
2) Forensic science and mass disaster.
3) Sports Medicine
4) Medical Jurisprudence (**Medical ethics**).
5) Penal code, legal structure and legal procedure.

Group-B

Forensic Pathology:

1) PM Changes and artefacts,
2) Autopsy and Infanticide.
3) Death due to Asphyxia,
4) Transportation wound,
5) Firearm and explosives,
6) Electrocution & lightening.

Group-C

Clinical Forensic Medicine:

1) Identification
2) Basics of Death.
3) Wound
   a. Medicolegal aspect of wound
   b. Mechanical wound
   c. Regional wound
   d. Thermal wound
   e. Torture and neglect
4) Forensic aspect of sex, sexual offence & Perversion.
5) Forensic aspect of reproduction

Group-D

1) Forensic Psychiatry
2) Forensic Toxicology:
   a. General aspect of poisoning,
   b. Analytic toxicology,
   c. Specific Poisoning
      [Corrosives, Irritants, Systemic, miscellaneous].

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2.7. SBA (Single Best Answer) type MCQ:

SBA is a MCQ, that has a **Stem** (a scenario, a sentence, complete or incomplete, or a problem) which **Lead in** sentence, if necessary and then several (4 options/alternative) (possible answer). One of the alternatives is correct (called the key). Strictly speaking, all the alternatives should be correct, but only one should unequivocally the 'best' answer. However, in case of Forensic Medicine & Toxicology, it is sometimes difficult to construct all correct alternatives. Therefore, Single Correct Answer (SCA) type questions are also allowed.

Example (Single Correct Answer type, without scenario):

Which is the Principle of Bioethics?

a. Good medical practice
b. Informed consent
c. Morality
d. Respect for Autonomy

Key: d

Examples: Single bst answer type

Common suicidal poisoning in Bangladesh that affect autonomic nervous system is……

a) barbiturate
b) copper sulphate
c) organophosphorus compound(OPC)
d) opium
e) potassium cyanide

Key: c

Example (Single Best Answer type, with scenario):
A 46-year-old man comes to the hospital with the previous diagnosis with of Diabetes mellitus having a severe diarrhea with dehydration for 24 hrs and was subsequently develop generalized anasarca following correction of dehydration. The patient ultimately died. What is the cause of death?

a) Acute renal Failure.
b) Dehydration.
c) Diabetes mellitus.
d) Diarrhea.

Key: a

MTF (Multiple True False) type MCQ:
In this type of MCQ, a **Stem** is followed by several (5 options/branches). Each of these branches can be either True or False in relation to the Stem. Mark allotted to each branch is 0.2 in our system. Note that any proportion of True and False branches. However 'all the above' or 'none of the above' options should not used.

Written:

Short Answer Questions (SAQs):
SEQ (Structured Essay Question):
PBQ (Problem-Based Question):

2.8. Question Setting

Total number of paper setters must be Twelve (12).

i) **For written paper:** Four (04 paper setters (for SEQ, SAQ & MCQ).

ii) **For OSPE paper:** Four (08) paper setters (for OSPE).

2.9. Moderation

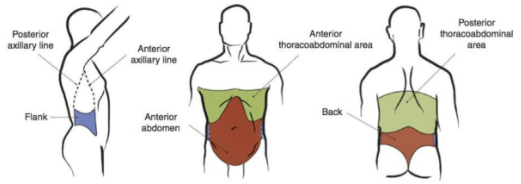
i) Number of moderators will be two (02) for each paper [MCQ, SAQ, OSPE].
ii) OSPE questions shall be centrally selected and moderation will be done in another days.

*Checklist of SEQ & PBQ must be supplied with the answer script to the examiner.

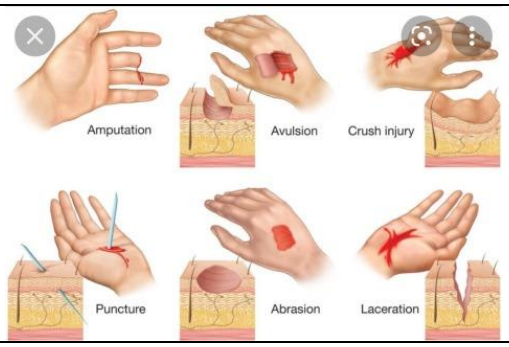
2.10. Components and mark distribution of Oral & Practical part of Second Professional MBBS Examination:

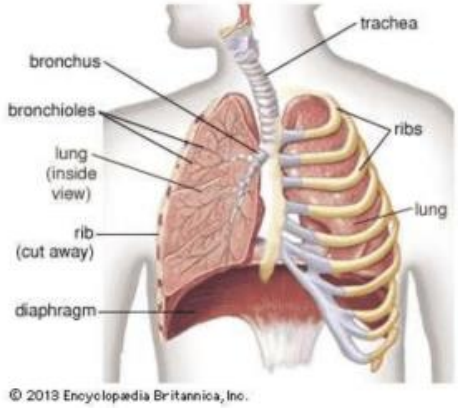
Components	Marks	Total
Structured Oral Examination **Board – I** **Board – II**	**50** **50**	**100**
PRACTICAL EXAMINATION		
In-course assessment(Formative marks)	Practical khata-10 Medicolegal report & certificate:**10** marks **Humanities** assignment& attendance-05marks **Integrated** assignment & attendance-10 marks	**35 marks**
13 (fifteen) Objective Structured Practical Exam (OSPE) Radiology and Imaging Practical Weapon/Poisons Practical note book & certificate ML reports Integrated teaching assignment Humanistic Topics	Procedure station-02 station Weapons-03 station Poisons:- 03 station **Documents**(Inquest report, challan, fitness, summon, death certificate):02 station Forensic Phottograph-02 station Radiology & imaging (Xray,MRI,CT, USG) -01 station [examiners has the liberty to change if needed] **Time allotted to each station will be 5 minutes.** **[**Faculty will give attention to develop **practical/ exercise** (Blood stain, Y chromosomes, semen	**13 X 5= 65 marks**
Grand total in Oral and Practical		**200**

Examples of Photograph that may used for teaching learning and also for Practical examination of OSPE:



From Legome & Shockley, 2011



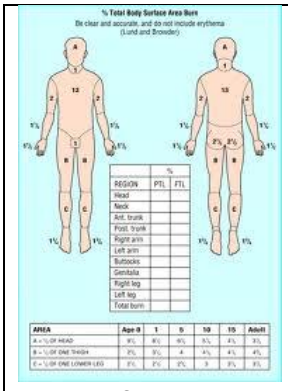


Stitched incised wound

Abrasions

Rope

(a)



Rule of nine

Tattoo

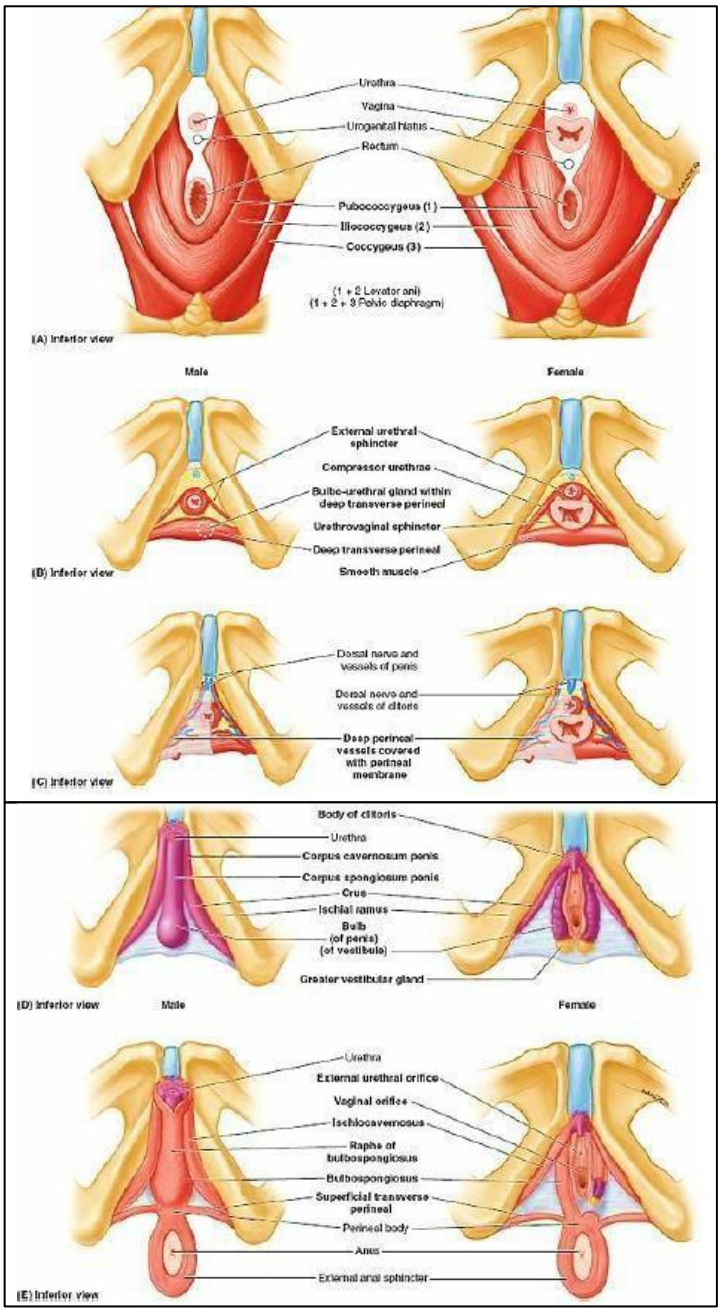


Fig.1 Layers of perineum of males and females (realistic diagram). Looking at the characteristic structures one layer after another, and again seeing all the layers together, gives a comprehensive picture. The comparison between the sexes is another strength of this illustration. (Source: Moore Clinically Oriented Anatomy, 7th edition, Fig.3.52)

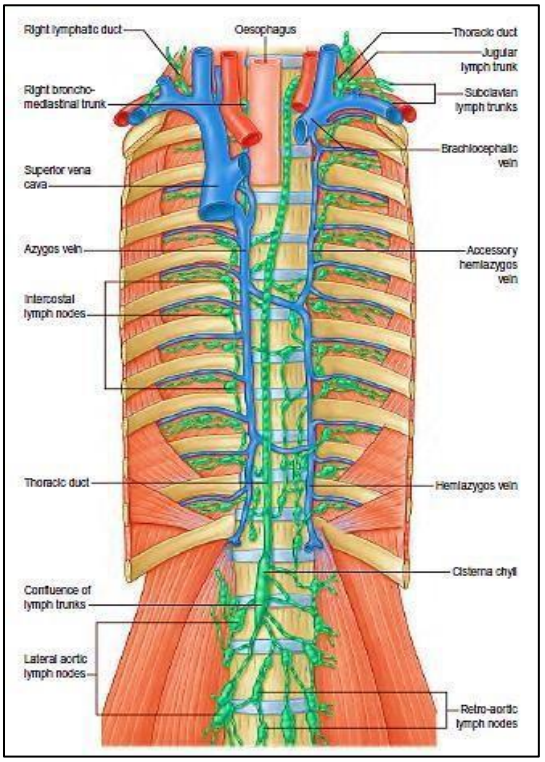


Fig: 2 The thoracic and right lymphatic ducts (realistic diagram). Note that the accessory hemiazygos vein is crossing the median plane lower and the hemiazygos higher than typically found. (Source: Gray's Anatomy, 41st edition, Fig. 56

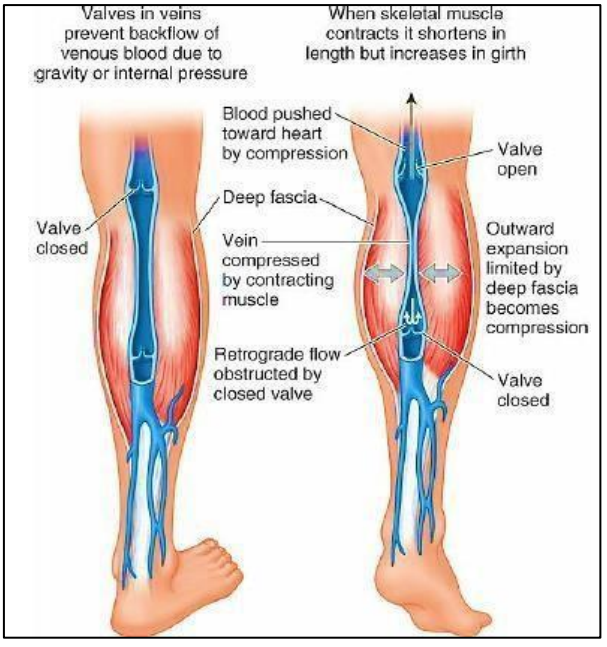


Fig. 3 Musculovenous pump (schematic diagram). The illustration shows: Muscular contractions with valve action moving blood toward the heart. Outward expansion of the bellies of contracting muscles is limited by deep fascia to become a compressive force, propelling the blood against gravity. (Source: Moore Clinically Oriented Anatomy, 7th edition, Fig.1.26)

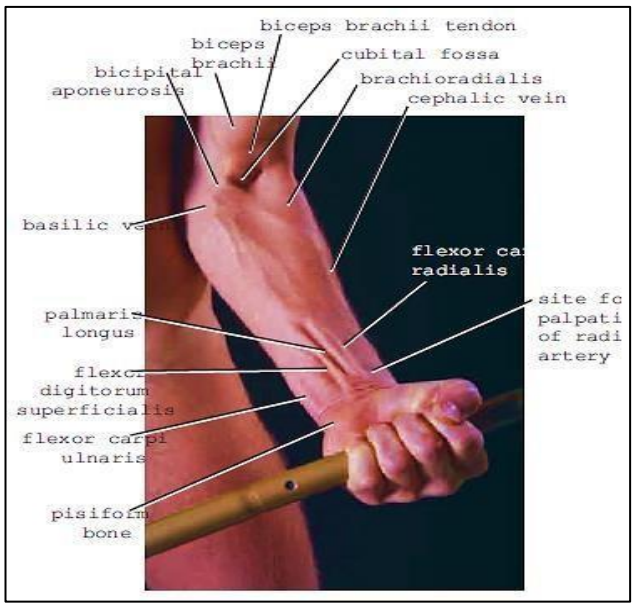


Fig. 4 The cubital fossa and anterior surface of the forearm (photograph). Clearly separable tendons are seen. Such exposure can be made more usefully in the living body. (Source: Snell's Clinical Anatomy by Regions, 9th edition, Fig.9.48)

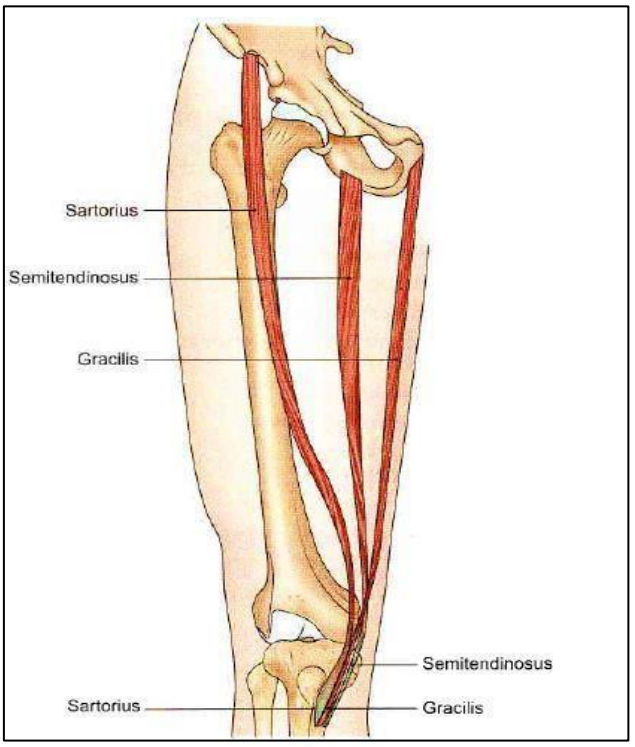


Fig. 5 Sartorius, gracilis and semitendinosus form the guy ropes for the tent of pelvis (semi realistic muscles on realistic drawing). The structures other than the muscles have been intentionally erased to show the guyropes clearly. (Source: BD Chourasia's HumanAnatomy, Regional and Applied Dissection and Clinical, 6th edition, Fig.8.13)

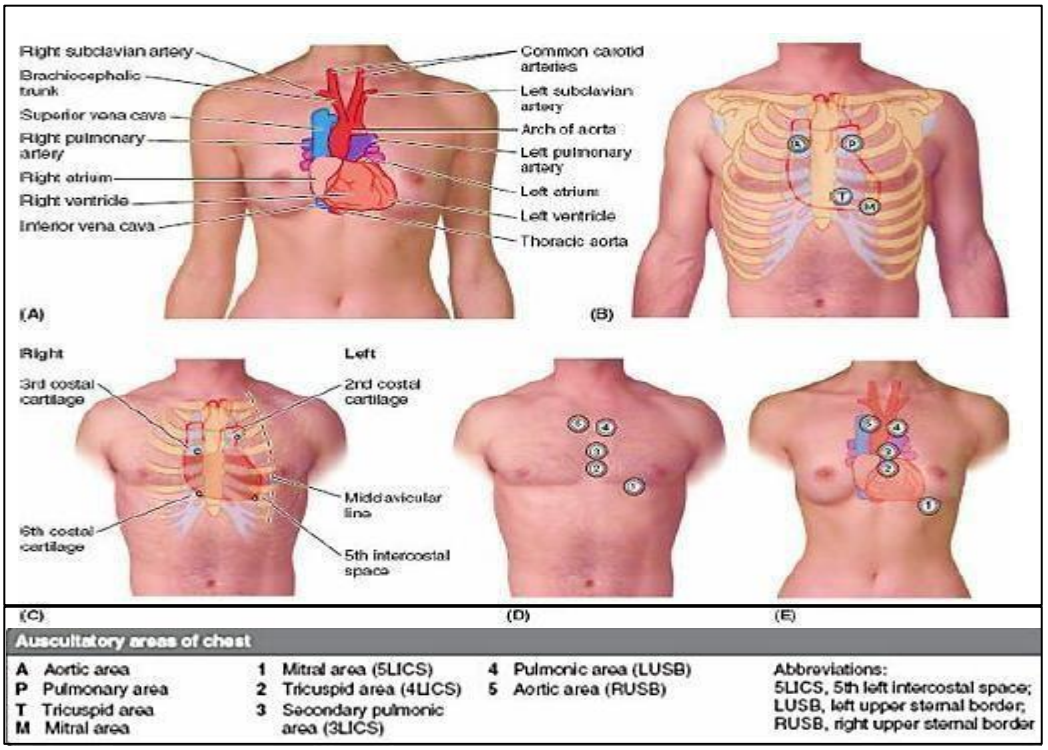
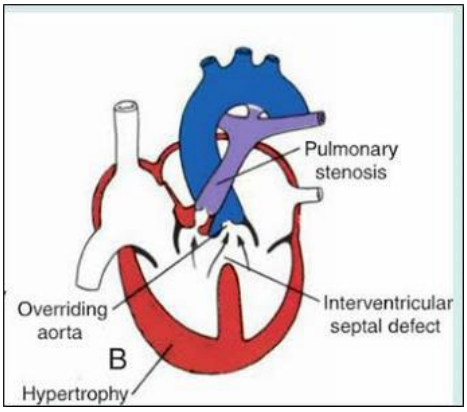


Fig.6 Surface anatomy of mediastinal viscera (schematic diagram on photographs). Clinically relevant surface projections are shown. (Source: Moore Clinically Oriented Anatomy, 7th edition, Fig.1.76)



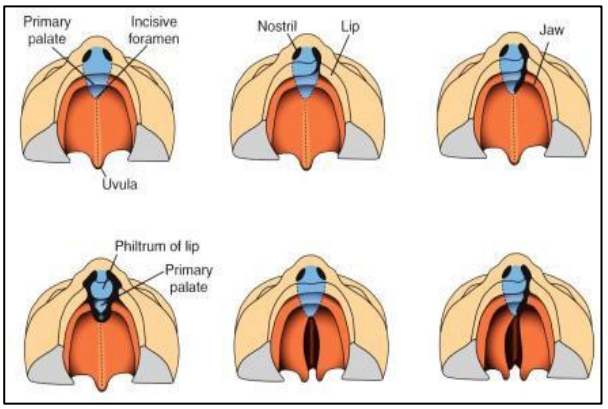


Fig-07: Examples of figures to explain developmental anomalies.

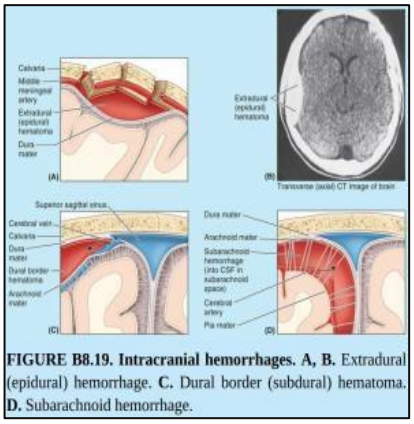


FIGURE B8.19. Intracranial hemorrhages. A, B. Extradural (epidural) hemorrhage. **C.** Dural border (subdural) hematoma. **D.** Subarachnoid hemorrhage.

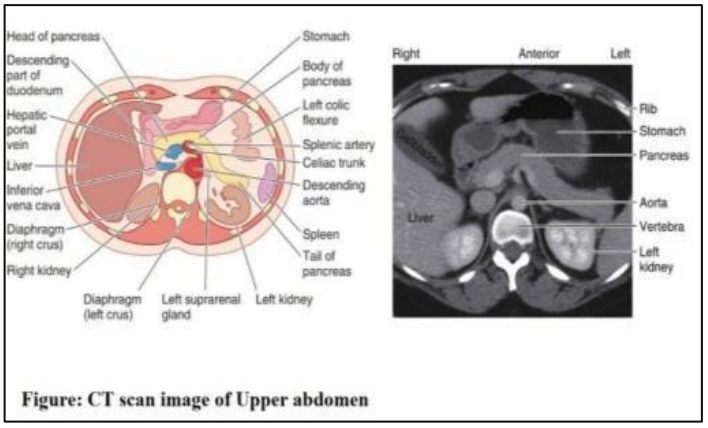


Figure: CT scan image of Upper abdomen

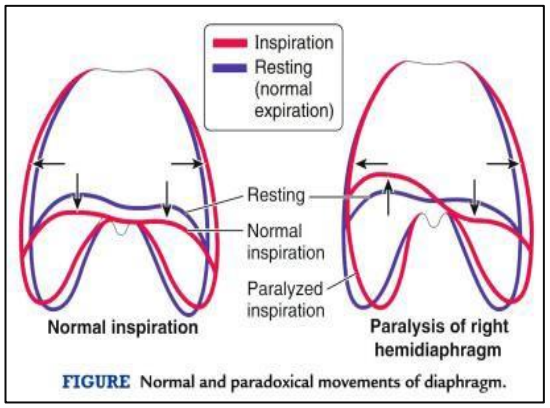


FIGURE Normal and paradoxical movements of diaphragm.

Examples of figures to compare clinical condition with normal condition.

3.12. Topics of Living Anatomy/Surface Anatomy may be used as OSPE

[Individual institute has the option to use in Term examination or TL session]

Thorax

- Counting of ribs and costal cartilages
- Heart- apex and borders
- Lung-borders and apex,
- Trachea & Bronchi
- Esophagus
- Jugular notch
- Sternal angle
- Common carotid and subclavian artery, Internal thoracic artery

Superior extremity

- Nerves: Radial, Ulnar, Median, Axillary
- Arteries: Brachial, Radial, Ulnar artery, Superficial and deep palmar arch
- Veins: cephalic, basilic and median cubital vein
- Anatomical snuff box
- Medial humeral epicondyle

Abdomen

- Trans-pyloric plane, Trans tubercular plane, Subcostal plane, mid-clavicular line
- Regions of abdomen
- Abdominal aorta & inferior vena cava
- Stomach, Duodenum, Pancreas, Liver, Gall bladder, Bile duct, Spleen, Kidney from back and MacBurney's point

Inferior extremity

- Common peroneal nerve, Tibial nerve
- Popliteal artery
- Anterior and posterior tibial arteries
- Arteria dorsalis pedis
- Great saphenous vein
- Adductor tubercle
- Lateral and medial malleolus
- Greater trochanter of femur
- Anterior superior iliac spine
- Plantar arch

Head and neck

- Facial artery, Facial vein
- Internal jugular vein, External jugular vein
- Common carotid artery & its bifurcation
- Facial nerve & their branches
- Vagus nerve in the neck
- Frontal and maxillary air sinuses
- Thyroid gland
- Tip of the coracoid process
- Inferior angle of scapula
- Tip of the 7^{th} cervical spine
- Middle meningeal artery

Some points on Living Anatomy/Surface Anatomy

The knowledge and skill regarding Living Anatomy/Surface Anatomy is required for utilizing them in mainly four ways:

1) Determining the relative positions of different structures
2) Physical examination for identifying abnormalities;
3) Identifying the right places for correctly performing a clinical procedure
4) For determining possible injuries to organs and other deep structures

Therefore it is essential to appreciate the bony and muscular prominences other more popular surface anatomy topics like organs, vessels and nerves. It is also equally essential to visualize the structures on an image, rather than memorizing the 'points' to draw the surface projection of any structure,

How the OSPE stations would be used for assessing practically-oriented knowledge of 'how'/'why' level.

- By reducing the number of stations dealing with identification of histological slides under microscope under low-power objectives and
- Introducing illustrations (laminated or in tabs) like high-power photomicrographs, electron micrographs, schematic diagrams etc. (from recommended textbooks) with functionally and practically-oriented (not theoretical) questions. (A list of such illustrations will be provided to each medical college)

How illustrations will be used in the ORAL exam

From the same list of illustrations used in the OSPE stations, ONE illustration will be used for being explained be the examinee in the ORAL part (as mentioned in the ORAL- PRACTICAL card)

How the present format of the OSPE can be made more objective

The questions of the OSPE question stations may be transformed from open-ended SAQ into Single-sentence True-False type (and if possible, into Fill-in-the gaps type MCQs).

Topics of Images of Sectional Anatomy and Diagnostic Images

Sectional Anatomy and radiological Anatomy are often considered as something to be addressed. Diagnostics images are providing much for applied knowledge than with gross anatomy. Showing diagnostic images should always be correlated with the use of sectional anatomy figures, models and living body, skeleton. Sectional drawings and diagnostic sections like CT and MRI section should be discussed in terms of how these sections represent specific views of a 3-D human body parts in a two-dimensional form.

Sectional Anatomy:

- Transverse section of neck at the level of C7 vertebra
- Transverse section of the thorax at the level of thoracic inlet
- Transverse section of the thorax at the level of 4th thoracic vertebra
- Horizontal section of brain at the level showing relationship between basal nuclei &internal capsule
- Coronal section of brain at different level

Plain X-ray [Basic points, ossification center]

- Chest PA view
- Abdomen AP view
- Pelvis AP view
- Forearm with proximal and distal joint.
- Arm including shoulder & elbow joints AP & lateral views
- Hand including wrist joints
- Thigh including hip & knee joints AP & lateral views
- Leg including knee & ankle joints AP & lateral views
- Foot including ankle joint AP & lateral view
- Head & neck (cervical spine) AP & lateral views
- Paranasal sinuses OM view

Contrast X-ray:

- IVU showing hydronephrosis and hydro ureter
- Coronary angiogram

CT scan:

- CT scan of chest at the level of 6th thoracic vertebra
- HR-CT of chest
- CT scan of abdomen at the level of 2nd lumbar vertebra
- CT scan of brain at different level

MRI:

- MRI of hip joint
- MRI of brain (axial) at the level showing basal nuclei and parts of lateral ventricle.

USG: USG of upper abdomen; Lower abdomen; USG of fetus

Endoscopy Endoscopy of the upper GIT; Colonoscopy

Diagnostic images of very good resolution are available online. Rather than collecting degradable films these images can readily be used through projection. Thus, much larger view can be achieved than with films. '**Radiopedia**' is a free online source of radiological and other diagnostic images- unlabeled and labeled.

3.13. Summative Assessment[Structured Oral Examination-SOE}

Oral examination will be structured. Total 100 marks comprising of Board I = 50 and Board II = 50 marks

Each student will be allowed 15minutes to be assessed in SOE. The student will get ***assigned card*** *containing set of 10 questions* covering the term topics and objectives (50% Recall; 30% Interpretation and 20% problem solving/application) types of Board-I and Board-II. The examiners will rate the marks according to prepared rubrics and record the marks in real time. Both external and internal examiner will attend at 8.00am (1 hour before schedule University examination time), prepare/select Questions for SOE as per test blue print and prepare the appropriate model answer. Each board will arrived consensus over appropriate answer and rubric to score marks as in hierarchical order. In SOE time should strictly maintained for justice.

Questions from **must know core topics** for every session.

Board 01:

1) Introduction to Forensic Medicine, historical milestone and recent advance; Forensic science; mass disaster, Sports Medicine

2) Medical Jurisprudence: **Medical ethics;** Penal code, legal Structure(courts) and legal Procedure.

3) **Clinical Forensic Medicine and Forensic Pathology**:
   a) Death & its Changes; PM artefacts; Sudden death; Autopsy and Infanticide.
   b) Death due to Asphyxia, Transportation wound, Firearm & explosives, and mass disaster.
   c) Medicolegal aspect of wound; Mechanical wound; Torture & Neglect; Regional wound; Thermal wound, Electrocution & lightening;

Board-II

1) Forensic Toxicology:
   a) General aspect of poisoning,
   b) Analytic toxicology,
   c) Specific Poisoning [Corrosives, Irritants, Systemic, miscellaneous].
2) Identification
3) Forensic aspect of Sex, Sexual Offence, Sexual Perversion.
4) Forensic aspect of reproduction [Pregnancy; Abortion; Delivery]
5) Forensic Psychiatry.

Examples/Format of Test Blue Print of Board-I:

Board-I: Core [must know]	Branch & history of Forensic medicine; Forensic science: CSI, Mass disaster; recent advance; Anthropology	Medical Jurisprudence [Court & Court procedure; Medical ethics; BMDC, WMA declaration]	Death&its changes, Autopsy, Sudden death; Death due to asphyxia; Firearm, Transportation wound.	ML aspect of wound;Torture & neglect; Thermal, Mechanical, Regional wound	Identification & DSD
Recall					
Interpretation					
Problem solving					

Board-I: Weightage (Number of question)	Branch & history of Forensic medicine; Forensic science: CSI, Trace evidence (blood,hair,semen), Mass disaster; recent advance; Anthropology	Medical Jurisprudence [Court & Court procedure; Medical ethics; BMDC, WMA declaration]	Death&its changes, Autopsy, Sudden death; Death due to asphyxia; Firearm, Transportation wound.	ML aspect of wound;Torture & neglect; Thermal, Mechanical, Regional wound	Identification & DSD
Recall	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:
Interpretation	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:
Problem solving	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:

Examples/Format of Test Blue Print of Board-II:

Board-II: Core [must know]	General aspect of Toxicology [Poison, classification, act, factor modify, Principles of management]	Specific Poisons: **Corrosives, Irritants, Systemic** & **Miscellaneous** [source, action, S/S, Management, ML imp, PM finding]	Forensic aspect of sex [Impotency, AI, sterility, legitimacy, Marriage, hymen, virginity]. Forensic aspect of reproduction[pregnancy, delivery & abortion]	Identification & Trace evidence (blood, hair, Semen)	Forensic Psychiatry
Recall					
Interpretation					
Problem solving					

Board-II: Weightage (Number of question)	General aspect of Toxicology [Poison, classification, act, factor modify, Principles of management]	Specific Poisons: **Corrosives, Irritants, Systemic** & **Miscellaneous** [source, action, S/S, Management, ML imp, PM finding]	Forensic aspect of sex [Impotency, AI, sterility, legitimacy, Marriage, hymen, virginity]. Forensic aspect of reproduction[pregnancy, delivery & abortion]	Identification & Trace evidence (blood, hair, Semen)	Forensic Psychiatry
Recall	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:
Interpretation	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:
Problem solving	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:	MCQ SAQ SOE: Practical:

[NB: Medical college Practice throughout their course other than professional examination: The department of forensic medicine & toxicology of each individual medical institute will collect at least 06 six questions form their **faculty** following each ***lecture / Small group session*** (two-recall, two-interpretation and two problem based question) with probable answer and thus enrich question bank. Before term examination prepare 50 cards. Each card contain 10 questions having recall(five), interpretation(three) and problem based (two). Pre-validation and post-validation of each cards will improve the tools. This exercise will be the path finder for adaptation of modern assessment system. In this way, all the faculty will be involve without burden. Individual medical college will have to be committed to trained up their faculty regarding assessment system.]

3.15. Practical will be of 100 marks comprising of following:

In course Assessmen	Two assignments on Generic (Medical humanities) topic (4) + Attendance (1)	**05 marks**
	04 assignment on integrated TL session(assignment-08+attendance-02)	**10 marks**
	Practical Khata-10 marks; Certificate & Report-10	**20 marks**
	OSPE	
	Procedure station-02 station Weapons: Three (03) station Poisons:- Three (03) station Documents(Inquest report, challan, fitness, summon, death certificate):02 station Forensic Phottograph-02 station Radiology & imaging (Xray, MRI, CT, USG)-01 station Time allotted to each station will be 5 minutes [Examiners has the liberty to change the number or add important aspect, if needed] **[**Faculty will give attention to develop **practical/ exercise** (Blood stain, Y chromosomes, semen analysis, blood group,Finger print)]	13 X 5= 65 marks
	Grand Total	101rks

35 marks will be added to the Practical marks as of Formative Assessment of professional examination. **05** marks of generic medical humanities, **10 marks** of integrated topics and **20 marks** (Practical khata-10 marks & ML reports-10 marks; these khata & reports must be made available during professional examination) will be incorporated in practical marks of Professional examination as formative marks.

The **Practical khata** will contain at least following 10 topics and this khata will made available at professional examination:

1. Historical mile stone, attributes of forensic physician, scope of forensic medicine, Principles of forensic evidence analysis and Physical evidence/ trace evidence.
2. *Definition, types, complications, age of injury and ML imp of* **Basic wounds** (abrasion, bruise, laceration, crush, incised, stab wound and burns), ***Medicolegal aspect*** *of wound* (injury, grievous hurt, defense & fabricated wound, hypostasis & bruise; causes of death due to wound, homicide) and **complication of wound**(DIC, Multi-organ failure).
3. *Legal structure of Bangladesh,* Court procedure(summon, evidence, witness) and sentences.
4. *Death & Changes after death, sudden death and PM artifact*.
5. *Autopsy[prerequisite, external exam, Incisions, internal exam(chest cavity, cranial cavity & abdominal cavity) and special procedure of autopsy of asphyxia death, Heart, lung, Liver, Brain, kidney and pneumothorax.*
6. *Identification (traits, Sex, age, dactylography, scar, tattoo, biometric and DNA profiling, Forensic* ***aspect of sex, Sexual offense*** *and* ***reproduction***.
7. *Forensic psychiatry and Principles of Forensic science used to solve problem.*
8. *Forensic Toxicology (Source, FD, FP, mechanism of action, complications, S/S, Investigation, diagnosis, management- of common poisoning.*
9. *Procedure of examination of physical assault, sexual assault, drunkenness, Insane/mentally impaired, impotency case, fitness and sickness.*
10. *WMA declaration; BMDC function, Medical ethics, Infamous conduct, Malpraxis, Consent, Doctor-patient relationship.*

OSPE questions shall be centrally moderated. Implemented in an assigned separate date after written before Oral examination. [as like that of clinical OSPE conduction]. University will select the convenor who with the collaboration of internal conducts the OSPE. OSPE scripts will be assessed by all four examiners.

Points to be kept in mind while using the OSPE format:

- OSPE (Objective Structured Practical Examination) is a "practical" (NOT theoretical) examination and "objective" (NOT subjective) in nature. Therefore, the questions must be practically-oriented, not theory-based.
- It has to be emphasized that the OSPE stations sometimes contain questions that do not require practical skill or practically-oriented theoretical knowledge to answer the question. They can be answered from memory if the given tool is identified.
- Not necessarily every OSPE station should asks for identification of the tool. Rather, we can directly go to the question.
- Using a phrase like IT IS SEEN IN THE CADAVER/ VISCUS/ ORGAN/ SKELETON/ FIGURE/ X-RAY makes the question automatically more practically-oriented than not using the phrase.

Traditionally the OSPE questions in our course are Open-ended type SAQ. But other more objective forms of question may be tried. Following are some examples of different types of OSPE questions.

1. For constructing questions on "Forensic Medicine", we should pose question that will represent a more practical aspect of forensic aspect (medicolegal works with ethical or legal issues) rather than theoretical one.

   For Example:

   The 'A'-marked portion of the heart is seen here to be supplied by which artery? (SAQ: Open-ended type) Or

   The tied portion of the heart is seen here to be supplied by the Left anterior coronary artery. (MCQ: Single sentence True/False type)

   Or

   The tied portion of the heart is seen here to be supplied by the _____ artery. (SAQ: Fill-in-the-gap type)

2. For constructing questions on or "Radiological (Diagnostic) Anatomy", we should pose question(s) that would address a more radiological aspect of an anatomical structure rather than theoretical one.

   For example:

   Identify the "A" marked structure in the supplied radiograph. (SAQ: Open-ended type) Or

   The "A" marked structure seen here is the aortic knuckle. (True / False) (MCQ: Single sentence True / False type)

   Or

   The "A" marked epiphysis of the joint seen here is ossified. (True / False) (MCQ: Single sentence True / False type)

   Or

   The "A" marked area seen here is the_____. (SAQ: Fill-in-the-gap type)

Examples of OSPE questions that have made the question THEORETICAL
(The questions not practically-oriented are shown with 'asterisk')

- Identify the photograph. (scene of crime- Car accident) Mention injuries sustain by the driver. *
- Identify the flag-marked area. (Interventricular septum of the Heart) Name its parts and arterial supply. *
- Identify the flag-marked area. (Apex of the lung) Name its posterior relations. *
- Identify the chalk-marked area. (lesser trochanter) Mention its attachment and action. *
- Identify the tied structure. (Fibrous pericardium) Mention its developmental source. *
- Identify the flag-marked area. (ureter) Mention its formation and nerve supply. *

Examples of OSPE questions that have used practical or practically-oriented theoretical questions

- Identify **TWO** complications of the anomaly that can be seen in the figure. #
- Name the structure lying medial/ lateral/ posterior/ anterior-superior/ posterior-inferior to the tied structure. #
- Identify the tied structure. (Rectus sheath)
  Name two structures that are absent from the contents of the tied structure. #
- Why does the tied structure look paler than its neighboring vessel/structure in the viscus?
- Identify **TWO** visible characteristics of the 'A'-marked articular surface in relation to the 'B'-marked surface that makes the joint vulnerable to dislocation.#
- Identify the tied structure. (Sciatic nerve)
  Identify the notch to which it is seen related while passing out of the pelvis. #

(Note that the action verb 'IDENTIFY' automatically make the examinee look at the specimen carefully. If the word 'MENTION' was used it can be answered by memorization only)

Pass mark is 60% of total marks. Students will have to pass written, oral and practical examination separately.

3.14. Results of Second Professional examination will be published by respective universities as Letter Grade, Grading points based on Numerical Grade as follows:

Numerical Grade	Letter Grade	Grade Point
80% and above	A+	4.00
75% to less than 80%	A	3.75
70% to less than 75%	A-	3.50
65% to less than 70%	B+	3.25
60% to less than 65%	B	3.00
Less than 60%	F	0.00

4:1. Preparation of Mark Sheet/ Envelope for Tabulation of Second Professional Examination

After completion of all examinations (Oral and Practical) and examining the answer scripts it is the responsibility of the **convener/examiner** to send the properly marked and sealed mark sheets to the controller of examination as early as possible.

The following points should be carefully noted before sending the marks to the controller office:

4:1.1. Mark Sheet

Top of the each mark sheet must be filled up properly (Name of the examination, Part-Oral/practical/written-SAQ & Groups eg, 2nd Prof examination May 2023 Subj:Forensic Medicine. Written group A, Total marks-17.5 marks)

* Roll number should be written serially. Marks should be given against each roll number.
* Examinee who is absent must be mentioned against their roll number.
* Use of white fluid is strictly prohibited.
* Any overwriting on the mark sheet should be avoided.
* Any pen through/ alteration on the mark sheet must be signed properly.
* Each page of the mark sheet must be signed by the examiner.

4.1.2. Envelopes

Small envelopes: Three in number for –Tabulator I, Tabulator II and Deputy Controller
Each should be mentioned properly on the envelope.
The following points should be written clearly in the allotted space over the envelope.

* Name of the examination
* Centre of examination
* Subject
* Formative
* Written: SAQ and Group
* Oral/ Practical

Big envelope–Two in number (both for Deputy Controller)

* One big envelope should contain two small envelopes (Tabulator I & II) and must be marked as two copies over the envelope.
* Another big envelope is for one small envelope of Deputy Controller and the envelope should be marked as one copy.

The points those are mentioned for small envelopes are applicable for big envelopes also.

* All the envelopes (small & big) must be sealed & duly signed by the examiner/examiners.
* Signature with date/name & designation of the examiner must be mentioned small and the big envelopes also.

4.2. Provisional Tabulation Sheet

University of ……...
Second Professional M.B.B.S. Examination of 20……...
Department of Forensic Medicine
…….Medical College.

		SOE							
Uni Roll no	Regi no	Board-1	Board-1I	Total	Medical humanity (05 marks)	Integrated (10 Marks)	Practical Khata & Certificate (20 marks)	OSPE (65marks) centrally	Total 35 marks

4.3. Proforma of Provisional Tabulation sheet

University of ……...

Second Professional M.B.B.S. Examination of 20……...

Department of Forensic Medicine

…….Medical College.

Uni Roll no	Regi no	Structure ORAL Examination[SOE]													Practical/OSPE				
		SOE-01	SOE-02	SOE-03	SOE-04	SOE-05	SOE-06	SOE-07	SOE-08	SOE-09	SOE-10	Board-1	Board-1I	Total	Medical humanity	Integrated	Practical Khata & Certificate	OSPE	Total

Signature of External examiner **Signature of Internal examiner**

Provisional Tabulation Sheet ***Dated .....***

Roll No.	ORAL			PRACTICAL														
				BOARD I							BOARD II							
	Board I	Board II	Total															Grand Total

Signature of the examiner

Signature of the examiner