

MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES

NASHIK

**CURRICULUM & EXAMINATION PATTERN
FOR THE POSTGRADUATE DEGREE & DIPLOMA
(MD & DFM)
COURSE IN FORENSIC MEDICINE.**

I. GOAL:-

The broad goal of the teaching of postgraduate students in Forensic Medicine is to produce a competent Specialist who is able to provide basic and Specialized Services in relation with Medico Legal responsibilities in the practice of Medicine and process of crime investigation. He/She must also be capable of setting inquiries on right track in criminal matters and connected medico legal problems. It is also expected that they will serve as future Teacher, Trainer, Researcher and leader in the field. They must acquire knowledge of law in relation to practice of medicine, medical negligence and investigation of crime against Human beings. Respect for the codes of medical ethics consistent with national health policy and Law of the land as a citizen of India is offcourse mandatory for them.

II. EDUCATIONAL OBJECTIVES:-

A:-KNOWLEDGE At the end of the course, the candidate shall be able to

1:-Conduct a competent Medico legal Autopsy, collect appropriate evidence pertaining to Cause-Mode-Manner of death and identification of deceased and assailant. They must also be able to understand and interpret other important medico-legal aspects of death due to natural and unnatural conditions and poisonings.

2:-They must be able to visit scene of crime and shall detect, describe, interpret the observations and conclude the procedure in a technically competent manner.

3:- Have fundamental knowledge of all branches of medical disciplines related to their medico-legal applications. They must also be able to refer and understand relevant application of few other branches of science like botany, zoology, chemistry, physics. It is also expected that they must be reasonably aware of using computer.

4:- Be aware of laws in relation to medico-legal work, medical practice and be acquainted with related relevant amendments and also related judgments passed by constitutional courts.

5:- Understand the important procedures and applicability of the general principals of analytical toxicology, ballistics, immunology, occupational and environmental hazards.

6:- Serve as a future teacher, trainer, researcher and leader in the field of medico-legal faculty. They must also be able to offer technically competent consultancy services to the health, home and law depts in connection with medico-legal work, crime investigation process and courts.

B:-SKILLS

At the end of course the candidate shall be able to

1. Provide the basic and specialized medico-legal services in relation to practice of medicine and process of crime investigation as a competent specialist.

2. Must be able to conduct, interpret and report medico-legal autopsies in common, complicated and referred cases like those of NHRC, CID or second autopsy and exhumation.

3. Identify diagnose and manage common acute and chronic poisonings.

4. Be able to examine, interpret, report and if required give expert opinion in various clinical medico-legal matters like age estimation, alcoholics, sexual offences, injuries, abortion, sex determination, paternity, disability evaluation etc.

5. Teach the undergraduate medical students the subject of forensic medicine and also to actively participate in the training and re-orientation programmes of interns, pg students, medical officers, police officers and legal professionals.

C:- INTEGRATION

The department shall provide integrated approach towards allied medical disciplines like pre, para and clinical subjects and other faculties like hospital administration and forensic science. It is also desired that they must be trained in the medico-legal responsibilities at all levels of health care, crime investigation and administration of justice. The candidates must be even adequate exposures to important setups like critical care, casualty and clinical toxicology.

III. PERIOD OF TRAINING

a- M.D. It will be three academic years that is JR-I, JR-II, JR-III. And each year shall commence from 2nd May and complete on 30th April.

b-D.F.M. It will be two academic years that is JR-I, JR-II. And each year shall commence from 2nd May and complete on 30th April.

c-Ph.D The training period for MBBS graduates will be 5 years, for diploma holders it will be 4 years and for M.D.degree holders it will be two years.

d- The training period of MD course for MCI recognised diploma holders will be 2 yrs.

e- No extra exemption / concession in the above mentioned period of training shall be granted than the one mentioned at c and d above.

f- A candidate has to score not less than 50% marks in each head of passing namely theory, practical and internal assessment.

g- Dissertation will be compulsorily a part of MD course in addition to theory and practical. However in case of DFM there will be o dissertation but a candidate will have to work on a moderate level research project and the said work will have to be published in an indexed journal.

h- For the award of Ph.D. in forensic medicine the course shall be solely awarded by the way of dissertation / thesis based o exclusive and application oriented research work related to the faculty of forensic medicine, medical jurisprudence and toxicology.

i- The general rules and regulations pertaining to PG teacher-ship, examiner-ship, examination pattern and training methodology with period shall be in accordance with guidelines prescribed by Medical Council of India.

IV. TEACHING AND LEARNING OPPORTUNITIES:-

a- EDUCATION TRAINING

Teaching skills will be observed and evaluated from the assignments given in the form of lectures, tutorials, practicals and demonstrations.The participatory and small group learning skills will be encouraged. The candidates are also expected to be aware of basics of medical education teaching technology principals and use of audio-visual aids in the same.

b- SELF DIRECTED LEARNING

Learning needs assessment, literature searches, evaluating evidences and adequate use of computers.

To index and efficiently manage the data using internationally accepted methods.

To be aware of the computer applications within the laboratory and library i.e.in the form of data base, spread sheets, internet etc.

c- COMMUNICATION

The candidates will be regularly involved in the teaching of undergraduates and training / re-orientation programmes / communication with nursing students, interns, pg students, medical officers, police officers and legal professionals.

d- RESEARCH METHODS:- For MD / Ph.D postgraduate courses only

The candidate should be able to identify, plan, perform and report on specifically assigned research projects. The critical assessment of original and / or published research work are important to allow them to contribute as a technical expert and also as a member of team to the important services rendered by the faculty.

V.METHOD OF TRAINING :-

1. The training programme must mainly aim at practical service element exposure & not merely on didactic lectures. Candidates must actively participate in PM Examination , Clinical Medico legal cases , Laboratory work , Clinico-pathological Conferences , Seminars , Journal Clubs , Group Discussions , Visit to Scene of crime , Court Evidence & Research work. The facilities offered by other Clinical & Basic Science Departments be made available to them.
2. All the Post Graduate students shall work as Full time residents during their tenure. They shall be given full time assignments with responsibility and opportunity of participation in all facets of the Educational & Application process.
3. The training programme must be arranged in such a manner that the candidate gets maximum exposure to variety of required cases & assignments mentioned at Sr. No. 1 above. The purpose is to ensure that candidate acquires the Sufficient knowledge , approach & Skills so that he/she can independently work as a Specialist after the end of their PG tenure.
4. The postgraduate Student must perform round o clock duties in relation to Autopsies , Clinical Medico legal work , Cases in wards & Academic work as per the assignments given by the Head of the Department
5. The postgraduate Student shall be required to actively participate in the Teaching / Training programmes of undergraduates, nursing students, interns, pg students, medical officers, police officers and legal professionals.
6. During the period of training , The postgraduate Student should be in regular contact with his PG Guide & Head of the Department & should continue research work during the performance of the assigned Departmental Duties.
7. Training in medical audit, management, Health economics, Health information system, biostatistics , Human behavioural studies , Pharmaco economics & Non linear mathematics shall be imparted.
8. A The postgraduate Student should maintain a Log Book of the work assigned to him. This log book will be assessed by the postgraduate Guide of the Student will be jointly evaluated by the Guide & Head of the Department. The log book must be kept in the Dept.
9. The postgraduate Student should preferably posted for two six months terms in case of a Degree & one six month term in case of Diploma, in the unit of concerned Guide to enable him / her complete the Dissertation work.
10. 50 % marks in internal assessment & 85 % attendance is mandatory for grant of the term/s & also for appearing for the University Examination.
11. It is desired that the postgraduate Students participate in the research work & attend Conferences / or Seminars & / or Work shops for the professional excellence.
12. It is necessary that The postgraduate Students are well versed with relevant basic & appropriate applied aspects of allied Pre, Para - Clinical Disciplines & also with the set up of Forensic Science Laboratory. The rotatory postings of The postgraduate Students will be arranged to make them a Comprehensively Competent Medico legal Expert in anticipation of their quality contribution to the cause of Productive Crime Investigation & Good Health care of the Community. The field application of the Faculty of Forensic Medicine is very vast & by the same time Medico legal cases take a complicated / Sensitive turn at number of occasions . Parent Department , Home Department , Judiciary & Society expect a certain positive approach from Medico legal experts , which always is not possible. The rotatory training programme must be intelligently arranged to make them Competent Experts with required wisdom.

TABLE SHOWING TENURE WISE DURATION & ASSIGNMENTS OF ROTATIONAL POSTINGS OF DEGREE (MD) STUDENTS.

DEPARTMENT	PERIOD OF POSTING	ASSIGNMENT / CONTENTS OF THE POSTING
Anatomy	2 Weeks	Dissection techniques, Gross & Histological appearances of Vital Organs & Endocrines. Forensic Osteology, Anthropometry, Embalming & Relevant Embryology.
Physiology & Biochemistry(CCL)	1 Week	Functional aspects of Vital Organs & E endocrines, Physiology & Biochemistry of Blood, Semen, Saliva, Sweat, CSV , P.M.Biochemistry of B.Fluids
Pathology & Microbiology	3 Weeks	Injury,Inflammation,Repair,Thrombo Embolism, Shock,Gross & Microscopic Appearances of Vital Organs & Endocrines,Imp.Staining Techniques, Museum Procedures,Infection,Immunology, HIV,Anaphylaxis,Insulin, Penicilins,Observation-Collection-Preservation & Forwarding Of Pathological & Microbial Evidance
Medicine+Paediatrics +Psychiatry+Pharmac +Medical Record Section	3 Weeks	Awareness Of Diagnosis,ML Aspects & Management of Critical Care,Poisoning & Psychiatry cases,Visit to MICU Set Up,imp. Pediatric Procedures +NICU Set Up, Pharmacology & Detection Of Drugs of Dependence,
Casualty	3+4 Weeks	First Aid , Examination, Diagnosis & Medical + Medico Legal Management of Clinical Medicolegal cases, Dyeing Declaration,Gastric Lavage, Parental Injections,Emergency Tray, Casualty Adminstration in Mass Disasters.
Surgery + Orthopedics +Dentistry + Radiology + Anasthesiology.	3 Weeks	Awareness regarding Examination, Diagnosis & Medical + Medico Legal Management of cases Of Imp. Regional Injuries (Poly trauma & Burns),Injury certification & Disability Evaluation,X-ray findings in Bony Trauma Age determination cases Visit to Surgical ICU & Operation Theatre, Awareness of imp Anesthetic Procedures,Important OT Instruments & Equipments,
Obstetrics & Gynaecology	1Week	Abortion , Sterilization Techniques, Introduction to Major ObGy Procedures,Prenatal Diagnostic Techniques,
Forensic Science Laboratory	2Weeks	Introduction to various sections of the FSL Setup & Instrumentation,Introduction to & relevant awareness of imp Qualitative & Quantitative Detection & Analytical Techniques. Introduction to & relevant awareness of Identification, Biology, Chemistry, Toxicology & Ballistics Divisions.

Note:-The Casualty Posting should be split in to two periods. The initial 3 Weeks posting during First Year is introductory type. The Second Casualty posting is during Second year. This posting is major one & it is expected that students must be exposed to maximum quantity & Variety of cases. There ability to manage the casualty in major casualties can be observed during this period.

TABLE SHOWING TENURE WISE DURATION & ASSIGNMENTS OF ROTATIONAL POSTINGS OF DIPLOMA (DFM) STUDENTS.

DEPARTMENT	PERIOD OF POSTING	ASSIGNMENT / CONTENTS OF THE POSTING
Anatomy	1 Weeks	Dissection techniques , Gross & Histological appearances of Vital Organs & Endocrines. Forensic Osteology , Anthropometry , Embalming & Relevant Embryology.
Physiology & Biochemistry(CCL)	1 Week	Functional aspects of Vital Organs & Endocrines, Physiology & Biochemistry of Blood, Semen, Saliva, Sweat, CSF , P.M.Biochemistry of B.Fluids
Pathology & Microbiology	2 Weeks	Injury,Inflammation,Repair,Thrombo Embolism, Shock,Gross & Microscopic Appearances of Vital Organs & Endocrines,Imp.Staining Techniques, Museum Procedures,Infection,Immunology, HIV,Anaphylaxis,Insulin, Penicillins,Observation-Collection-Preservation & Forwarding Of Pathological & Microbial Evidence
Medicine+Paediatrics +Psychiatry+Pharmac +Medical Record Section	2 Weeks	Awareness Of Diagnosis,ML Aspects & Management of Critical Care,Poisoning & Psychiatry cases,Visit to MICU Set Up,imp. Pediatric Procedures +NICU Set Up, Pharmacology & Detection Of Drugs of Dependence,
Casualty	2+4 Weeks	First Aid , Examination, Diagnosis & Medical + Medico Legal Management of Clinical Medico-legal cases, Dyeing Declaration, Gastric Lavage, Parental Injections, Emergency Tray, Casualty Administration in Mass Disasters.
Surgery + Orthopedics +Dentistry + Radiology + Anesthesiology.	2 Weeks	Awareness regarding Examination, Diagnosis & Medical + Medico Legal Management of cases Of Imp. Regional Injuries (Poly trauma & Burns),Injury certification & Disability Evaluation-ray findings in Bony Trauma Age determination cases Visit to Surgical ICU & Operation Theatre, Awareness of imp Anesthetic Procedures, Important OT Instruments & Equipments,
Obstetrics & Gynecology	1Week	Abortion , Sterlization Techniques, Introduction to Major ObGy Procedures, Prenatal Diagnostic Techniques,
Forensic Science Laboratory	1Week	Introduction to various sections of the FSL Setup & Instrumentation, Introduction to & relevant awareness of imp Qualitative & Quantitative Detection & Analytical Techniques. Introduction to & relevant awareness of Identification, Biology, Chemistry, Toxicology & Ballistics Divisions.

Note:- The Casualty Posting should be split in to two periods. The initial 2 Weeks posting during First Year is introductory type. The Second Casualty posting of 4 Wks is during Second year. This posting is major one & it is expected that students must be exposed to maximum quantity & Variety of cases. Their ability to manage the casualty in major casualties can be observed during this period. It may be also noted that the Quantative & Qualitative exposure Of Diploma candidates to all above Depts. is of moderate type (i.e. in General Except Casulty)& of Introductory cum awareness oriented. This is mainly for keeping in mind their course duration & the nature of responsibilities to be shouldered by them on Qualifying.

**TABLE SHOWING DETAILS OF THEORY PAPER CURRICULUM, TITLES & MARKS
DISTRIBUTION**

(As per Direction No. 01/2008 dtd. 26/05/2008)

***BOOKS RECOMMENDED ***

- 1.Modi's text book of medical Jurisprudence & Toxicology.
- 2.The essentials of forensic medicine & toxicology by K.S.N.Reddy.
- 3.The textbook of Forensic Medicine , J.B.Mukharjee , Vol. 1 & 2.
- 4.Bernard Knight et.all : Cox's Medical Jurisprudence & Toxicology.
- 5.Russel S.Fisher & Charles S. Petty :Forensic Pathology.
- 6.Keith Simpson's Forensic Medicine.
- 7.Principles of .A.Nandy.
- 8.Jurgen Ludwig , Current methods of autopsy practice.
- 9.Camps F.E.Gradwohls- Legal Medicine , Bristol Wright.
- 10.Simpson's : A Doctors guide to Court.
- 11.Polson C.J. : The essentials of Forensic Medicine.
- 12.Adelson L. : The pathology of Homicide.
- 13.Atlas of Legal Medicine : Tomio Watanabe.
- 14.Spitz W.U. , & Fisher R.S. , Medici Legal Investigation of Death.
- 15.A.Keith Mant , Taylor's principles & practice of Medical Jurisprudence.Churchil
Lvng.
- 16.Justice Hidayatullah & V.R.Manohar , Ratanlal & Dhirajlal : The Indian Penal
Code.
17. Justice Hidayatullah & S.P.Sathe : Ratanlal & Dhirajlal ; The Code of
Crm.Procdr.
18. Justice Hidayatullah & V.R.Manohar , Ratanlal & Dhirajlal : The Law of
Evidence.
- 19.H.S.Mehata : Medical Law & Ethics in India.
- 20.Bernard Knight ; Forensic Pathology.
- 21.Code of Medical Ethics , Medical Council of India , approved by Central Govt.
U/S 33(m)of IMC Act 1956 (Oct. 1970).
- 22.Krogman W.M. : The Human Skeleton in Legal Medicine.
- 23.F.E.Camps, J.M.Cameren , David Lanham : Practical Forensic Medicine.
- 24.V.V.Pillay , Modern Medical Toxicology.
- 25.Krishan Vij :A Textbook of Forensic Medicine & Toxicology , Principles &
Practice.
- 26.Textbook of Forensic Medicine & Toxicology V.V.Pillay.
- 27.Dr.B.V.Subrahmanyam , Textbook of Forensic Medicine & Toxicology.
- 28.Vincent J.M. Di Maio & Suzzanna E. Dana : Handbook of Forensic Pathology.
- 29.The Medical Profession & Law , Dr.R.D.Lele.(IMA , Mumbai Publication).
- 30.R.N.Karmarkar , Forensic Medicine & Toxicology , Oral , Practical & Mcq.
- 31.Guharaj : Forensic Medicine.
- 32.Gordon & Shapiro : Forensic Medicine.
- 33.J.K.Mason : Pediatric Forensic Medicine & Pathology, Chopraman & Hall
Medical.
34. J.K.Mason : Forensic Medicine & Pathology, Chopraman & Hall Medical.
35. .Keith Simpson's Modern Trends in Forensic Medicine. Vol. 1 & 2.
- 36.C.G.Tedeshi : Forensic Medicine. Physical Trauma.Vol.1,2,3.

37. Francis C.J. Mehata : Gradwohl's Legal Medicine.
38. Allen Moritz : Pathology Of Trauma.
39. Gresham & Turner : Post Mortem Procedures , Wolf Medical Publications.
40. Francis C.M. : Medical Ethics , J.P. Publications , Bangalore.

RECOMMENDED JOURNALS.

1. Journal Of Forensic Sciences.
2. Journal Of Legal Medicine (Of American College Medicine.).
3. Journal Of Forensic Science Society.
4. Medico-legal Journal.
5. American Journal Of Law & Medicine.
6. American Journal of Forensic Medicine.
7. Forensic Science International.
8. Journal Of Clinical Forensic Medicine.
9. Medicine Science & Law.
10. Science & Justice.
11. Journal Of Indian Academy Of Forensic Medicine.
12. Journal Of Forensic Medicine & Toxicology , (Medico-legal Society.)
13. Medico-legal Update , An International Journal.
14. Journal Of Clinical Forensic Medicine.
15. Journal Of Medico-legal Association Of Maharashtra.
16. Journal Of Karnataka Medico-legal Society.

ACKNOWLEDGEMENT

1. Prof. Dr. A.C. Mohanty, prof & head, FM, Terna MC & Ex Dean, GMC, Mumbai.
2. Prof. Dr. C.S. Kapse, prof & head, FM, BLDEMC, Bijapur.
3. Prof. Dr. A.P. Dongre, prof & head, FM & Dean, IGMC, Nagpur
4. Prof. Dr. V.V. Wase, ex prof & Dean, CSMMMC, Kolhapur.
5. Prof. Dr. H.T. Katade, prof & head, FM GMC, Akola.
6. Prof. Dr. D.V. Kulkarni, prof & head, FM & Dean, RGMC, Thane.
7. Prof. Dr. Walter Vaz, prof & head, FM, GSMC, Mumbai.
8. Prof. Dr. S.A. Sami, prof & head, FM, MGMMC, Aurangabad.
9. Prof. Dr. S.S. Gupta, prof & head, FM, BHGMC, Dhule.
10. Prof. Dr. A.N. Keoliya, prof & head, FM & Dean, VNGMC, Yeotmal.
11. Prof. Dr. P.G. Dixit, prof & head, FM, GMC, Nagpur.
12. Prof. Dr. M.S. Vable, prof & head, FM, BJMC, Pune.
13. Prof. Dr. S.C. Mohite, prof & head, FM, TNMC, Mumbai.
14. Prof. Dr. Sawardekar, prof & head, FM, LTMMC, Mumbai.
15. Prof. Dr. H.V. Godbole, prof & head, CSMMMC, Kolhapur.
16. Dr. R.S. Bangal, A.P., FM, GMC, Mumbai.
17. Dr. Ashish Wankhede, A.P. FM, IGMC, Nagpur.
18. Dr. G.S. Chavan, Lecturer, FM, GMC, Mumbai.