

Maharashtra University of Health Sciences, Nashik



Forensic Medicine and Toxicology

Implementation of Amended CBME Curriculum under MUHS University for batch admitted
in 2024 and onwards batch

Course Content

Second MBBS and third MBBS (Part 1)

Subject: Forensic Medicine and Toxicology (Theory and Practical)

(National Medical Commission)

(Undergraduate Medical Education Board)

Reference: D-11011/500/2024/AC dated 12.09.2024)

1. Preamble

The guidelines are based on the NMC revised CBME guidelines for 2024 (*Notification No. D-11011/500/2024 Academic Cell e-8284443 dated 12 September 2024*) and incorporate the

essential elements of the internal assessment [Number of internal assessment (IA), format, eligibility criteria for university examination, etc.] stated in the said document.

2. Subject Goals

At the end of teaching learning in forensic medicine and toxicology, the student should be able to:

1. Comprehend Medico-legal responsibilities of a general physician while rendering community service either in a rural primary health center or an urban health center.
2. Comprehend of basic Medico-legal aspects of hospital and general practice.
3. Understand the rational approach to the investigation of crime, based on scientific and legal principles.
4. Understand the medico-legal framework of medical practice, codes of conduct, medical ethics, Professional Misconduct and Medical Negligence.
5. Conduct Medico-legal examination and documentation of various Medico-legal cases. Identify and interpret important post-mortem findings in common unnatural deaths.
6. Conduct postmortem examination and Preparation of postmortem reports in unnatural deaths- Suicidal, Homicidal, Accidental.
7. Prepare Medical Certificate of Cause of Death (MCCD) and Medico-legal reports of injuries and age estimation.
8. Conduct examination and documentation of sexual offences, intoxication cases and preservation of relevant ancillary materials for medico-legal examination.
9. Analyse, Diagnose, manage legal aspects of common acute and chronic poisoning cases.
10. Understand of latest Acts and laws related to medical professional including related Court judgements e.g. MTP Act, CPA, HOTA etc.

3. Teaching activity

Total Teaching hours: 165 hours

- A. Lectures (hours): 47 hours
- B. Self-directed learning (hours): 28 hours
- C. Small group teachings/tutorials/Integrated teaching/Practical (hours): 90 hours

Distribution of Subject Wise Teaching Hours for II and III (Part 1) MBBS

MBBS Year	Lectures	SGL	SDL	Total
II	12	25	08	45
III (Part 1)	35	65	20	120
Total	47	90	28	165

SDL: Self Directed Learning

SGL: Small Group Learning (practical/ tutorials/ Seminars/ Integrated Learning)

4. AETCOM

Refer following table for AETCOM competency number and various competencies:

Table showing AECTCOM competencies

Competency Number	Competency
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2.6	Bioethics continued: Case studies on autonomy and decision making
3.4	Case studies in bioethics - Confidentiality

5. Course Duration

1. II MBBS: 12 months
2. III MBBS (Part 1): 12 months

6. Scheme of examinations for IA

Internal Assessment (IA) should be done independently for theory and practical examinations.

A. Theory Examination

Theory	Phase II	Phase III/I	Phase III/I	Total (A+B+C)	Converted to 100 (D/2)
	IA 1	IA 2	Prelims		
	A	B	C	D	E
	50	50	100	200	100

B. Practical Examination

Following table shows scheme of formative assessment for practical:

Practical	Phase II	Phase III/I	Phase III/I	Total (A+B+C)	Converted to 100 (D/2)
	IA 1	IA 2	Prelims		
	A	B	C	D	E
	50	50	100	200	100

Pattern of Theory and Practical examination for first and second term exam

Following table shows pattern of theory and practical examination for first and second term examinations:

Theory first and second term (first PCT and Second PCT):

Section	Type of Question	Maximum marks per Question	Number of Questions	Total marks
A	MCQs (including Scenario based MCQs)	1	10	10
B	Short Answer Question (including Scenario based and reasoning questions)	5	6 SAQ out of 7 SAQ	30
C	Structured Long Answer Question	10	1 LAQ out of 2 LAQ	10
Total marks				50

Practical

Head/Section	Details	Marks
A	Exercise*	30
B	Viva voce	10
C	Journal	5
D	Log book [#]	5
Total marks		50

* Depending on the completion of syllabus, one can arrange different practical exercises like sickness certificate, fitness certificate, MCCD, age estimation, x ray/ skiagram/ OPG, injury certificate, weapon examination, examination of survivor in sexual offence, examination of accused, examination of potency etc. There is flexibility. Similarly, each practical exercise can be of 5 marks or 10 marks depending upon the completion of syllabus.

As per NMC guidelines Log book (including required skill certifications) to be assessed and marks given from 10 to 20 % in internal assessment.

Pattern of Theory and Practical examination for Preliminary Examination

Following table shows pattern of theory and practical examination for preliminary examinations:

Preliminary Theory examination

Number	Section	Type of Question	Maximum marks per Question	Number of Questions	Total marks
1	A	MCQs (<i>At least 5 should be Scenario based MCQs</i>)	1	20	20
2	B	Short Answer Question	5	6 SAQ out of 7 SAQ	30
3	B	Long Answer Question	10	1 LAQ out of 2 LAQ	10
4	C	Short Answer Question [<i>One SAQ should be from AETCOM (2.6) or (3.4) competency</i>]	5	6 SAQ out of 7 SAQ	30
5	C	Long Answer Question	10	1 LAQ out of 2 LAQ	10
Total marks					100

Preliminary Practical Examination

Serial No.	Details	Marks
1	Exercise	70
2	Spotters*	10
	Viva voce 1 (Forensic Medicine)	10

	and Medical Jurisprudence)	
3	Viva voce 2 (Toxicology and legal procedure)	10
4	Total marks	100

* Note: if facilities and man-power is available one can arrange one or two spots as OSPE.

Suggested pattern of preliminary practical examination:

	Practical								Oral/ Viva		Total
	MCCD	Sickness/ fitness certificate	Injury certificate	Weapon examination	Examination of survivor/ accused of sexual offence	Drunkenness	Age certification	Spotters	Viva 1	Viva 2	
	A	B	C	D	E	F	G	H	I	J	K
Maximum marks	10	10	10	10	10	10	10	10	10	10	100
Marks											

A. Spotters

Any five spots can be placed with 02 mark for each spot. Time limit will be 02 minutes. Students have to write answer of two questions. Following spots can be placed:

1. Poison 1 = 02 marks
2. Poison 2 = 02 marks
3. Photograph/ Skiagram (X ray) = 02 marks
4. Bone/ foetus/ Model = 02 marks
5. Museum specimen/ instrument/ Document (like summons/ inquest etc.) = 02 marks

B. Certificates/ Exercise

Following certification exercise may be given to students as per completion of teaching schedule, and availability of resources:

1. Medical Certification of Cause of Death (MCCD) (Form no. 4/ 4 A)
2. Fitness and sickness certificate
3. Injury certificate
4. Age estimation
5. Examination of weapon
6. Examination and certification of survivor of sexual offence
7. Examination and certification of accused of sexual offence
8. Alcohol intoxication/ drunkenness certificate
9. Consent
10. MLC intimation/ information to police
11. Examination of bone
12. Examination of foetus

13. Examination and certification of skiagram/ x ray/ OPG
14. Examination and certification of photograph etc.

C. OSPE

If facilities and man power are available, then one or two OSPE exercise can be arranged. However, it is not mandatory. Examples of OSPE are:

1. Examination of bone
2. Examination of foetus
3. Gastric lavage over mannequin
4. Examination of skiagram/OPG for age estimation etc.

Term Examination at a Glance

Following table describes conduction of term examination in the subject of Forensic Medicine and Toxicology for batch admitted in year 2024 and onward batches.

II MBBS	6 months	1				
III MBBS Part 1		2		P		U

Colour Indicator	Description
1	First Term Exam
2	Second Term Exam
P	Preliminary Exam
U	University Exam

University Examination

Phase III Part 1

- Examination shall be held at the end of Phase III part I of training (12th month of that training) in the subjects of Community Medicine, Forensic Medicine and Toxicology, Ophthalmology and Otorhinolaryngology.
- A candidate shall obtain a cumulative 50% marks in university conducted examination including theory and practical and not less than 40% separately in Theory and in Practical in order to be declared as passed in that subject. In subjects that have two papers, the learner must secure a minimum 40% marks in aggregate (both theory papers together).

A. Marks distribution for university examinations

- Theory: 100 marks – one paper
- Practical: 100 marks

1. Theory Examination:

Theory examination will be as per following table:

Number	Section	Type of Question	Maximum marks per Question	Number of Questions	Total marks
1	A	MCQs (<i>At least 5 should be Scenario based MCQs</i>)	1	20	20
2	B	Short Answer Question	5	6 SAQ out of 7 SAQ	30
3	B	Long Answer Question	10	1 LAQ out of 2 LAQ	10
4	C	Short Answer Question [<i>One SAQ should be from AETCOM (2.6) or (3.4) competency</i>]	5	6 SAQ out of 7 SAQ	30
5	C	Long Answer Question	10	1 LAQ out of 2 LAQ	10
Total marks					100

2. Theory Skeleton

Skeleton for MUHS Theory Examination will be as per following table:

Skeleton for theory examination	
Section A: MCQ (20 marks)	
1. Multiple Choice Questions (Total 20 MCQ of one mark each) (At least 5 should be scenario-based MCQ)	(1 X 20 = 20 marks)
Instructions	
1) 2) 3) 4) 5) 6) 7) 8) 9) 10)	
11) 12) 13) 14) 15) 16) 17) 18) 19) 20)	
Instructions 1)..... 2).....	
Section B (40 marks)	
2. Short Answer Questions (Any 6 out of 7)	(6 X 5 = 30 marks)
a) b) c) d) e) f) g)	
3. Long Answer Question (Any 1 out of 2)	(1 X 10 = 10 marks)
a) b)	
Section C (40 marks)	
4. Short Answer Questions [One short note be from AETCOM (2.6) or (3.4) (Any 6 out of 7) (6 X 5 = 30 marks)	
a) b) c) d) e) f) g)	
5. Long Answer Question (Any 1 out of 2)	(1 X 10 = 10 marks)
a) b)	

3. Practical Examination:

MUHS practical examination will be as per following table:

Serial No.	Details	Marks
1	Exercise	70
2	Spotters	10
	Viva voce 1 (Forensic Medicine and Medical Jurisprudence)	10
3	Viva voce 2 (Toxicology and legal procedure)	10
4	Total marks	100

4. Practical skeleton

Following will be the pattern for University Practical Examination

Following will be the pattern for University Practical Examination											
	Practical skeleton								Oral/ Viva		Total
	MCCD	Sickness/ fitness certificate	Injury certificate	Weapon examination	Examination of survivor/ accused of sexual offence	Drunkenness	Age certification	Spotters	Viva 1	Viva 2	
	A	B	C	D	E	F	G	H	I	J	K
Maximum marks	10	10	10	10	10	10	10	10	10	10	100

Certified skill-based competencies

The National Medical Commission in its skill training module no. 5, following skill are identified in Forensic Medicine and Toxicology:

1. Documentation and certification of trauma (I)
2. Diagnosis and certification of death (D)
3. Legal documentation related to emergency cases (D)
4. Certification of medical-legal cases e.g. Age estimation, sexual assault etc. (D)
5. Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc. (D)

Skill is the ability to perform a task leading to a specific predefined outcome. Skill may be:

- a. Intellectual or cognitive which includes clinical reasoning and decision-making skills;
- b. Procedural or psychomotor skills that require manual dexterity and include laboratory and clinical skills;
- c. Communication skills;
- d. Team skills including leadership skills.

Attendance

There shall be a minimum of 75% attendance in theory and 80% attendance in practical for eligibility to appear for the examinations in the subject of Forensic Medicine and Toxicology. In subjects that are taught in more than one phase - the learner must have 75% attendance in theory and 80% attendance in practical in each phase of instruction in that subject. There shall be a minimum of 75% attendance in AETCOM.

Calculation of Internal Assessment Marks

- There will be 3 internal assessment examinations in Forensic Medicine and Toxicology. The structure of the internal assessment theory examinations should be similar to the structure of university examinations.
- First term examination to be conducted in II year of MBBS along with second part completion test of Pathology, Microbiology and Pharmacology.
- Second term examination to be conducted in III year (Part 1) of MBBS after 6 months.
- Preliminary examination to be conducted before the final University Examination.
- Internal Assessment marks to be calculated after preliminary examination.
- It is mandatory for the students to appear for all the internal assessment examinations.
- A student who has not taken minimum required number of tests for Internal Assessment each in theory and practical will not be eligible for university examinations.
- There will be only one additional examination for absent students (*due to genuine reason*) after approval by the Institutional Grievances Committee. It should be taken after preliminary examination and before submission of internal assessment marks to the University.
- Internal assessment marks for theory will be out of 200 and practical will be out of 200.
- Total theory internal assessment and total practical internal assessment marks are to be converted to 100 marks each. Students must secure at least 50% marks of the total marks (combined in theory and practical; not less than 40 % marks in theory and practical separately) to be eligible for appearing University examination.
- Conversion Formula for calculation of marks in internal assessment examinations is as per following table

Examination	Theory (marks)	Practical (marks)
First Term Exam	50	50
Second Term Exam	50	50
Preliminary Exam	100	100
Total	200	200
Conversion out of	100	100
Conversion formula	Total marks/2	Total marks/2
Eligibility criteria after conversion	40	40
	Combined Theory + Practical = 100	

- While preparing Final Marks of Internal Assessment, the rounding-off marks shall be done as illustrated in following table.

Total Internal Assessment Marks	Final rounded marks
53.01 to 53.49	53
53.50 to 53.99	54

Internal assessment marks will not to be added to marks of the University examinations and will be shown separately in mark list.

Eligibility to appear for MUHS final examination

1. Eligibility based on Internal Assessment

A student must secure at least 50% of the total marks (combined in theory and practical / clinical); and minimum 40% in theory and practical separately for internal assessment in order to be eligible for appearing at the final University examination of the subject. Following are the details for the subject.

During the course:

If Internal assessment (IA) marks are less for any of the theory / practical IA examinations, the students/parents must be intimated about the possibility of being detained, much before the subsequent internal assessment examination so, so that there is sufficient time to improve.

No extra IA examination shall be conducted for such students, to improve their score, rather such students are mentored and guided, so that they improve in subsequent IA examinations. However, only one extra examination can be conducted after preliminary examinations, only for those students who have missed any of IA examinations due to genuine reasons (see below for details).

Extra examination for students who have missed IA examination due to genuine reasons

If a student has missed any of the IA examinations due to genuine reasons, then such students must apply to academic committee for permission to appear for one extra examination which is to be conducted after prelim examination. Academic committee, after verifying the genuineness for absence, may permit such students to appear for one extra examination (one theory and one practical).

Even if a student has missed two or more theory / two or more practical examinations, then such student can appear for ONLY one extra examination. In such situations, eligibility should be considered after totaling the marks of the appeared examinations, without changing the denominator.

At the end of Phase III part I:

If a student fails to secure 40% marks and theory and practical individually and 50% combined marks in practical, such students shall be detained to appear in regular university examination of that batch.

Remedial measures for detained students

- i. In spite of above measures, if student is still not meeting the IA criteria to be eligible for regular MUHS exam he/she shall be detained to appear in regular university examination.
- ii. Remedial IA examination is to be conducted before the supplementary examination. The examination shall be conducted as per the final MUHS examination theory and practical pattern.
- iii. The student is eligible to appear for MUHS supplementary examination, if he/she secures minimum 40% marks in theory and practical (40/100 and 40/100, respectively) AND minimum 50% combined marks (100/200).

2. Eligibility based on attendance

To be eligible to appear for final MUHS examination, students must have at least 75% attendance in theory and at least 80% attendance in practical.

During the course:

If attendance is less during any quarterly/ six monthly/ periodic monitoring, the students/parents must be intimated about the possibility of being detained much before the final university examination, so that there is sufficient time for improving their attendance.

Such students may be offered any of the locally possible remedial measures such as attending classes with previous batches (without affecting other subjects' attendance) or extra classes. However, scheduling of such remedial measures are optional for a college, and no such student can claim eligibility to appear for MUHS examination on the basis of non-scheduling of such remedial measures. The decision of scheduling of such

remedial measures will be taken as per the absolute discretion of head of the department, considering the available resources.

At the end of phase III part I:

If attendance is less than the required criteria at the end of regular classes for the subject, the student is detained to appear in regular university examination of that batch (for that subject).

Remedial measures for detained students

1. In spite of above measures, if student is still not meeting the criteria to be eligible for regular MUHS exam, he/she shall be detained to appear in regular university examination.
2. If his/her attendance is $\geq 60\%$ in theory and practical, then remedial measures can be offered to such detained students, (after regular MUHS examination), so that they can complete the attendance criteria to be eligible to appear for supplementary examination. Detained students may be offered any of the locally possible remedial measures such as attending classes with previous batches (without affecting other subjects' attendance) or extra classes.
3. If the attendance is $< 60\%$, such students are neither eligible for remedial measures nor eligible for supplementary examination. Such students must attend all the classes including lectures, practical, postings etc. with next batch and appear for regular MUHS examination of next batch, for the subject.