



# Rajiv Gandhi University of Health Sciences, Karnataka

4<sup>th</sup> "T" Block, Jayanagar, Bangalore – 560041

ACA/DCD/MBBS/04/2018-19

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## CIRCULAR

**Sub:** - The Draft Curriculum for MBBS Phase – 3 part I subjects Forensic Medicine - Reg.

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The Draft Curriculum for MBBS Phase – 3 part I subjects Forensic Medicine is uploaded in RGUHS Website. These Curriculums are prepared by subject experts as per the new CBME Curriculum as per NMC. All the respective subject experts are requested to go through the Curriculum and make suggestions for changes if any. These suggestions can be sent by Email to [dcd.rguhs@gmail.com](mailto:dcd.rguhs@gmail.com) and [suneetha.n.lobo@gmail.com](mailto:suneetha.n.lobo@gmail.com) within 03 weeks.

  
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# **Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka**



## **Forensic Medicine & Toxicology as per Competency-Based Medical Curriculum**

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### **Goals and Departmental objectives for the undergraduate MBBS curriculum in Forensic Medicine & Toxicology**

**(As per Graduate Medical Education Regulations, 1997 Part II)**

#### **GOAL:**

RGUHS Forensic Medicine Curriculum as per the new Competency Based Medical Education Preamble

The aim of teaching the undergraduate student in Forensic Medicine is to impart such knowledge and skills that may enable him to manage common medico-legal problems in day to day practice. He/she shall acquire competence for post mortem diagnosis based on history, physical examination and relevant observations during autopsy.

## COMPETENCIES:

### **Period of Training – Phase II MBBS & Phase III part 1 MBBS**

The learner must demonstrate:

- Understanding of medico-legal responsibilities of physicians in primary and secondary care settings,
- Understanding of the rational approach to the investigation of crime, based on scientific and legal principles,
- Ability to manage medical and legal issues in cases of poisoning / overdose,
- Understanding the medico-legal framework of medical practice and medical negligence,
- Understanding of codes of conduct and medical ethics.

### **Period of Training – Internship**

#### **A. An intern must perform or assist in:**

- Identifying and documenting medico-legal problems in a hospital and general practice,
- Identifying the medico-legal responsibilities of a medical man in various hospital situations,
- Diagnosing and managing with competence basic poisoning conditions in the community,
- Diagnosing and managing with competence and documentation in cases of Rape /Sexual assault,
- Preparing medico-legal reports in various medico legal situations.

#### **B. An intern must have observed or preferably assisted at the following operations/ procedures:**

- Various medico legal / post-mortem procedures and formalities during their performance by police.

**Certifiable Procedural skills desirable of Indian Medical Graduate in Forensic Medicine & Toxicology**

**A. An Intern must have observed or preferably assisted in:**

- Documentation and certification of trauma (I)
- Diagnosis and certification of death (D)
- Legal documentation related to emergency cases (D)
- Certification of medico-legal cases e.g. Age estimation, Sexual Violence etc. (D)
- Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)
  - I- Independently performed on patients,
  - O- Observed in patients or on simulations,
  - D- Demonstration on patients or simulations and performance under supervision in patients

**B. An Intern must have observed a medicolegal autopsy / postmortem**

| Competencies in Phase II MBBS and Phase III part 1 MBBS |                     |              |                |
|---|---------------------|--------------|----------------|
| No.   | Topic               | Competencies | Procedures req |
| 1   | General information | 11           | Nil            |

FORENSIC MEDICINE CURRICULUM – RGUHS, BANGALORE

|    |   |            |            |
|----|---|------------|------------|
| 2  | Forensic Pathology  | 35         | Nil        |
| 3  | Clinical Forensic Medicine                                | 33         | Nil        |
| 4  | Medical jurisprudence (Medical Law & Ethics)              | 30         | Nil        |
| 5  | Forensic Psychiatry                                       | 06         | Nil        |
| 6  | Forensic laboratory investigation in medicolegal practice | 03         | Nil        |
| 7  | Emerging technologies in Forensic Medicine                | 01         | Nil        |
| 8  | General Toxicology  | 10         | Nil        |
| 9  | Chemical Toxicology                                       | 06         | Nil        |
| 10 | Pharmaceutical Toxicology                                 | 01         | Nil        |
| 11 | Biotoxicology   | 01         | Nil        |
| 12 | Sociomedical Toxicology                                   | 01         | Nil        |
| 13 | Environmental Toxicology                                  | 02         | Nil        |
| 14 | Skills in Forensic Medicine & Toxicology                  | 22         | Nil        |
|    | <b>TOTAL</b>  | <b>162</b> | <b>Nil</b> |

| <b>Competencies in Internship</b> |   |                            |  |
|-----------------------------------|---|----------------------------|--|
| <b><u>Sl no</u></b>               | <b><u>Topic</u></b>   | <b><u>Competencies</u></b> | <b><u>Procedures requiring certification</u></b> |
| <b><u>1</u></b>                   | Documentation and certification of trauma (I)   | <b><u>1</u></b>            | <b><u>1</u></b>                                  |
| <b><u>2</u></b>                   | Diagnosis and certification of death (D)  | <b><u>1</u></b>            | <b><u>1</u></b>                                  |
| <b><u>3</u></b>                   | Legal documentation related to emergency cases (D)  | <b><u>1</u></b>            | <b><u>1</u></b>                                  |
| <b><u>4</u></b>                   | Certification of medico-legal cases e.g. Age estimation, Sexual Violence etc. (D)   | <b><u>3</u></b>            | <b><u>3</u></b>                                  |
| <b><u>5</u></b>                   | Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D) | <b><u>3</u></b>            | <b><u>3</u></b>                                  |
| <b><u>6</u></b>                   | Observing a Medicolegal autopsy /   | <b><u>1</u></b>            | <b><u>1</u></b>                                  |



|  |              |           |           |
|--|--------------|-----------|-----------|
|  | Postmortem   |           |           |
|  | <b>Total</b> | <b>10</b> | <b>10</b> |

***Minimum Teaching Hours in MBBS Phase II & Phase III part 1***

| <b>Forensic Medicine &amp; Toxicology</b> | <b>Lectures (hours)</b> | <b>Small group learning (Tutorials / Seminars) /Integrated learning (hours)</b> | <b>Self - Directed Learning (hours)</b> | <b>Total (hours)</b> |
|---|-------------------------|---|---|----------------------|
| Phase II                                  | 15                      | 30  | 05                                      | 50                   |
| Phase III part 1                          | 25                      | 45  | 05                                      | 75                   |
| <b>Total</b>                              | <b>40</b>               | <b>75</b>   | <b>10</b>                               | <b>125</b>           |
| <b>AETCOM</b>                             | <b>Lectures (hours)</b> | <b>Small group learning (Tutorials / Seminars) /Integrated learning (hours)</b> | <b>Self - Directed Learning (hours)</b> | <b>Total (hours)</b> |
| Phase II                                  | 00                      | 29  | 08                                      | 37                   |
| Phase III part 1                          | 00                      | 19  | 06                                      | 25                   |
| <b>Total</b>                              | <b>00</b>               | <b>48</b>   | <b>14</b>                               | <b>62</b>            |

***Minimum Teaching Hours in Internship***

| <b>Subject</b>                            | <b>Period of posting</b> |
|---|--------------------------|
| <b>Forensic Medicine &amp; Toxicology</b> | <b>7 days</b>            |

**List of Competencies and SLOs to be covered in Phase III MBBS part 1**

RGUHS Forensic Medicine Curriculum as per the new Competency Based Medical Education Preamble

**General Information**

- **Lecture – 1 hr (Orientation class/ SDL)**  
assessment

**Assessment:** No

**FM 1.3 - Describe legal procedures including Criminal Procedure Code, Indian Penal Code, Indian Evidence Act, Civil and Criminal Cases, Inquest (Police Inquest and Magistrate's Inquest), Cognizable and Non-cognizable offences**

- 1.3.1: Describe the meaning of Criminal Procedure Code, Indian Penal Code, and Indian Evidence Act.
- 1.3.2: Differentiate between civil and criminal cases and their proceedings in the court of law.
- 1.3.3: Define inquest.
- 1.3.4: Describe the types of inquest practiced in India.
- 1.3.5: Discuss the meaning of cognizable and non-cognizable offence with examples.

**FM 1.4 - Describe Courts in India and their powers: Supreme Court. High Court, Sessions court, Magistrate's Court. Labour Court. Family Court, Executive Magistrate Court and Juvenile Justice Board**

- 1.4.1: List various civil and criminal courts in India.
- 1.4.2: Describe the location, presiding officer and powers of various courts in India.

**FM 1.5 - Describe Court procedures including issue of summons, conduct money, types of witnesses, recording of evidence: oath, affirmation, examination in chief, cross examination, re-examination & court questions, recording of evidence & conduct of doctor in witness box.**

- 1.5.1: Define 'Summons'.
- 1.5.2: Describe the formalities to be followed by a doctor while receiving summons and consequence of not honouring the summons.
- 1.5.3: Define 'Witness'.
- 1.5.4: Describe the types of witness.
- 1.5.5: Define 'Evidence'.
- 1.5.6: Describe the types of evidence.
- 1.5.7: Describe the steps of recording evidence in the court of law.
- 1.5.8: Describe the conduct of a doctor in the witness box.

**FM 1.6 - Describe the offences in Court including Perjury; Court strictures vis-a-vis medical officer**

1.6.1: Explain the meaning of perjury and its punishment.

1.6.2: Mention the various offences that could be charged upon medical officer by the court of law and its punishment.

- **SGD – 2 hrs (Moot Court)**  
OSCE

**Assessment:** Log book / Viva voce /

**FM14.22 - To give expert medical/ medico-legal evidence in Court of law**

14.22.1: Describe **conduct of a doctor in witness box** during the process of deposing expert medical/ medico-legal evidence in Court of law.

14.22.2: Describe **the steps /procedure of recording of expert medical/ medico-legal evidence** in Court of law with relation to Court procedures.

**FM2.29 - Demonstrate respect to the directions of courts, while appearing as witness for recording of evidence under oath or affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence**

2.29.1: Demonstrate the procedure of receiving summons.

2.29.2: Demonstrate the oath taking in the court of law.

2.29.3: Demonstrate the procedure of recording of evidence in court of law (examination in chief, cross examination, re-examination, question by Judge).

2.29.4: Demonstrate the doctor's professionalism (attitude and subject expertise) expected in the witness box.

- **SGD – 1 hr ( Role play)**  
OSCE / Skill station

**Assessment:** Log book / Viva voce /

**FM 1.7 - Describe Dying Declaration and Dying Deposition.**

1.7.1: Define dying declaration and dying deposition.

1.7.2: Describe the procedure of recording of dying declaration.

1.7.3: Differentiate between dying declaration and dying deposition.



**FM14.20 - To record and certify dying declaration in a simulated/ supervised environment**

14.20.1: Certify compos mentis (sound mind) by examining higher mental functions before recording of dying declaration in a simulated environment.

14.20.2: Record dying declaration in a simulated environment.

14.20.3: Assist the executive magistrate in recording of dying declaration in a simulated environment

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM 1.8 - Describe the latest decisions/ notifications/resolutions/circulars/ standing orders related to medico-legal practice issued by Courts/Government authorities etc.**

1.8.1: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by Courts.

1.8.2: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by Central Government authorities.

1.8.3: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by State Government authorities.

1.8.4: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by NMC/MCI/ SMC.

**FM2.30 - Have knowledge/awareness of latest decisions/ notifications/ resolutions/ circulars/standing orders related to medico-legal practice issued by Courts/ Government authorities etc**

2.30.1: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by Courts.

2.30.2: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by Central Government.

2.30.3: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by State Government.

2.30.4: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by NMC/MCI/ SMC

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce

RGUHS Forensic Medicine Curriculum as per the new Competency Based Medical Education Preamble

**FM 1.9 - Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical certificates & medicolegal reports especially**

- Maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres.
- Maintenance of medico-legal register like accident register
- Documents of issuance of wound certificate
- Documents of issuance of drunkenness certificate
- Documents of issuance of sickness & fitness certificate
- Documents of issuance of death certificate
- Documents of issuance of medical certification of cause of death-form no.4, 4A
- Documents of estimation of age by physical, dental & radiological examination & issuance of certificate

1.9.1: Enumerate various medical / medicolegal records to be maintained by hospital/ medical practitioner.

1.9.2: Describe the importance of documentation and maintenance of medical records (out-patient slips, in-patient case details, consent forms, operative & anesthetic notes, discharge/death summary, sickness & fitness certificates, MCCD certificate, etc).

1.9.3: Describe the importance of documentation and maintenance of medicolegal records (MLC register, MTP register, age certificate, wound certificate, drunkenness certificate, sexual violence report, postmortem report, etc).

- **SGD – 1 hr ( Practical)**  
OSCE

**Assessment:** Written / Viva voce /

**FM 1.10 - Select appropriate cause of death in a particular scenario by referring ICD 10 code.**

1.10.1: Explain the importance of ICD-10 code in certifying the cause of death.

1.10.2: Enumerate the important causes of death as per ICD-10.

1.10.3: Chose the appropriate cause of death in a particular scenario.

**FM 1.11 - Write a correct cause of death certificate as per ICD 10 document**

1.11.1: Describe the objectives of MCCD certification.

1.11.2: Draft the MCCD certificate in a particular scenario as per ICD-10.

1.11.3: Explain the procedure of dispatching MCCD certificate to the concerned authorities.

## Forensic Pathology

- SGD – 5 hrs

Assessment: Written / Viva voce

**FM 2.20 - Mechanical asphyxia: Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths.**

2.20.1: Define asphyxia.

2.20.2: Mention the various types of asphyxial deaths (mechanical, pathological, toxic, environmental, traumatic, postural, iatrogenic).

2.20.3: Describe the pathophysiology (vicious cycle) of asphyxia.

2.20.4: Explain the types of anoxia/ hypoxia (Gordon's classification).

2.20.5: Discuss the classical postmortem findings in asphyxial deaths.

**FM 2.21 - Mechanical asphyxia: Describe and discuss different types of hanging and strangulation including clinical findings, causes of death, post-mortem findings and medico-legal aspects of death due to hanging and strangulation including examination, preservation and dispatch of ligature material.**

2.21.1: Define mechanical asphyxia death.

2.21.2: Classify mechanical asphyxial deaths.

2.21.3: Define hanging.

2.21.4: Enumerate the types of hanging.

2.21.5: Explain the symptoms experienced by the victim in hanging.

2.21.6: Describe the causes of death, postmortem findings and medicolegal aspects of death due to hanging.

2.21.7: Discuss on judicial hanging.

2.21.8: Define strangulation.

2.21.9: Enumerate the types of strangulation.

2.21.10: Describe the causes of death, postmortem findings and medicolegal aspects of death due to ligature strangulation.

2.21.11: Describe the causes of death, postmortem findings and medicolegal aspects of death due to manual strangulation.

2.21.13: Discuss on Bansdola, Mugging, Garroting,



2.21.14: Describe the examination, preservation and dispatch of ligature material used in hanging and strangulation.

2.21.15: Explain the fractures of hyoid bone.

**FM 2.22 - Mechanical asphyxia: Describe and discuss patho-physiology, clinical features, post-mortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia.**

2.22.1: Define traumatic asphyxia.

2.22.2: Describe the pathophysiology, postmortem findings and medicolegal aspects of traumatic asphyxia.

2.22.3: Discuss on postural/positional asphyxia.

2.22.4: Discuss on Overlying.

2.22.5: Define suffocation.

2.22.6: Enumerate the types of suffocation.

2.22.7: Describe the postmortem findings and medicolegal aspects of Environmental asphyxia, Smothering, Gagging and Choking.

2.22.8: Discuss on Café-coronary.

2.22.9: Discuss on Burking.

2.22.10: Describe methods used, postmortem findings and medicolegal aspects of Sexual/ Auto-erotic asphyxia.

**FM 2.23 - Mechanical asphyxia: Describe and discuss types, patho-physiology, clinical features, post-mortem findings and medico-legal aspects of drowning, diatom test and gettler test.**

2.23.1: Define drowning.

2.23.2: Explain the mechanism of drowning.

2.23.3: Enumerate the types of drowning.

2.23.4: Describe the pathophysiology, causes of death, postmortem findings and medicolegal aspects of drowning.

2.23.5: Describe the clinical features and treatment of Post-immersion syndrome (Near drowning).

2.23.6: Discuss on Diatom test and its medicolegal importance.

2.23.7: Discuss on Gettler test and its medicolegal importance.

- **SGD – 1 hr**

**Assessment:** Written / Viva voce

**FM 2.24 - Thermal deaths: Describe the clinical features, post-mortem finding and medicolegal aspects of injuries due to physical agents like heat (heat-hyper-pyrexia, heat stroke, sun stroke, heat exhaustion/ prostration, heat cramps [miner's cramp] or cold (systemic and localized hypothermia, frostbite, trench foot, immersion foot)**

2.24.1: Classify thermal injuries.

2.24.2: Describe the local (frostbite, trench foot, immersion foot) and general effects (hypothermia) due to Cold.

2.24.3: Describe the postmortem findings and medicolegal aspects of deaths due to Hypothermia.

2.24.4: Describe the general effects due to Heat (heat cramps, heat exhaustion/prostration, heat hyperpyrexia/heat stroke/ sunstroke).

2.24.5: Describe the postmortem findings and medicolegal aspects of deaths due to Heat stroke.

- **SGD – 1 hr**

**Assessment:** Written / Viva voce / OSPE

**FM 2.25 - Describe types of injuries, clinical features, patho-physiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations.**

2.25.1: Define Burn.

2.25.2: Enumerate the types or causes of burns.

2.25.3: Describe the degree of burns (Dupuytren's, Wilson's and Clinical classification).

2.25.4: Explain the method of calculation of percentage of burns (Rule of Nine/Wallace, Lund and Browder chart).

2.25.5: Describe the clinical features, management, causes of death, postmortem findings and medicolegal aspects of Dry burns and Scalds.

2.25.6: Differentiate between antemortem and postmortem burns.

2.25.7: Describe the factors affecting the electrical injuries.

2.25.8: Describe the postmortem findings, causes of death and medicolegal aspects in deaths due to electrocution.

2.25.9: Describe the factors affecting the lightening injuries.

2.25.10: Describe the postmortem findings, causes of death and medicolegal aspects in deaths due to lightening.

2.25.11 Discuss on injuries caused by exposure to radiation

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM 2.26 - Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect**

2.26.1: Explain the meaning of starvation.

2.26.2: Enumerate the types of starvation.

2.26.3: Enumerate the causes of starvation.

2.26.4: Describe the factors modifying the effects of starvation.

2.26.5: Describe the clinical features, management, causes of death, postmortem findings and medicolegal aspects of starvation.

- **SGD – 3 hrs**  
book / Practical record

**Assessment:** Written / Viva voce / OSPE / log

**FM 2.27 - Define and discuss infanticide, foeticide and stillbirth**

2.27.1: Define Foeticide, Neonaticide and infanticide.

2.27.2: Define dead birth, still birth and live birth.

2.27.3: Discuss on medicolegal aspects of infanticide

**FM 2.28 - Describe and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP session of ossification centres, Hydrostatic test, Sudden Infant Death syndrome. Munchausen's syndrome by proxy.**  
*[Munchausen's syndrome by proxy is covered in FM 3.29]*

2.28.1: Describe the causes of Intra Uterine Death (IUD).

2.28.2: Describe the features of 'Dead born foetus'.

2.28.3: Define 'Viability of foetus' and its medicolegal importance.

2.28.4: Describe the method of estimation of gestational age of foetus.

2.28.5: Describe the signs of 'Live birth'.

2.28.6: Describe the causes of infant death.

2.28.7: Define Sudden Infant Death Syndrome (SIDS).

2.28.8: Describe causes, postmortem findings & medicolegal aspects of SIDS

**FM14.13 - To estimate the age of foetus by post-mortem examination**

14.13.1: Enumerate the objectives of foetal autopsy.

14.13.2: Describe the procedure of foetal autopsy.



14.13.3: Estimate the age of foetus by examination of ossification centres, anthropometric measurements, blood constituents, hair, nail, umbilical cord etc.

14.13.4: Draft a medicolegal report and opinion after foetal autopsy.

### Clinical Forensic Medicine

- **SGD – 4 hrs**

Viva voce, OSCE

**Assessment:** Written,

**FM 3.3 - Mechanical injuries and wounds: Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self-inflicted/ fabricated wounds and their medico-legal aspects.**

3.3.1: Define mechanical injury.

3.3.2: Classify mechanical injuries.

3.3.3: Define abrasion.

3.3.4: Describe the characteristic features, types and medicolegal aspects of an abrasion

3.3.5: Define contusion.

3.3.6: Describe the characteristic features, types and medicolegal aspects of contusion.

3.3.7: Describe the factors influencing the formation of contusion.

3.3.8: Define laceration.

3.3.9: Describe the characteristic features, types and medicolegal aspects of a laceration.

3.3.10: Define an incised wound.

3.3.11: Describe the characteristic features, types and medicolegal aspects of an incised wound.

3.3.12: Define chop wound.

3.3.13: Describe the characteristic features and medicolegal aspects of chop wound.

3.3.14: Define stab wound.

3.3.15: Describe the characteristic features, types and medicolegal aspects of stab wound.

3.3.16: Define defense wound.

3.3.17: Describe the characteristic features and medicolegal importance of defense wound.

3.3.18: Define fabricated wound.

3.3.19: Describe the characteristic features and medicolegal importance of fabricated wound.

- **Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM 3.4 - Define injury, assault & hurt. Describe IPC pertaining to injuries**

3.4.1: Define injury (S. 44 IPC), assault (S. 351 IPC) and hurt (S. 319 IPC).

3.4.2: Define homicide.

3.4.3: Describe the types of homicide.

3.4.4: Describe Grievous hurt (S. 320 IPC).

3.4.5: Understand the IPC sections pertaining to injuries (Sec. 44, 299, 300, 302, 304, 304-A, 304-B, 306, 307, 319, 320, 321-326, 351, 354, 497, 498-A).

**FM 3.5 - Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries.**

3.5.1: Define medico-legal case (MLC) with examples.

3.5.2: Differentiate between the accidental, suicidal and homicidal injuries with examples.

3.5.3: Describe simple and grievous hurt.

3.5.4: Explain the difference between the injuries that are likely to cause death, sufficient in the ordinary course of nature to cause death and imminently dangerous.

3.5.5: Describe the difference between ante-mortem and post-mortem wounds.

**FM 3.6 - Describe healing of injury and fracture of bones with its medico-legal importance**

3.6.1: Describe wound healing by primary and secondary intention and its medicolegal importance.

3.6.2: Enumerate the types of fracture.

3.6.3: Describe the healing of a fracture and its medicolegal importance.

3.6.4: Describe the difference between ante-mortem and post-mortem fracture.

**FM 3.7 - Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary (along with FM 14.1)**

3.7.1: Describe the factors influencing the causation of an injury.

3.7.2: Describe the factors that influence healing of an injury or fracture.

3.7.3: Discuss the primary and secondary causes of death from a wound.

**FM 3.8 - Describe and discuss different types of weapons including dangerous weapons and their examination**

3.8.1: Identify the weapons that cause blunt force and sharp force injuries.

3.8.2: Define dangerous weapon (S. 324 IPC and 326 IPC).

- **SGD – 3 hrs**

Viva voce, OSCE

**Assessment:** Written,

**FM 3.9 - Firearm injuries: Describe different types of firearms including structure and components. Along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking**

3.9.1: Define Forensic ballistics, Proximal ballistics, Intermediate ballistics, and Terminal ballistics.

3.9.2: Define firearm.

3.9.3: Classify firearms.

3.9.4: Enumerate the parts of the basic firearms.

3.9.5: Explain 'rifling' and 'calibre' of a firearm.

3.9.6: Explain 'choking' in a firearm and its purpose.

3.9.7: Enumerate the components of rifled firearm and shotgun cartridge, and its function.

3.9.8: Describe the types of gunpowder.

3.9.9: Discuss on types of bullets and pellets.

**FM 3.10 - Describe and discuss wound ballistics-different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms**

3.10.1: Define wound ballistics.

3.10.2: Enumerate the factors affecting gunshot wound production.

3.10.3: Explain the mechanism of firing and various components of discharge of firing.

3.10.4: Describe the entry and exit wounds from a rifled firearm at various ranges.

3.10.5: Describe the entry and exit wounds from a shotgun at various ranges.

3.10.6: Discuss on Ricocheting of a bullet and its effect.

3.10.7: Discuss on Tumbling bullet, Yawning bullet, Dumdum bullet, Tandem bullet, Souvenir bullet.

3.10.8: List the evidentiary materials to be collected in gunshot wounds.

3.10.9: Describe the method of collection and preservation of evidentiary materials in gunshot wounds.



3.10.10: Describe the significance of bullet markings and use of comparison microscope.

3.10.11: Enumerate the tests done for detection of gunshot residue.

3.10.12: Describe the injuries caused by bomb blast / explosion

- **SGD – 4 hrs**

Viva voce, OSCE / OSPE

**Assessment:** Written,

**FM 3.11 - Regional injuries: Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and contrecoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton**

3.11.1: Define head injury.

3.11.2: Discuss the forensic anatomy of scalp and scalp injuries.

3.11.3: Enumerate the types of skull fracture.

3.11.4: Describe the intracranial hemorrhages and its medicolegal aspects.

3.11.5: Describe the cerebral injuries and its medicolegal aspects.

3.11.6: Explain 'concussion of brain' and 'diffuse axonal injury'.

3.11.7: Discuss on 'Punch drunk syndrome'.

3.11.8: Describe the mechanism, clinical features and medicolegal aspects of whiplash injury.

3.11.9: Discuss on 'railway spine'.

3.11.10: Discuss on injuries to chest, abdomen and genital organs

**FM 3.12 - Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine**

3.12.1: Describe the injuries sustained to person in a fall from height.

3.12.2: Describe the injuries to a pedestrian in vehicular accident (primary impact, second impact and secondary injuries).

3.12.3: Describe the injuries to driver, front seat passenger and back seat passenger of a motor car.

3.12.4: Discuss on 'Crush syndrome'.

- **SGD – 2 hrs (Practical)**

book / Skill station / Viva voce, OSCE

**Assessment:** Log

**FM14.1 - Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment**

14.1.1: Take an informed consent from the Patient / Guardian after explaining the importance of MLC registration in Medicolegal cases (Road traffic accident / Fall from height / Assault / Self infliction of injuries / Burns / Firearms).

14.1.2: Perform the clinical examination of an injured person (history taking, general physical examination, systemic examination, laboratory investigations) in a simulated/ supervised environment.

14.1.3: Prepare the wound certificate after documenting the clinical findings.

14.1.4: Prepare the police intimation.

- **SGD – 1 hr (Practical)**

book / Practical record / Viva voce, OSPE

**Assessment:** Log

**FM14.10 - Demonstrate ability to identify & prepare medicolegal inference from specimens obtained from various types of injuries e.g. contusion, abrasion, laceration, firearm wounds, burns, head injury and fracture of bone**

14.10.1: Prepare a medicolegal inference from **photographs** showing various types of injuries/ lesions/ postmortem findings.

14.10.2: Prepare a medicolegal inference from **wet specimens** showing various types of injuries/ lesions/ postmortem findings.

14.10.3: Prepare medicolegal inference from **models** showing various types of injuries/ lesions/ postmortem findings.

- **Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM3.18 - Describe anatomy of male and female genitalia, hymen and its types. Discuss the medico-legal importance of hymen. Define virginity, defloration, legitimacy and its medicolegal importance**

3.18.1: Describe anatomy of male and female genitalia.

3.18.2: Describe the anatomical appearance and types of hymen.

3.18.3: Define virginity and defloration.

3.18.4: Describe the signs of virginity and its medicolegal importance.

3.18.5: Define legitimacy.

3.18.6: Discuss the medicolegal importance of legitimacy.

**FM3.19 - Discuss the medicolegal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour, superfoetation, superfecundation, and signs of recent and remote delivery in living and dead**

- 3.19.1: Describe the presumptive, probable and positive signs of pregnancy.
- 3.19.2: Describe pseudocyesis.
- 3.19.3: Define superfoetation and superfecundation.
- 3.19.4: Describe the medicolegal aspects of pregnancy.
- 3.19.5: Define delivery.
- 3.19.6: Describe the signs of recent and remote delivery in a living individual.
- 3.19.7: Enumerate the signs of recent & remote delivery in a dead individual.
- 3.19.8: Mention the medicolegal aspects of delivery.
- 3.19.9: Define precipitate labour.
- 3.19.10: Describe the signs and medicolegal aspects of precipitate labour.

**FM3.20 - Discuss disputed paternity and maternity**

- 3.20.1: Discuss the medicolegal issues related to disputed paternity and maternity.
- 3.20.2: Describe the method of identifying paternalism and maternalism.

• **Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM3.22 - Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female**

- 3.22.1: Define impotence, sterility, frigidity, sexual/erectile dysfunction and premature ejaculation.
- 3.22.2: List the causes of impotence in male and female.
- 3.22.3: Describe the medicolegal issues related to impotence, sexual/erectile dysfunction and premature ejaculation.
- 3.22.4: List the causes of sterility in male and female.
- 3.22.5: Describe the medicolegal issues related to sterility.
- 3.22.6: Describe procedure of examination in alleged case of impotency.

**FM3.23 - Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws**

- 3.23.1: Describe the methods of sterilization in male and female.
- 3.23.2: Discuss the medicolegal issues related to sterilization procedure.
- 3.23.3: Define artificial insemination.
- 3.23.4: Mention the types of artificial insemination.
- 3.23.5: Enumerate the indications for artificial insemination.
- 3.23.6: Discuss ethical issues and precautions to be taken during the artificial insemination.
- 3.23.7: Describe medicolegal issues related to artificial insemination.
- 3.23.8: Discuss on invitro fertilization/ test tube baby and surrogate motherhood.

**FM3.26 - Discuss the national Guidelines for accreditation, supervision & regulation of ART Clinics in India**

- 3.26.1: Discuss the National Guidelines for accreditation, supervision & regulation of ART Clinics in India.
- 3.26.2: Explain the recent updates on laws related to ART and Surrogacy.

• **SDL – 1 hr**

**Assessment:** Written, Viva voce

**FM3.21 - Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC&PNDT) - Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005**

- 3.21.1: Describe the objectives of PCPNDT Act, 1994.
- 3.21.2: Enumerate the indications for prenatal diagnostic procedures.
- 3.21.3: List the various prenatal diagnostic techniques.
- 3.21.4: Describe the guidelines for establishing and maintaining the centres to practice prenatal diagnostic procedures.
- 3.21.5: Describe the punishment for offences under PCPNDT Act.
- 3.21.6: Discuss on amendments to the PCPNDT Act till date.
- 3.21.7: Define domestic violence.
- 3.21.8: Describe the salient features of The Protection of Women from Domestic Violence Act, 2005.
- 3.21.9: Explain the medicolegal responsibilities of a medical practitioner in a domestic violence case.

**FM3.24 - Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme**

- 3.24.1: Describe the salient features of the National Family Planning Programme related to vasectomy and tubectomy.



**FM3.25 - Discuss the major results of the National Family Health Survey**

3.25.1: Discuss the major results of National Family Health Survey (NFHS).

- **Lecture – 1 hr**  
OSCE

**Assessment:** Written, Viva voce, OSPE /

**FM 3.13 - Sexual offences:** Describe different types of sexual offences. Describe various sections of IPC regarding rape including definition of rape (Section 375 IPC), Punishment for Rape (Section 376 IPC) and recent amendments notified till date.

3.13.1: Classify sexual offences.

3.13.2: Define 'rape' as per section 375 IPC.

3.13.3: Define 'statutory rape'.

3.13.4: Discuss on 'date rape'.

3.13.5: Describe the punishment for rape (Sec. 376 IPC).

3.13.6: Explain the meaning of 'custodial rape' and punishment for it.

3.13.7: Explain the meaning of 'gang rape' and punishment for it.

3.13.8: Understand the salient features of section 354, 354-A, 354-B, 354-C and 354-D IPC.

3.13.9: Describe the salient features of Protection of Children from Sexual Offences Act (POCSO), 2012.

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM 3.14 - Describe and discuss the examination of the victim of an alleged case of rape, and the preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases.**

3.14.1: Describe the findings in a victim of sexual violence.

3.14.2: Describe the duties of doctor towards victim of sexual violence.

3.14.3: Understand the legal sections related to examination of a victim of sexual violence (164-A CrPC, 327 CrPC, 357-C CrPC, 228-A IPC, 114-A IEA, 146 IEA).

3.14.4: Describe the procedure of examination, contents of the format, guidelines for preliminary and final opinion in a victim of sexual violence (given by Ministry of Health and Family welfare, Government of India).

3.14.5: Describe the procedure of collecting, preservation and dispatch of evidentiary materials from a victim of sexual violence.

3.14.6: Understand the significance of SAFE kit in collecting evidentiary material from a victim of sexual assault.

**SGD – 3 hrs**

**Assessment:** Written, Viva voce, OSCE

**FM 3.15 - Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and despatch of trace evidences in such cases.**

3.15.1: Define sodomy.

3.15.2: Describe the findings in a victim of sodomy.

3.15.3: Describe the procedure of examination, contents of the format, and guidelines for opinion in a victim of sodomy.

3.15.4: Describe the procedure of collecting, preservation and dispatch of evidentiary materials from a victim of sodomy.

3.15.5: Describe the findings in an accused of sexual assault.

3.15.6: Describe the procedure of examination, contents of the format, and guidelines for opinion in an accused of sexual assault.

3.15.7: Understand the recent amendments in section 377 IPC.

**FM 3.16 - Describe and discuss adultery and unnatural sexual offences, sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault and preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases.**

3.16.1: Explain the meaning of 'adultery' and its medicolegal importance.

3.16.2: Explain the meaning of 'incest' and its medicolegal importance.

3.16.3: Define unnatural sexual offence (Sec. 377 IPC).

3.16.4: Discuss on 'lesbianism' and its medicolegal importance.

3.16.5: Discuss on 'buccal coitus' and its medicolegal importance.

3.16.6: Discuss on 'bestiality' and its medicolegal importance.

3.16.7: Describe the procedure of examination, collection, preservation and dispatch of evidentiary materials in a victim and accused of lesbianism, buccal coitus and bestiality

**FM 3.17 - Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia.**

3.17.1: Define sexual paraphilia.

3.17.2: Explain the sexual perversions requiring partner for sexual gratification (sadism, masochism, frotteurism, pedophilia, necrophilia, necrophagia).

3.17.3: Explain the sexual perversions not requiring partner for sexual gratification (voyeurism, exhibitionism).

3.17.4: Explain the sexual perversions requiring object/article as a stimulus for sexual gratification (fetishism, transvestism).

**SGD – 1 hr (Practical)**

book, Viva voce, OSCE

**Assessment:** Practical record, log

**FM14.15 - To examine & prepare medico-legal report of a victim of sexual offence/ unnatural sexual offence in a simulated/ supervised environment**

14.15.1: Take an informed consent for examination of a victim of sexual offence.

14.15.2: Describe the procedure of examination and collection of evidentiary material for medical and medicolegal purposes.

14.15.3: Prepare a medicolegal report and opinion in a victim of sexual offence.

14.15.4: Explain the procedure of handing over the evidentiary material to the investigating officer.

**SGD – 1 hr (Practical)**

book, Viva voce, OSCE

**Assessment:** Practical record, log

**FM14.14 - To examine & prepare report of an alleged accused in rape/ unnatural sexual offence in a simulated/ supervised environment**

14.14.1: Take an informed consent for examination of an accused of sexual offence.

14.14.2: Describe the procedure of examination and collection of evidentiary material for medical and medicolegal purposes.

14.14.3: Prepare a medicolegal report and opinion in an alleged accused of sexual offence.

14.14.4: Explain the procedure of handing over the evidentiary material to the investigating officer

• **Lecture – 2 hrs**

**Assessment:** Written, Viva voce, OSCE

**FM3.27 - Define, classify and discuss abortion, methods of procuring MTP and criminal abortion and complication of abortion. MTP Act 1971**

3.27.1: Define abortion.

3.27.2: Classify abortion.

3.27.3: Describe the methods used for therapeutic abortion.

3.27.4: Describe the methods used for criminal abortion & its complications.

3.27.5: Discuss the Medical termination of Pregnancy Act, 1971 and its amendments.

**FM3.28 - Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion**

3.28.1: Describe evidences of abortion in living and dead individual.

3.28.2: Explain the circumstances under which a case of abortion is brought to the notice of medical officer.

3.28.3: Describe the medical and legal duties of doctor in a case of criminal abortion.

3.28.4: Describe the examination, method of collection, preservation and dispatch of evidentiary materials during investigation of death of woman in criminal abortion.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM3.29 - Describe and discuss child abuse and battered baby syndrome**

3.29.1: Define child abuse or child maltreatment (as per WHO).

3.29.2: Enumerate different forms of child abuse.

3.29.3: Define battered baby syndrome.

3.29.4: Describe the clinical findings and medicolegal aspects of battered baby syndrome.

3.29.5: Discuss on Shaken baby syndrome and Cinderella syndrome.

3.29.6: Discuss on Munchausen's Syndrome by proxy.

3.29.7: Describe the medicolegal responsibilities of a doctor in child abuse cases.

**SDL – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM3.30 - Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture survivors**

3.30.1: Define Torture (as per UN Convention of Torture, World Medical Association).

3.30.2: Enumerate the types/methods/techniques used for torture.

3.30.3: Explain the medical findings in a case of torture.

3.30.4: Outline the management of torture survivors.

3.30.5: Discuss the ethical and legal issues related to torture.

**FM3.31 - Torture and Human rights- Describe and discuss guidelines and Protocols of National Human Rights Commission regarding torture**



3.31.1: Describe the guidelines and protocols of National human rights commission in cases of torture.

**SGD – 2 hrs**

voce, OSCE

**Assessment:** Practical record, Log book, Viva

**FM3.32 - Demonstrate the professionalism while preparing reports in medico-legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences**

3.32.1: Demonstrate the professionalism to be shown by a doctor while preparing reports in medicolegal cases, interpretation of findings and making inference/opinion.

3.32.2: Demonstrate the professionalism to be shown by a doctor during the collection, preservation and dispatch of biological or trace evidences.

**FM3.33 - Should be able to demonstrate the professionalism while dealing with victims of torture and human right violations, sexual assaults psychological consultation, rehabilitation**

3.33.1: Demonstrate the professionalism to be shown by a doctor while dealing with victims of torture and human right violations.

3.33.2: Demonstrate the professionalism to be shown by a doctor during the examination, psychological consultation and rehabilitation of sexual victims

**FM14.18 - To examine & prepare medico-legal report of a person in police, judicial custody or referred by Court of Law and violation of human rights as requirement of NHRC, who has been brought for medical examination**

14.18.1: Explain the procedure of examination and preparing the medico-legal report of a person in police custody/ judicial custody who has been brought for medical examination.

14.18.2: Explain the procedure of examination and preparing the medico-legal report of a person referred by Court of Law for medical examination.

14.18.3: Explain the procedure of examination and preparing the medico-legal report of a person with history of violation of human rights as per requirement of NHRC (victim of torture, hunger strike, etc), who has been brought for medical examination.

**Medical Jurisprudence (Medical Law and ethics)**

• **Lecture – 3 hrs**

**Assessment:** Written, Viva voce, OSCE

**FM4.1 - Describe Medical Ethics and explain its historical emergence**

4.1.1: Define Ethics and Medical ethics.

4.1.2: Describe the historical emergence of Medical ethics.

4.1.3: Discuss the need for and the emergence of World Medical Association's Declaration of Helsinki 1964 and its subsequent revisions.

**FM4.2 - Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy**

4.2.1: Describe the 'Code of medical ethics' as per Indian Medical Council (Professional conduct, Etiquette and Ethics) Regulations, 2002.

4.2.2: Enumerate the various practices of a medical practitioner which are considered as unethical.

4.2.3: Explain the meaning of Dichotomy with examples.

4.2.4: Mention guidelines laid down by MCI with respect to remuneration

**FM4.3 - Describe the functions and role of Medical Council of India / National Medical Commission and State Medical Councils**

4.3.1: Describe the constitution and functions of Medical Council of India/ National Medical Council.

4.3.2: Describe the constitution and functions of State Medical Council.

**FM4.4 - Describe the Indian Medical Register**

4.4.1: List the various particulars to be entered in Indian Medical Register (IMR).

4.4.2: Mention under which schedules, the degrees obtained by institutions in and outside India are recognized by MCI.

4.4.3: Describe the procedure for a foreign medical practitioner to get enrolled in IMR.

4.4.4: Mention the advantages to a Doctor after enrolling in IMR.

**FM4.5 - Rights/privileges of a medical practitioner, penal erasure, infamous conduct, disciplinary Committee, disciplinary procedures, warning notice and penal erasure**

4.5.1: Enumerate the Rights/privileges of a medical practitioner

4.5.2: Define Infamous conduct/Professional misconduct with suitable examples (as per IMC regulations, 2002)

4.5.3: Describe the composition of disciplinary committee and its procedure in dealing with cases of infamous conduct.

4.5.4: Discuss the various punishments awarded by disciplinary committee for infamous conduct (warning notice, temporary erasure, penal erasure).

**FM4.6 - Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society**

4.6.1: Enumerate the laws related to medical practice in India.

4.6.2: Describe the 'Duties of a medical practitioner' in general towards his patient, society and research.

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM4.7 - Describe and discuss the ethics related to HIV patients**

4.7.1: Describe legal and ethical issues in HIV testing.

4.7.2: Mention the rights of HIV positive patients.

4.7.3: Discuss the duties of a Doctor while treating HIV patients with respect to confidentiality & disclosure.

4.7.4: Discuss the current policies related to the research and health care of HIV positive patients.

**FM4.12 - Discuss legal and ethical issues in relation to stem cell research**

4.12.1: Enumerate the application of stem cells in research and therapy.

4.12.2: Discuss the ethical issues arising from stem cell research and therapy.

4.12.3: Discuss the legal status of stem cell therapy and research in India.

4.12.4: Describe the guidelines for stem cell research in India.

**FM4.13 - Describe social aspects of Medico-legal cases with respect to victims of assault, rape, attempted suicide, homicide, domestic violence, dowry- related cases**

4.13.1: Describe the social aspects and role of medical professionals with respect to victim of sexual violence.

4.13.2: Describe the social aspects and role of medical professionals with respect to victim of attempted suicide.

4.13.3: Describe the social aspects and role of medical professionals with respect to victim of attempted homicide.

4.13.4: Describe the social aspects and role of medical professionals with respect to victim of domestic violence.

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM4.8 - Describe the Consumer Protection Act-1986 (Medical Indemnity Insurance, Civil Litigations and Compensations), Workman's Compensation Act & ESI Act**

4.8.1: Discuss on Consumer Protection Act-1986 & 2019 n view of medical services with latest amendments.

4.8.2: Describe the purpose of Medical Indemnity Insurance in civil litigations and compensations.

4.8.3: Discuss the role of a doctor in awarding compensation to workers or their dependents as per Workman's Compensation Act and ESI Act.

**SGD – 1 hr**

voce, OSCE

**Assessment:** Practical record, Log book, Viva

**FM4.9 - Describe the medico - legal issues in relation to family violence, violation of human rights, NHRC and doctors**

4.9.1: Define Domestic Violence.

4.9.2: Discuss the salient features of "Protection of women from domestic violence Act, 2005" in relation to medical and legal responsibilities of a medical practitioner.

4.9.3: Enumerate the cases related to violation of human rights.

4.9.4: Discuss the responsibilities of a doctor in cases of violation of human rights.

**FM4.10 - Describe communication between doctors, public and media**

4.10.1: Describe the communication skills by a doctor with the public and its importance.

4.10.2: Describe the communication skills and precautions to be taken by a doctor while interacting with the media.

4.10.3: Describe communication skills by a doctor with his/her colleagues

**FM4.14 - Describe & discuss the challenges in managing medico-legal cases including development of skills in relationship management – Human behaviour, communication skills, conflict resolution techniques**

4.14.1: Discuss the challenges in managing the medico legal cases.

4.14.2: Describe the principles of doctor-patient relationship management.

4.14.3: Describe the development of human behavior and communication skills required for managing doctor-patient relationship.

4.14.4: Discuss the conflict resolution techniques in managing medico-legal cases.



**FM4.15 - Describe the principles of handling pressure – definition, types, causes, sources and skills for managing the pressure while dealing with medico-legal cases by the doctor**

4.15.1: Define stress.

4.15.2: Mention the types of pressure while dealing with medico-legal cases by a doctor.

4.15.3: List the causes/ sources of pressure in handling medico-legal cases.

4.15.4: Discuss the skills needed for managing the pressure situations in handling a medico-legal case.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM4.16 - Describe and discuss Bioethics**

4.16.1: Define bioethics.

4.16.2: Enumerate the issues in medical practice wherein bioethics is applied.

4.16.3: Mention the four main principles of bioethics.

4.16.4: Discuss the medico-legal issues related to bioethics in patient care.

**FM4.17 - Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice**

4.17.1: Describe respect for patient's autonomy.

4.17.2: Describe the role of beneficence as a guiding principle in patient care.

4.17.3: Describe the role of non-maleficence as a guiding principle in patient care.

4.17.4: Discuss the application of justice in distributing resources and benefits in medical practice and research.

**FM4.11 - Describe and discuss euthanasia**

4.11.1: Define euthanasia.

4.11.2: Describe various types of euthanasia.

4.11.3: Debate around euthanasia- the arguments against and in favour.

4.11.4: Mention the legal status of euthanasia in India and in other countries.

4.11.5: Discuss the landmark case of Aruna Shanbaug and its impact on the status of euthanasia in India.

**SGD – 3 hrs****Assessment:** Written, Viva voce

**FM4.18 - Describe and discuss medical negligence including civil and criminal negligence, contributory negligence, corporate negligence, vicarious liability, Res Ipsa Loquitor, prevention of medical negligence and defenses in medical negligence litigations**

- 4.18.1: Define medical negligence.
- 4.18.2: Describe the elements of medical negligence.
- 4.18.3: Describe civil and criminal negligence with examples.
- 4.18.4: Describe contributory negligence with examples.
- 4.18.5: Describe the importance of Vicarious liability in medical practice.
- 4.18.6: Describe Corporate Negligence with examples.
- 4.18.7: Describe Res Ipsa Loquitor with examples.
- 4.18.8: Mention the precautionary measures to be taken to avoid medical negligence.
- 4.18.9: Describe the various defenses for a doctor in medical negligence (including Contributory negligence, Therapeutic misadventure, Medical maloccurrence, Calculated risk doctrine, Novus actus interveniens, Res judicata etc).

**FM4.19 - Define Consent. Describe different types of consent and ingredients of informed consent. Describe the rules of consent and importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication**

- 4.19.1: Define consent.
- 4.19.2: Describe the different types of consent with suitable examples.
- 4.19.3: Describe the ingredients of an informed consent.
- 4.19.4: Describe the rules and regulations associated with consent.
- 4.19.5: Explain the importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication (with relevant sections of IPC).

**FM4.20 - Describe therapeutic privilege, Malingering, Therapeutic Misadventure, Professional Secrecy, Human Experimentation**

- 4.20.1: Explain the concept of 'therapeutic privilege' in medical practice.
- 4.20.2: Discuss the legal aspects of Malingering during medical practice.

**FM4.21 - Describe Products liability and Medical Indemnity Insurance**

4.21.1: Discuss about ‘product liability’ in medical negligence.

4.21.2: Describe medical indemnity insurance and its purpose.

**FM4.24 - Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor-patient relationship: professional secrecy and privileged communication**

4.24.1: Enumerate the rights and privileges of Registered Medical Practitioner.

4.24.2: Describe the duties of a Registered Medical Practitioner.

4.24.3: Discuss on doctor-patient relationship in clinical practice.

4.24.4: Explain professional secrecy with examples.

4.24.5: Describe Privileged communication with examples.

**FM4.22 - Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath**

4.22.1: Explain oath as described by Hippocrates, Charaka and Sushruta.

4.22.3: Describe the procedure for administration of oath for a medical practitioner.

**FM4.23 - Describe the modified Declaration of Geneva and its relevance**

4.23.1: Describe the components of declaration of Geneva.

4.23.2: Describe the components of modified declaration of Geneva.

4.23.3: Explain the relevance of Declaration of Geneva in the medical profession.

**FM4.25 - Clinical research & Ethics - Discuss human experimentation including clinical trials**

4.25.1: Enumerate the need and drawbacks of different types of clinical research on humans.

4.25.2: Describe the phases of clinical trials and its implications.

4.25.3: Describe the ethical regulations and guidelines for clinical research.

4.25.4: Discuss the principles pertaining to human experimentation in Nuremberg code and Belmont report.

4.25.5: Discuss the steps to be taken for protection of vulnerable population in clinical trials/research

**FM4.26 - Discuss the constitution and functions of ethical committees**

4.26.1: List the composition of Institutional Ethics Committee (IEC).

4.26.2: Mention the responsibilities and duties of IEC.

4.26.3: Describe the proposals that are required to be presented before IEC.

4.26.4: Discuss limitations of IEC.

**FM4.27 - Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals**

4.27.1: Describe the international and national ethics guidelines for human and animal research.

4.27.2: Discuss the principles of ICMR guidelines for research involving human participants.

4.27.3: Discuss the rights of human research participants.

4.27.4: Discuss the 5 R's (replace, reduce, refine, reuse, and rehabilitate) of animal research ethics.

**SGD – 1 hr**

**Assessment:** OSPE, Viva voce

**FM4.28 - Demonstrate respect to laws relating to medical practice and Ethical code of conduct prescribed by Medical Council of India and rules and regulations prescribed by it from time to time**

4.28.1: Demonstrate the conduct of doctor with patients as per the Code of Medical Ethics prescribed by IMC.

**FM4.29 - Demonstrate ability to communicate appropriately with media, public and doctors**

4.29.1: Demonstrate the skills of communication by a doctor with the public.

4.29.2: Demonstrate the skills of communication by a doctor with the media.

4.29.3: Demonstrate the skills of communication by a doctor with his/her colleagues.

**FM4.30 - Demonstrate ability to conduct research in pursuance to guidelines or research ethics**

4.30.1: Prepare a research protocol for a study as per the ICMR guidelines.

4.30.2: Demonstrate the procedure of taking informed consent for conducting a research.

**Forensic Psychiatry**

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM5.1 - Classify common mental illnesses including post-traumatic stress disorder (PTSD)**

- 5.1.1: Define Forensic Psychiatry.
- 5.1.2: Define mental illness.
- 5.1.3: Classify common mental illnesses.
- 5.1.4: Explain PTSD with examples.

**FM5.2 - Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification**

- 5.2.1: Define delusion.
- 5.2.2: Describe types of delusions and their medicolegal importance.
- 5.2.3: Define hallucination.
- 5.2.4: Describe types of hallucinations and their medicolegal importance.
- 5.2.5: Define illusion with examples.
- 5.2.6: Define lucid interval.
- 5.2.7: Describe the medicolegal importance of lucid interval.
- 5.2.8: Define Impulse.
- 5.2.9: Describe impulsive disorders with examples.
- 5.2.10: Describe the obsessive-compulsive disorders with examples.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM5.3 - Describe Civil and criminal responsibilities of a mentally ill person**

- 5.3.1: Describe Civil responsibility of a mentally ill person.
- 5.3.2: Describe Criminal responsibility of a mentally ill person.
- 5.3.3: Describe the M'Naughten Rule and critics about it.
- 5.3.4: Discuss the alternate hypotheses/tests in relation to criminal responsibility.
- 5.3.5: Describe the criminal responsibility in Automatism, Somnambulism, Somnolentia, Hypnotism and Intoxication.

**FM5.4 - Differentiate between true insanity from feigned insanity**

- 5.4.1: Differentiate between true and feigned insanity.

**FM5.5 - Describe & discuss Delirium tremens**

- 5.5.1: Define delirium tremens.
- 5.5.2: Describe the criminal responsibility in delirium tremens.



- **SDL – 1 hr**

**Assessment:** Written, Viva voce

**FM5.6 - Describe the Indian Mental Health Act, 1987 & Indian Mental Healthcare Act 2017 with special reference to admission, care and discharge of a mentally ill person**

5.6.1: Describe the important definitions mentioned in Mental Health Care Act, 2017 (MHCA).

5.6.2: Describe the Rights of mentally ill person including 'Advance directive' as per the MHCA.

5.6.3: Describe the guidelines to start and run a 'Mental health establishment'.

5.6.4: Discuss on 'Admission, Treatment and Discharge of mentally ill person' as described in the MHCA.

5.6.5: Discuss on punishment for violation of provisions of MHCA.

**Forensic Laboratory investigation in medical legal practice**

- **SGD – 1 hr**

**Assessment:** OSPE, Viva voce

**FM6.1 - Describe different types of specimen and tissues to be collected both in the living and dead: Body fluids (blood, urine, semen, faeces, saliva), Skin, Nails, tooth pulp, vaginal smear, viscera, skull, specimen for histo-pathological examination, blood grouping, HLA Typing and DNA Fingerprinting. Describe Locard's Exchange Principle**

6.1.1: Describe the importance of trace evidences in crime investigation.

6.1.2: Explain Locard's principle of exchange in crime investigation.

6.1.3: Enlist the various trace evidences seen in different type of crimes (living and dead).

6.1.4: Discuss the importance of DNA profiling in forensic investigation.

6.1.5: Enlist body tissue and body fluid suitable for DNA profiling.

6.1.6: Discuss the importance of histopathology and cytology examination in forensic investigation.

6.1.7: Discuss importance of blood grouping in forensic investigation.

6.1.8: Discuss significance of HLA typing in forensic investigation.

**FM6.2 - Describe the methods of sample collection, preservation, labeling, dispatch, and interpretation of reports**

6.2.1: Describe method of collection, packing, labelling, sealing and dispatch of evidentiary materials to the laboratory.

6.2.2: Describe the method of interpretation of investigation reports like Chemical analysis, Histopathological examination, Microbiological examination etc.

**FM6.3 - Demonstrate professionalism while sending biological or trace evidences to Forensic Science lab, specifying the required tests to be carried out, objectives of preservation of evidences sent for examination, personal discussions on interpretation of findings**

6.3.1: Draft requisition letter to be sent along with the samples preserved for laboratory analysis/examination mentioning type of sample preserved, required tests to be done, and brief history of the case.

6.3.2: Demonstrate professionalism while sending the samples for analysis such as maintaining confidentiality and chain of custody.

**FM14.21 - To collect, preserve, seal and dispatch exhibits for DNA-Finger printing using various formats of different laboratories.**

14.21.1: Describe the procedure involved in collecting, preserving, sealing and dispatching exhibits for DNA profiling from a living individual.

14.21.2: Describe the procedure involved in collecting, preserving, sealing and dispatching exhibits for DNA profiling from a dead individual after conducting medicolegal autopsy.

14.21.3: Describe the procedure involved in collecting samples for DNA profiling depending on the laboratory policies of collecting blood on dry gauze or EDTA vacutainer or on FTA cards,

**Emerging technologies in Forensic Medicine**

- **SDL – 1 hr**

**Assessment:** Written, Viva voce

FM7.1 - Enumerate the indications and describe the principles and appropriate use for:- DNA profiling, Facial reconstruction, Polygraph (Lie Detector), Narcoanalysis, Brain Mapping, Digital autopsy, Virtual Autopsy, Imaging technologies

7.1.1: Discuss principle, procedure and medico-legal significance of DNA profiling.

7.1.2: Describe principle and medico-legal significance of Facial reconstruction.

7.1.3: Enlist different Lie detection tests.

7.1.4: Describe principle, procedure and medico-legal significance of Polygraph, Narcoanalysis and Brain mapping.

7.1.5: Describe principles of Virtual / Digital autopsy.

7.1.6: Describe the uses of different Imaging technologies in crime investigation.

### **Skills in Forensic Medicine & Toxicology**

- **SGD – 2 hrs (Practicals)** **Assessment:** OSPE, OSCE, Viva voce

#### **FM14.4 - Conduct and prepare report of estimation of age of a person for medico-legal and other purposes & prepare medico-legal report in a simulated/ supervised environment**

14.4.1: Explain the procedure of taking an informed consent from a person after explaining the importance and procedure of age estimation in criminal cases (accused/ victim of a crime) and civil cases (joining employment, obtaining pension, etc).

14.4.2: Estimate the age of a person by using physical, dental and radiological findings.

14.4.3: Prepare the medicolegal report on the age of a person.

- **SGD – 10 hr (along with discussion of concerned competencies (Mechanical injuries, firearm injuries, thermal injuries, asphyxia, sexual offences, etc ) in other SGD)** **Assessment:** OSPE, Viva voce, Practical record, Log Book

#### **FM14.5 - Conduct & prepare post-mortem examination report of varied etiologies (at least 10) in a simulated/ supervised environment**

14.5.1: Describe the techniques of conducting a medicolegal autopsy.

14.5.2: Describe the postmortem findings (external and internal) in a medicolegal autopsy.

14.5.3: Enumerate the ancillary investigations required (along with appropriate materials for such investigations) in a medicolegal autopsy.

14.5.4: Draft the postmortem report after a medicolegal autopsy.

Medicolegal autopsies may be a case of unnatural death, natural death, custodial death, alleged medical negligence, decomposed body, mutilated body.

- **SGD – 2 hrs (Practicals)** **Assessment:** OSPE, Viva voce, Practical record, Log Book

#### **FM14.11 - To identify & describe weapons of medicolegal importance which are commonly used e.g. lathi, knife, kripa, axe, gadda, gupta, farsha, dagger, bhalla,**

**razor & stick. Able to prepare report of the weapons brought by police and to give opinion regarding injuries present on the person as described in injury report/ PM report so as to connect weapon with the injuries. (Prepare injury report/ PM report must be provided to connect the weapon with the injuries)**

14.11.1: Document the information before commencing the weapon examination.

14.11.2: Examine and document the details of weapons of medicolegal importance.

14.11.3: Prepare a report on the weapon examined.

14.11.4: Opine whether the injuries present in the wound certificate/ postmortem report are possible to be caused by the weapon examined.

14.11.5: Explain the method of packing and handing over the weapon to concerned police (maintaining the chain of custody).

#### **FM14.12 - Describe the contents and structure of bullet and cartridges used & to provide medico-legal interpretation from these**

14.12.1: Describe the structure and contents of Rifled cartridge & prepare a medico-legal inference.

14.12.2: Describe the structure and contents of Shotgun cartridge & prepare a medico-legal inference.

- **SGD – 1 hr (Practical)**

voce, Practical record, Log Book

**Assessment:** OSPE, OSCE, Viva

#### **FM14.16 - To examine & prepare medico-legal report of drunk person in a simulated/ supervised environment**

14.16.1: Take an informed consent for examination of a person with alleged drunkenness.

14.16.2: Describe the procedure of examination and collection of evidentiary material for medicolegal purpose.

14.16.3: Prepare a medicolegal report and opinion in a drunkenness case.

14.16.4: Explain the procedure of handing over the evidentiary material to the investigating officer.

- **SGD – 1 hr (Practical)**

Practical record, Log Book

**Assessment:** OSPE, Viva voce,

**FM14.19 - To identify & prepare medico-legal inference from bone fracture, soot particles, diatoms & wound healing (slides)**

14.19.1: List the microscopic identifying features after examining the histopathological slides of brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, pulmonary oedema, brain oedema, soot particles, diatoms & wound healing.

14.19.2: Describe the medico-legal inferences after examining the above mentioned histopathological slides.

**Model Time table for Phase III part 1 MBBS****Competencies in Phase III part 1 MBBS**

| Serial number | Topic                      | Competency number | Competency  | Teaching hours and type  |
|---------------|----------------------------|-------------------|---|--------------------------|
| 1             | <b>General Information</b> | FM1.3             | Describe legal procedures including Criminal Procedure Code, Indian Penal Code, Indian Evidence Act, Civil and Criminal Cases, Inquest (Police Inquest and Magistrate's Inquest), Cognizable and Non-cognizable offences  | SDL – 1 hr               |
| 2             |                            | FM1.4             | Describe Courts in India and their powers: Supreme Court, High Court, Sessions court, Magistrate's Court, Labour Court, Family Court, Executive Magistrate Court and Juvenile Justice Board   |                          |
| 3             |                            | FM1.6             | Describe Offences in Court including Perjury; Court strictures vis-a-vis Medical Officer  |                          |
| 4             |                            | FM1.5             | Describe Court procedures including issue of Summons, conduct money, types of witnesses, recording of evidence oath, affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence & conduct of doctor in witness box |                          |
| 5             |                            | *FM14.22          | To give expert medical/ medico-legal evidence in Court of law   | SGD – 2 hrs (Moot court) |
| 6             |                            | *FM2.29           | Demonstrate respect to the directions of courts, while appearing as witness   |                          |



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|    |  |          |   |                           |
|----|--|----------|---|---------------------------|
|    |  |          | for recording of evidence under oath or affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence   |                           |
| 7  |  | FM1.7    | Describe Dying Declaration & Dying Deposition   | SGD – 1 hr<br>(Role play) |
| 8  |  | *FM14.20 | To record and certify dying declaration in a simulated/ supervised environment  |                           |
| 9  |  | FM1.8    | Describe the latest decisions/ notifications/ resolutions/circulars/ standing orders related to medico-legal practice issued by Courts/ Government authorities etc.   | Lecture – 1 hr            |
| 10 |  | *FM2.30  | Have knowledge/awareness of latest decisions/ notifications/ resolutions/ circulars/standing orders related to medico-legal practice issued by Courts/ Government authorities etc   |                           |
| 11 |  | FM1.9    | Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially <ul style="list-style-type: none"> <li>• maintenance of patient case records, discharge summary,</li> <li>• prescribed registers to be maintained in Health Centres.</li> <li>• maintenance of medico-legal register like accident register.</li> <li>• documents of issuance of wound certificate</li> <li>• documents of issuance of drunkenness certificate.</li> <li>• documents of issuance of sickness and fitness certificate.</li> <li>• documents for issuance of death certificate.</li> <li>• documents of Medical Certification of Cause of Death - Form Number 4 &amp; 4A</li> <li>• documents for estimation of age by physical, dental and radiological examination and issuance of certificate</li> </ul> | Lecture – 1 hr            |
| 12 |  | FM1.10   | Select appropriate cause of death in a  | SGD – 1 hr                |

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|    |                           |        | particular scenario by referring ICD 10 code  | (Practical)    |
| 13 |                           | FM1.11 | Write a correct cause of death certificate as per ICD 10 document   |                |
| 14 | <b>Forensic Pathology</b> | FM2.20 | Mechanical asphyxia:<br>Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths  | SGD – 5 hrs    |
| 15 |                           | FM2.21 | Mechanical asphyxia:<br>Describe and discuss different types of hanging and strangulation including clinical findings, causes of death, post-mortem findings and medico-legal aspects of death due to hanging and strangulation including examination, preservation and dispatch of ligature material                               |                |
| 16 |                           | FM2.22 | Mechanical asphyxia:<br>Describe and discuss patho-physiology, clinical features, postmortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia  |                |
| 17 |                           | FM2.23 | Describe and discuss types, pathophysiology, clinical features, postmortem findings and medico-legal aspects of drowning, diatom test and, gettler test.  |                |
| 18 |                           | FM2.24 | Thermal deaths: Describe the clinical features, post-mortem finding and medicolegal aspects of injuries due to physical agents like heat (heat-hyperpyrexia, heat stroke, sun stroke, heat exhaustion/prostration, heat cramps [miner's cramp] or cold (systemic and localized hypothermia, frostbite, trench foot, immersion foot) | SGD – 1 hr     |
| 19 |                           | FM2.25 | Describe types of injuries, clinical features, pathophysiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations  | SGD – 1 hr     |
| 20 |                           | FM2.26 | Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect  | Lecture – 1 hr |

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|----|-----------------------------------|---------|--|-----------------|
| 21 |                                   | FM2.27  | Define and discuss infanticide, foeticide and stillbirth   | SGD – 3 hrs     |
| 22 |                                   | FM2.28  | Describe and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP session of ossification centres, Hydrostatic test, Sudden Infants Death syndrome and Munchausen's syndrome by proxy            |                 |
| 23 |                                   | FM14.13 | To estimate the age of foetus by post-mortem examination   |                 |
| 24 | <b>Clinical Forensic Medicine</b> | FM3.3   | Mechanical injuries and wounds:<br>Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self-inflicted/fabricated wounds and their medico-legal aspects | SGD – 4 hrs     |
| 25 |                                   | FM3.4   | Mechanical injuries and wounds:<br>Define injury, assault & hurt. Describe IPC pertaining to injuries  | Lecture – 2 hrs |
| 26 |                                   | FM3.5   | Mechanical injuries and wounds:<br>Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries   |                 |
| 27 |                                   | FM3.6   | Mechanical injuries and wounds:<br>Describe healing of injury and fracture of bones with its medico-legal importance   |                 |
| 28 |                                   | FM3.7   | Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary  |                 |
| 29 |                                   | FM3.8   | Mechanical injuries and wounds:<br>Describe and discuss different types of weapons including dangerous weapons and their examination   |                 |
| 30 |                                   | FM3.9   | Firearm injuries:  | SGD – 3 hrs     |

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|----|--|----------|---|-------------------------|
|    |  |          | Describe different types of firearms including structure and components. Along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking        |                         |
| 31 |  | FM3.10   | Firearm injuries:<br>Describe & discuss wound ballistics- different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms |                         |
| 32 |  | FM3.11   | Regional Injuries:<br>Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and contrecoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton   | SGD – 4 hrs             |
| 33 |  | FM3.12   | Regional Injuries<br>Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine   |                         |
| 34 |  | *FM14.1  | Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment   | SGD – 2 hrs (Practical) |
| 35 |  | *FM14.10 | Demonstrate ability to identify & prepare medicolegal inference from specimens obtained from various types of injuries e.g. contusion, abrasion, laceration, firearm wounds, burns, head injury and fracture of bone  | SGD – 1hr (Practical)   |
| 36 |  | FM3.18   | Describe anatomy of male and female genitalia, hymen and its types. Discuss the medico-legal importance of hymen. Define virginity, defloration, legitimacy and its medicolegal importance  | Lecture – 2 hrs         |
| 37 |  | FM3.19   | Discuss the medicolegal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour, superfoetation, superfecundation, and signs of recent and remote delivery in living and dead   |                         |

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|----|--|--------|---|-----------------|
| 38 |  | FM3.20 | Discuss disputed paternity and maternity  |                 |
| 39 |  | FM3.22 | Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female   | Lecture – 2 hrs |
| 40 |  | FM3.23 | Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws                                       |                 |
| 41 |  | FM3.26 | Discuss the national Guidelines for accreditation, supervision & regulation of ART Clinics in India   |                 |
| 42 |  | FM3.21 | Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC&PNDT) - Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005   | SDL – 1 hr      |
| 43 |  | FM3.24 | Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme  |                 |
| 44 |  | FM3.25 | Discuss the major results of the National Family Health Survey  |                 |
| 45 |  | FM3.13 | Describe different types of sexual offences. Describe various sections of IPC regarding rape including definition of rape (Section 375 IPC), Punishment for Rape (Section 376 IPC) and recent amendments notified till date | Lecture – 1 hr  |
| 46 |  | FM3.14 | SEXUAL OFFENCES<br>Describe and discuss the examination of the victim of an alleged case of rape, and the preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases         | Lecture – 1 hr  |
| 47 |  | FM3.15 | SEXUAL OFFENCES<br>Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and dispatch of trace evidences in such cases                                  | SGD – 3 hrs     |



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|    |  |          |   |                           |
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| 48 |  | FM3.16   | SEXUAL OFFENCES<br>Describe and discuss adultery and unnatural sexual offences, sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault and preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases |                           |
| 49 |  | FM3.17   | Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia   |                           |
| 50 |  | *FM14.15 | To examine & prepare medico-legal report of a victim of sexual offence/unnatural sexual offence in a simulated/ supervised environment  | SGD – 1 hr<br>(Practical) |
| 51 |  | *FM14.14 | To examine & prepare report of an alleged accused in rape/unnatural sexual offence in a simulated/ supervised environment   | SGD – 1 hr<br>(Practical) |
| 52 |  | FM3.27   | Define, classify and discuss abortion, methods of procuring MTP and criminal abortion and complication of abortion. MTP Act 1971  | Lecture – 2 hrs           |
| 53 |  | FM3.28   | Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion   |                           |
| 54 |  | FM3.29   | Describe and discuss child abuse and battered baby syndrome   | Lecture – 1 hr            |
| 55 |  | FM3.30   | Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture survivors   | SDL – 1 hr                |
| 56 |  | FM3.31   | Torture and Human rights<br>Describe and discuss guidelines and Protocols of National Human Rights Commission regarding torture   |                           |
| 57 |  | FM3.32   | Demonstrate the professionalism while preparing reports in medico-legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences  | SGD – 2 hrs               |
| 58 |  | FM3.33   | Should be able to demonstrate the professionalism while dealing with victims of torture and human right   |                           |

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|----|---|----------|---|-----------------|
|    |   |          | violations, sexual assaults psychological consultation, rehabilitation  |                 |
| 59 |   | *FM14.18 | To examine & prepare medico-legal report of a person in police, judicial custody or referred by Court of Law and violation of human rights as requirement of NHRC, who has been brought for medical examination |                 |
| 60 | <b>Medical Jurisprudence (Medical Law and ethics)</b> | FM4.1    | Describe Medical Ethics and explain its historical emergence  | Lecture – 3 hrs |
| 61 |   | FM4.2    | Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy  |                 |
| 62 |   | FM4.3    | Describe the functions and role of Medical Council of India and State Medical Councils  |                 |
| 63 |   | FM4.4    | Describe the Indian Medical Register  |                 |
| 64 |   | FM4.5    | Rights/privileges of a medical practitioner, penal erasure, infamous conduct, disciplinary Committee, disciplinary procedures, warning notice and penal erasure   |                 |
| 65 |   | FM4.6    | Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society   |                 |
| 66 |   | FM4.7    | Describe and discuss the ethics related to HIV patients   | Lecture – 1 hr  |
| 67 |   | FM4.12   | Discuss legal and ethical issues in relation to stem cell research  |                 |
| 68 |   | FM4.13   | Describe social aspects of Medico-legal cases with respect to victims of assault, rape, attempted suicide, homicide, domestic violence, dowry- related cases  |                 |
| 69 |   | FM4.8    | Describe the Consumer Protection Act-1986 (Medical Indemnity Insurance, Civil Litigations and Compensations), Workman's Compensation Act & ESI Act  | Lecture – 1 hr  |
| 70 |   | FM4.9    | Describe the medico - legal issues in   | SGD – 1 hr      |

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|    |  |        |   |                |
|----|--|--------|---|----------------|
|    |  |        | relation to family violence, violation of human rights, NHRC and doctors  |                |
| 71 |  | FM4.10 | Describe communication between doctors, public and media  |                |
| 72 |  | FM4.14 | Describe & discuss the challenges in managing medico-legal cases including development of skills in relationship management – Human behaviour, communication skills, conflict resolution techniques   |                |
| 73 |  | FM4.15 | Describe the principles of handling pressure – definition, types, causes, sources and skills for managing the pressure while dealing with medico-legal cases by the doctor  |                |
| 74 |  | FM4.16 | Describe and discuss Bioethics  | Lecture – 1 hr |
| 75 |  | FM4.17 | Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice   |                |
| 76 |  | FM4.11 | Describe and discuss euthanasia   |                |
| 77 |  | FM4.18 | Describe and discuss medical negligence including civil and criminal negligence, contributory negligence, corporate negligence, vicarious liability, Res Ipsa Loquitur, prevention of medical negligence and defenses in medical negligence litigations | SGD – 3 hrs    |
| 78 |  | FM4.19 | Define Consent. Describe different types of consent and ingredients of informed consent. Describe the rules of consent and importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication                       |                |
| 79 |  | FM4.20 | Describe therapeutic privilege, Malingering, Therapeutic Misadventure, Professional Secrecy, Human Experimentation  |                |
| 80 |  | FM4.21 | Describe Products liability and Medical Indemnity Insurance   | Lecture – 1 hr |
| 81 |  | FM4.24 | Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor-patient relationship: professional secrecy and privileged communication  |                |
| 82 |  | FM4.22 | Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath   | Lecture – 1 hr |

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|    |  |        |   |                |
|----|--|--------|---|----------------|
| 83 |  | FM4.23 | Describe the modified Declaration of Geneva and its relevance   |                |
| 84 |  | FM4.25 | Clinical research & Ethics<br>Discuss human experimentation including clinical trials   |                |
| 85 |  | FM4.26 | Discuss the constitution and functions of ethical committees  |                |
| 86 |  | FM4.27 | Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals   |                |
| 87 |  | FM4.28 | Demonstrate respect to laws relating to medical practice and Ethical code of conduct prescribed by Medical Council of India and rules and regulations prescribed by it from time to time  | SGD – 1hr      |
| 88 |  | FM4.29 | Demonstrate ability to communicate appropriately with media, public and doctors   |                |
| 89 |  | FM4.30 | Demonstrate ability to conduct research in pursuance to guidelines or research ethics   |                |
| 90 | <b>Forensic Psychiatry</b>   | FM5.1  | Classify common mental illnesses including post-traumatic stress disorder (PTSD)  | Lecture – 1 hr |
| 91 |  | FM5.2  | Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification   |                |
| 92 |  | FM5.3  | Describe Civil and criminal responsibilities of a mentally ill person   | Lecture – 1 hr |
| 93 |  | FM5.4  | Differentiate between true insanity from feigned insanity   |                |
| 94 |  | FM5.5  | Describe & discuss Delirium tremens   |                |
| 95 |  | FM5.6  | Describe the Indian Mental Health Act, 1987 & Indian Mental Healthcare Act 2017 with special reference to admission, care and discharge of a mentally ill person  | SDL – 1 hr     |
| 96 | <b>Forensic Laboratory investigation in medical legal practice</b> | FM6.1  | Describe different types of specimen and tissues to be collected both in the living and dead:<br><br>Body fluids (blood, urine, semen, faeces, saliva), Skin, Nails, tooth pulp, vaginal smear, viscera, skull, specimen for histo-pathological examination, blood grouping, HLA Typing and DNA | Lecture – 1 hr |

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|     |   |          |   |                         |
|-----|---|----------|---|-------------------------|
|     |   |          | Fingerprinting.<br>Describe Locard's Exchange Principle   |                         |
| 97  |   | FM6.2    | Describe the methods of sample collection, preservation, labeling, dispatch, and interpretation of reports  |                         |
| 98  |   | FM6.3    | Demonstrate professionalism while sending biological or trace evidences to Forensic Science lab, specifying the required tests to be carried out, objectives of preservation of evidences sent for examination, personal discussions on interpretation of findings  | SGD – 1 hr              |
| 99  |   | *FM14.21 | To collect, preserve, seal and dispatch exhibits for DNA-Finger printing using various formats of different laboratories.   |                         |
| 100 | <b>Emerging technologies in Forensic Medicine</b>   | FM7.1    | Enumerate the indications and describe the principles and appropriate use for:<br>- DNA profiling<br>- Facial reconstruction<br>- Polygraph (Lie Detector)<br>- Narcoanalysis,<br>- Brain Mapping,<br>- Digital autopsy,<br>- Virtual Autopsy,<br>- Imaging technologies  | SDL – 1 hr              |
| 101 | <b>Skills in Forensic Medicine &amp; Toxicology</b> | FM14.4   | Conduct and prepare report of estimation of age of a person for medico-legal and other purposes & prepare medico-legal report in a simulated/ supervised environment  | SGD – 2 hrs (Practical) |
| 102 |   | FM14.5   | Conduct & prepare post-mortem examination report of varied etiologies (at least 15) in a simulated/ supervised environment  | 10 cases                |
| 103 |   | FM14.11  | To identify & describe weapons of medicolegal importance which are commonly used e.g. lathi, knife, kripa, axe, gadasa, gupta, farsha, dagger, bhalla, razor & stick.<br><br>Able to prepare report of the weapons brought by police and to give opinion regarding injuries present on the person as described in injury report/ PM report so as to connect weapon with the injuries.<br><br>(Prepare injury report/ PM report must | SGD – 2 hrs (Practical) |



|     |  |         |   |                        |
|-----|--|---------|---|------------------------|
|     |  |         | be provided to connect the weapon with the injuries)  |                        |
| 104 |  | FM14.12 | Describe the contents and structure of bullet and cartridges used & to provide medico-legal interpretation from these |                        |
| 105 |  | FM14.16 | To examine & prepare medico-legal report of drunk person in a simulated/ supervised environment                       | SGD – 1 hr (Practical) |
| 106 |  | FM14.19 | To identify & prepare medico-legal inference from bone fracture, soot particles, diatoms & wound healing (slides)     | SGD – 1 hr (Practical) |

**Lecture – 25 hours; SGD (small group discussion) – 47 hours (Practical classes marked in green);**

**SDL (self-directed learning) – 5 hours (Marked in yellow)**

### Competencies in Internship

#### Certifiable Procedural skills desirable of Indian Medical Graduate in Forensic Medicine & Toxicology

##### **A. An Intern must have observed or preferably assisted in:**

- Documentation and certification of trauma (I)
- Diagnosis and certification of death (D)
- Legal documentation related to emergency cases (D)
- Certification of medico-legal cases e.g. Age estimation, Sexual Violence etc. (D)
- Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)

I- Independently performed on patients,

O- Observed in patients or on simulations,

D- Demonstration on patients or simulations and performance under supervision in patients

##### **B. An Intern must have observed a medicolegal autopsy / postmortem**

**Compulsory rotating Internship posting of 7 days in Forensic Medicine and Toxicology****Log book to be maintained.****The internship posting has to be extended (repeated) till all the certifiable skills are achieved.****Use of skill lab is desirable wherever available**

| Sl no | Competency  | Number of times to be done | Assessment                      | Setting                                |
|-------|---|----------------------------|---------------------------------|--|
| 1     | IMG should independently examine a trauma patient / simulated patient and document and certify trauma   | 02                         | Skill assessment                | Casualty / EMD                         |
| 2     | IMG should demonstrate on patients or simulations and performance under supervision in patients the diagnosis and certification of death            | 02                         | Skill assessment / DOAP Session | Casualty / EMD / Ward / ICU            |
| 3     | IMG should demonstrate the legal documentation related to emergency care in a medicolegal register / accident register maintained at casualty / EMD | 02                         | Skill assessment / DOAP Session | Casualty / EMD                         |
| 4     | IMG should examine, document and certify in a medicolegal case of age estimation  | 01                         | Skill assessment / DOAP Session | Forensic Medicine /Casualty / EMD      |
| 5     | IMG should examine, document and certify in a medicolegal case of victim of Sexual violence   | 01                         | Skill assessment / DOAP Session | OBG /Forensic Medicine /Casualty / EMD |
| 6     | IMG should examine, document and certify in a medicolegal case of accused of Sexual violence  | 01                         | Skill assessment / DOAP Session | Forensic Medicine /Casualty / EMD      |

|    |   |    |                                 |                                   |
|----|---|----|---------------------------------|-----------------------------------|
| 7  | IMG should demonstrate communication in medicolegal cases with police   | 01 | Skill assessment / DOAP Session | Forensic Medicine /Casualty / EMD |
| 8  | IMG should demonstrate communication in medicolegal cases with public health authorities                              | 01 | Skill assessment / DOAP Session | Forensic Medicine /Casualty / EMD |
| 9  | IMG should demonstrate communication in medicolegal cases with Radiology / Pathology / Microbiology / FSL departments | 01 | Skill assessment / DOAP Session | Forensic Medicine /Casualty / EMD |
| 10 | IMG should observe and document a medicolegal autopsy / postmortem examination  | 01 | Skill assessment / DOAP Session | Forensic Medicine                 |

### Assessment in Forensic Medicine & Toxicology

**Summative Assessment** - An assessment conducted at the end of instruction to check how much the student has learnt.

**Formative Assessment** - An assessment conducted during the instruction with primary purpose of providing feedback for improving learning.

**Internal Assessment** - Range of assessments conducted by the teachers teaching a particular subject with the purpose of knowing what is learnt and how it is learnt. Internal assessment can have both formative and summative functions.

**Note** - Assessment requires specification of measurable and observable entities. This could be in the form of whole tasks that contribute to one or more competencies or assessment of a competency per se. Another approach is to break down the individual competency into learning objectives related to the domains of knowledge, skills, attitudes, communication etc. and then assess them individually.

**Scheduling of Internal Assessment** - In Phase II MBBS there will be two Internal assessments in theory and practicals.

In Phase III part 1 MBBS there will be two Internal assessments in theory and practicals. One of the test should be prelim or pre-university examination

**Theory IA can include:** Theory tests, seminars, quizzes, interest in subject, scientific attitude etc. Written tests should have essay questions, short notes and creative writing experiences.

**Practical IA can include:** practical tests, Objective Structured Practical Examination (OSPE), Directly Observed Procedural Skills (DOPS), records maintenance and attitudinal assessment.

**Assessment of Log-book-** Log book should record all activities like seminar, symposia, quizzes and other academic activities. It should be assessed regularly and submitted to the department. Up to twenty per cent IA Theory marks should be for Log book assessment.

**Assessment of Practical Record book-** Practical book should record all skills and other practical exercises done during the academic programme. It should be assessed regularly and submitted to the department. Up to twenty per cent IA Practical marks should be for Log book assessment

**Internal Assessment for AETCOM will include:** - Written tests comprising of short notes and creative writing experiences.

- OSCE based clinical scenarios and/or viva voce. Skill competencies acquired during the Professional Development Programme (AETCOM) must be tested during the practical and viva voce.

**Feedback in Internal Assessment** - Feedback should be provided to students throughout the course so that they are aware of their performance and remedial action can be initiated well in time. The feedbacks need to be structured and the faculty and students must be sensitized to giving and receiving feedback.

The results of IA should be displayed on notice board within two weeks of the test and an opportunity provided to the students to discuss the results and get feedback on making their performance better.

It is also recommended that students should sign with date whenever they are shown IA records in token of having seen and discussed the marks.

**Internal assessment marks will not be added to University examination marks and will reflect as a separate head of passing at the summative examination.**

**Internal assessment should be based on competencies and skills.**

**Criteria for appearing in University examination:** Learners 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) assigned for internal assessment in order to be eligible for appearing at the final University examination

# Annexure

## Teaching Learning Methods

### Teaching Learning Methods

- Didactic lectures should be made more interactive by encouraging the more involvement of the students. In the present digital era, student's involvement is more with usage of technology. For examples, many polling sessions, quizzes etc can be done using google slides and other apps like Kahoot, Socrative, menti.com etc.
- Small group discussion (SGD) should be planned properly and discussed among the faculty members before taking the class. As far as possible, uniformity should be maintained in the SGD by various facilitators. Case based learning (CBL) and problem based learning (PBL) may be used to make the learner understand and learn about the various aspects in order to achieve the particular competency.
- Encourage the students learn themselves through self-directed learning (SDL). SDL sessions may be planned with objectives in order to cover the particular competency. These sessions may be conducted by providing learning material (research articles, public news, videos, etc) by a teacher and ask the students to search on a particular topic. Students should learn themselves by going through available resources and come back to classes allotted for SDL sessions where teacher able to connect the learning of students in order to achieve the competency.
- Integrated classes should be planned in order to cover the competency involving the topics from different subjects. These classes can be taken using Nesting, Temporal Coordination or Sharing. Case linkers may be used to link the topic/subject area among different subjects/ departments.
- Skills should be taught using the clinical cases at hospital wards/casualty/EMD, simulation in skills labs and/or departmental demonstration rooms. Case scenarios may be developed while teaching at skills lab and/or demonstration rooms.

### Example for teaching the clinical examination in poisoning:

- **Case scenario:** A farmer working in a field was brought with history of breathlessness, vomiting, excessive sweating and muscle twitching. On examination, the pupils were constricted and heart rate was decreased. He had defecated in his cloths. Smell of kerosene was present in his breath. Even the cloths were soiled smelling kerosene.

- **Demonstration of clinical examination:** Mannequins or standardised patients in the skills lab may be used for examination and recording of vital parameters like pulse, BP, RR, SPO2 and state of pupils. Also, response to treatment can be.
- **Diagnosis and management:** Discuss the differential diagnosis, investigations and definitive diagnosis. Discuss the various treatment modalities. The response to drugs used for treatment can be demonstrated using high fidelity mannequins.
- **Medicolegal responsibilities:** The medicolegal responsibilities such as preservation of gastric lavage material, medicolegal documentation, and police intimation should be demonstrated in a simulated environment and using standard formats.

### **Example for teaching the topic Injuries/ Trauma with integration:**

**Linker Case:** A 30-year-old male while travelling in a motor bike met with an accident with a car coming from opposite side. As a result of this, he sustained multiple injuries (can be displayed in the form of photographs). He was brought by his friend to the hospital. On reaching the hospital, patient was in semiconscious state with difficulty in breathing.

**Subjects for integration:** Forensic Medicine, General Surgery.

- Forensic Medicine: Topics covered in this subject include different types of mechanical injuries possible in such accidents and other relevant topics related to mechanical injuries. [Competencies to be covered: FM 3.3, 3.4, 3.8]
- General Surgery: First aid treatment, Basic life support, Transportation of patient, Basic management of injuries at hospital. [Competencies to be covered: SU 17.1, 17.2, 17.3]

### **Type of Integration:**

- Horizontal: Temporal coordination can be done if is done in the same phase.
- Vertical: Nesting can be used if it is done in two different phases.

### **Additional details to case scenario:**

- In addition to linker case, case details need to be added by respective departments depending on the progression of the class (such as clinical features, internal injuries, postmortem findings etc).
- Case details may be introduced step by step in order to involve students in discussion.



## **Example for teaching the topic Drugs / Substances of abuse with integration:**

**Linker Case:** A 15-year-old student was brought by his parents to the hospital with a history of addiction to drugs and behavioural changes since 6 months. On examination, the patient was anxious, restless and was hesitant to talk.

**Subjects for integration:** Pharmacology, Forensic Medicine, Psychiatry.

- Pharmacology: Topics covered in this subject include Definitions, List of drugs of abuse, Mechanism of drug addiction. [Competencies to be covered: PH 1.22, 1.23]
- Forensic Medicine: Description of features and management of drugs/substances of abuse. [Competencies to be covered: FM 12.1]
- Psychiatry: Etiology, clinical features, treatment of drugs/substances of abuse. [Competencies to be covered: PS 4.1, 4.2, 4.3, 4.4, 4.6, 4.7]

### **Type of Integration:**

- Horizontal: Temporal coordination/ Sharing can be done if is done in the same phase.
- Vertical: Nesting can be used if it is done in two different phases.

### **Additional details to case scenario:**

- In addition to linker case, case details need to be added by respective departments depending on the progression of the class (such as clinical features, behavioural changes, complications, legal problems etc).
- Case details may be introduced step by step in order to involve students in discussion.

# Annexure

## Blue Print & Assessment methods - Theory

Number of QPs for the subject:  
**One**

**Theory marks 100**

### Theory Question Paper: Blue print

This shows the weightage given to each chapter in the summative assessment. This improves the content validity by distributing the assessment of learners in the competencies that are represented by learning objectives under each chapter.

Number of QPs for the subject: One.

Only CORE competencies shall be considered for framing questions. Each paper should contain the following distribution of questions (as shown in below table).

### Theory Question Paper:

Only CORE competencies shall be considered for framing questions. Each paper should contain the following distribution of questions (as shown in below table).

| <i>Type of questions</i> | <i>Marks per question</i> | <i>Number of questions</i> | <i>Total marks</i> |
|--------------------------|---------------------------|----------------------------|--------------------|
| MCQs                     | 1                         | 10                         | 10                 |
| Long Essay questions     | 10                        | 2                          | 20                 |
| Short essay questions    | 5                         | 8                          | 40                 |

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|                        |   |    |    |
|------------------------|---|----|----|
| Short answer questions | 3 | 10 | 30 |
|------------------------|---|----|----|

## Distribution of marks in suggested blue print:

| Section   | Chapters  | Marks allotted   | Number of questions |            |             |              |
|-----------|---|------------------|---------------------|------------|-------------|--------------|
|           |   |                  | MCQs                | Long essay | Short essay | Short answer |
| Section 1 | General information<br>[Dying declaration, Dying deposition, Medical records, Cause of death]   | 5 marks          | 2                   |            |             | 1            |
| Section 2 | Forensic Pathology<br>[Thanatology, Medicolegal autopsy, Mechanical asphyxia, Thermal deaths, Death due to starvation and neglect, Infanticide]   | 25 marks*        | 2                   | 1          | 2           | 1            |
| Section 3 | Clinical Forensic Medicine<br>[Identification, Mechanical injuries, Firearm injuries, Regional injuries, Sexual offences, Virginity, Pregnancy, Abortion, Impotence, Sterility, Sterilization, Artificial Insemination, Torture, Child abuse] | 25 marks*        | 2                   | 1          | 2           | 1            |
| Section 4 | Medical Jurisprudence<br>[Medical law and ethics, Euthanasia, Bioethics, Research ethics]   | 15 marks         | 1                   |            | 1           | 3            |
| Section 5 | Forensic Psychiatry, Forensic Laboratory Investigation in medico-legal practice   | 5 marks          | 2                   |            |             | 1            |
| Section 6 | General Toxicology, Chemical Toxicology, Pharmaceutical Toxicology, Biototoxicology, Sociomedical Toxicology, Environmental Toxicology  | 25 marks*        | 1                   |            | 3           | 3            |
|           | <b>Total number of questions</b>  | <b>100 marks</b> | <b>10</b>           | <b>2</b>   | <b>8</b>    | <b>10</b>    |

| Section   | Chapters   | Marks allotted | Number of questions |            |             |              |
|-----------|--|----------------|---------------------|------------|-------------|--------------|
|           |  |                | MCQs                | Long essay | Short essay | Short answer |
| Section 1 | General information<br>[Competencies 1.7 to 1.10]                      | 5 marks        | 2                   |            |             | 1            |
| Section 2 | Forensic Pathology<br>[Competencies 2.1 to 2.28]                       | 25 marks*      | 2                   | 1          | 2           | 1            |
| Section 3 | Clinical Forensic Medicine<br>[Competencies 3.1 to 3.23, 3.26 to 3.30] | 25 marks*      | 2                   | 1          | 2           | 1            |

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|           |  |                  |           |          |          |           |
|-----------|--|------------------|-----------|----------|----------|-----------|
| Section 4 | Medical Jurisprudence<br>[Competencies 4.1 to 4.8, 4.10 to 4.24, 4.26]   | 15 marks         | 1         |          | 1        | 3         |
| Section 5 | Forensic Psychiatry, Forensic Laboratory Investigation in medico-legal practice<br>[Competencies 5.1 to 5.5, 6.1 to 6.2] | 5 marks          | 2         |          |          | 1         |
| Section 6 | Toxicology<br>[Competencies 8.1 to 8.10, 9.1 to 9.6, 10.1, 11.1, 12.1, 13.1 to 13.2]                                     | 25 marks*        | 1         |          | 3        | 3         |
|           | <b>Total number of questions</b>   | <b>100 marks</b> | <b>10</b> | <b>2</b> | <b>8</b> | <b>10</b> |

\*The Long essay questions shall be chosen from any two sections of Sections 2, 3 and 6. The distribution of questions for these sections shall be as follows:

- Two sections should contain 2 MCQs, 1 Long essay question, 2 Short essay questions and 1 Short answer question.
- One section should contain 1 MCQ, 3 Short essay questions and 3 Short answer questions.

**One Long Essay question and One Short Essay question should be of Problem solving or on Clinical application.**

**35% questions should be of the Higher order thinking**

This shows the weightage given to each topic in the summative assessment. This improves the content validity by distributing the assessment of learners in the competencies that are represented by learning objectives under each topic.

# Annexure

## Blue Print & Assessment methods - Practicals

**Practicals 80**

**Viva Voce 20**

### Practical Question Paper: Blue print

**OSPE in FMT:**

| <i>Station</i>                  | <i>Exercise</i>                                    | <i>Marks</i> | <i>Duration</i> |
|---------------------------------|--|--------------|-----------------|
| Station-1                       | Wound certificate                                  | 10           | 30 min          |
|                                 | Weapon examination                                 | 5            |                 |
| Station-2                       | Age certificate                                    | 15           | 30 min          |
| Station-3                       | Skeletal remains                                   | 10           | 20 min          |
| Station-4<br>(Any one exercise) | Victim of rape                                     | 10           | 20 min          |
|                                 | Accused of rape                                    |              |                 |
|                                 | Drunkenness certificate                            |              |                 |
| Station-5                       | PM certificate                                     | 10           | 20 min          |
| Station-6                       | Spotters   | 10           | 10 min          |
| Station-7                       | Blood grouping                                     | 5            | 10 min          |
| Station-8<br>(Any one exercise) | Preservation of evidentiary materials in poisoning | 5            | 10 min          |
|                                 | Preservation of DNA material for analysis          |              |                 |

|  |                           |  |  |
|--|---------------------------|--|--|
|  | Gestational age of foetus |  |  |
|  | MCCD                      |  |  |

**Detailed planning of practical assessment:**

| <i>Station</i> | <i>Exercise</i>    | <i>Assessment</i>  | <i>Marks</i> | <i>Duration</i> |
|----------------|--------------------|--|--------------|-----------------|
| Station-1      | Wound certificate  | <p>Option-A:</p> <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and part-task trainer with injuries will be given.</li> <li>Student will be asked to draft a certificate as per the format based on above case details.</li> <li>Evaluation will be based on the checklist.</li> </ul> <p>Option-B:</p> <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history, multiple photographs of injuries with scale attached (printed in a single page) will be given.</li> <li>Student will be asked to draft a certificate as per the format based on above case details.</li> <li>Evaluation will be based on the checklist.</li> </ul> | 10           | 30 min          |
|                | Weapon examination | <ul style="list-style-type: none"> <li>A weapon related to above wound certificate will be given.</li> <li>Student will be asked to examine and draft a report as per the format.</li> <li>Evaluation will be based on the checklist.</li> </ul>   | 5            |                 |
| Station-2      | Age certificate    | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history, findings of General Physical Examination, Tooth eruption (picture of dentition) and X-ray film/s will be given.</li> <li>Student will be asked to draft a certificate as per the format based on above case details.</li> <li>Evaluation will be based on the checklist.</li> </ul>   | 15           | 30 min          |



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|                                 |                                 |   |    |        |
|---------------------------------|---------------------------------|---|----|--------|
| Station-3                       | Skeletal remains                | <ul style="list-style-type: none"> <li>A case scenario containing the history and relevant findings of scene from where the bone/s were recovered will be given.</li> <li>Student will be asked to examine the bone/s and draft a report as per the format.</li> <li>Evaluation will be based on the checklist.</li> </ul>  | 10 | 20 min |
| Station-4<br>(Any one exercise) | Victim of rape                  | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and findings related to sexual violence (victim of rape) will be given.</li> <li>Student will be asked to draft a report in a printed modified format (as shown in annexure) based on case details and answer questions related to case scenario.</li> <li>Evaluation will be based on the checklist.</li> </ul>  | 10 | 20 min |
|                                 | Accused of rape                 | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and findings related to sexual violence (accused of rape) will be given.</li> <li>Student will be asked to draft a report in a printed modified format (as shown in annexure) based on case details and answer questions related to case scenario.</li> <li>Evaluation will be based on the checklist.</li> </ul> |    |        |
|                                 | Drunkenness certificate         | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and findings related to drunkenness will be given.</li> <li>Student will be asked to draft a report as per the format based on case details and answer questions related to case scenario.</li> <li>Evaluation will be based on the checklist.</li> </ul>   |    |        |
| Station-5                       | PM certificate                  | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and postmortem findings will be given.</li> <li>Student will be asked to draft the PM certificate and give opinion on cause of death, time since death and any other questions related to case scenario.</li> <li>Evaluation will be based on the checklist.</li> </ul>   | 10 | 20 min |
| Station-6<br>(Spotters)         | Hair, Semen, & other Biological | <ul style="list-style-type: none"> <li>It should contain 10 spotters.</li> <li>Each spotter will be awarded maximum of one mark for</li> </ul>  | 10 | 10 min |

|                                 |  |  |   |        |
|---------------------------------|--|--|---|--------|
|                                 | fluids;<br><br>Blood -<br>Identification of<br>species;<br><br>Photographs /<br>Specimens;<br><br>Poisons;<br><br>Histopathology<br>Slides;<br><br>Firearm cartridge | correct responses.<br><br><ul style="list-style-type: none"> <li>Each spotter should be completed by 2 minutes duration.</li> <li>Ideally spotters should contain applied type of questions related to content of the spotter.</li> <li>Evaluation will be based on the marks allotted to structured questions.</li> </ul>   |   |        |
| Station-7                       | Blood grouping   | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and relevant findings related to blood grouping will be given.</li> <li>Student will be asked to determine the blood group of a given sample.</li> <li>Evaluation will be based on the checklist.</li> </ul>   | 5 | 10 min |
| Station-8<br>(Any one exercise) | Preservation of evidentiary materials in poisoning   | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and clinical features of any poisoning will be given.</li> <li>Student will be asked to list the various evidentiary materials to be preserved in such cases, write the labels for such preservation, and write the letters to FSL for analysis.</li> <li>Evaluation will be based on the checklist.</li> </ul>        | 5 | 10 min |
|                                 | DNA material   | <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and relevant findings related to DNA analysis will be given.</li> <li>Student will be asked to list the various evidentiary materials to be preserved in such cases, write the labels for such preservation, and write the letters to FSL for analysis.</li> <li>Evaluation will be based on the checklist.</li> </ul> |   |        |

|  |                          |  |  |  |
|--|--------------------------|--|--|--|
|  | Gestational age of fetus | <ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and findings related to gestational age will be given.</li> <li>• Student will be asked to determine the gestational age and answer the questions related to case scenario.</li> <li>• Evaluation will be based on the checklist.</li> </ul> |  |  |
|  | MCCD                     | <ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and clinical findings related to MCCD will be given.</li> <li>• Student will be asked to draft a certificate as per the format based on above case details.</li> <li>• Evaluation will be based on the checklist.</li> </ul>                 |  |  |

## Annexure

# Checklists

## Checklist for Practical Assessment:

### Wound certificate

(Maximum marks :10)

| Component of certificate  | Max marks | Marks awarded |
|---|-----------|---------------|
| Preliminary details (MLC No., Name, Age, Sex, Address, Date of admission & discharge, Brought by) | 0.5       |               |
| Consent   | 1         |               |
| Identification marks  | 1         |               |
| History   | 1         |               |
| Details of injuries   | 4         |               |
| Opinion   | 2         |               |
| Signature, Name & Designation of doctor   | 0.5       |               |
| <b>Total</b>  | <b>10</b> |               |

### Weapon examination

(Maximum marks :5)

| Component of certificate             | Max marks | Marks awarded |
|--------------------------------------|-----------|---------------|
| Addressing to IO, Subject, Reference | 0.5       |               |

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|  |          |  |
|--|----------|--|
| Details of receiving weapon from police and date and time of examination | 0.5      |  |
| Name & Type of weapon; Weight of weapon                                  | 1        |  |
| Description & dimensions of weapon                                       | 1.5      |  |
| Opinion  | 1        |  |
| Signature, Name & Designation of doctor                                  | 0.5      |  |
| <b>Total</b>   | <b>5</b> |  |

**Age certificate**

**(Maximum marks : 15)**

| <b>Task</b>   | <b>Max marks</b> | <b>Marks awarded</b> |
|---|------------------|----------------------|
| Details on receiving request letter   | 0.5              |                      |
| Preliminary details (MLC No., Name, Age, Sex, Address, Date, time & place of examination) | 1                |                      |
| Consent   | 1                |                      |
| Identification marks  | 1                |                      |
| History   | 1                |                      |
| General physical examination with inference   | 2                |                      |
| Dental examination with inference   | 3                |                      |
| Radiological examination with inference   | 3                |                      |
| Final opinion on age  | 2                |                      |
| Signature, Name & Designation of doctor   | 0.5              |                      |
| <b>Total</b>  | <b>15</b>        |                      |

**Skeletal remains**

**(Maximum marks : 10)**

| <b>Component of certificate</b>  | <b>Max marks</b> | <b>Marks awarded</b> |
|--|------------------|----------------------|
| Addressing to IO, Subject, Reference   | 0.5              |                      |
| Details of receiving Skeletal remains from police and date and time of examination | 1                |                      |
| Whether it is bone / not?  | 0.5              |                      |
| Number of bones/dismembered body parts   |                  |                      |

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|  |           |  |
|--|-----------|--|
| Physical state of bones/dismembered body | 0.5       |  |
| Belongs to human/animal                  |           |  |
| Morphological details                    | 4         |  |
| Belongs to one or more individuals       | 0.5       |  |
| Injuries / manner of separation          |           |  |
| Cause of death                           | 0.5       |  |
| Time since death                         |           |  |
| Opinion                                  | 2         |  |
| Signature, Name & Designation of doctor  | 0.5       |  |
| <b>Total</b>                             | <b>10</b> |  |

**Examination of Victim of sexual violence**

**(Maximum marks : 10)**

| <b>Task</b>  | <b>Max marks</b> | <b>Marks awarded</b> |
|--|------------------|----------------------|
| Preliminary details (as printed from No. 1 to 11 in the format given)          | 0.5              |                      |
| Consent  | 1                |                      |
| Identification marks   | 0.5              |                      |
| Relevant medical/surgical history  | 0.5              |                      |
| History related to sexual violence   | 0.5              |                      |
| General physical examination   | 0.5              |                      |
| Examination for injuries on body   | 0.5              |                      |
| Local examination of genital parts/other orifices                              | 1                |                      |
| Sample collection/ investigations for hospital laboratory/ Clinical laboratory | 1                |                      |
| Samples Collection for FSL   | 1                |                      |
| Date and time of completion of examination                                     | 0.5              |                      |
| Investigation (hospital laboratory/FSL) reports                                | 0.5              |                      |
| Opinion  | 2                |                      |
| <b>Total</b>   | <b>10</b>        |                      |

**Examination of Accused of sexual violence**

**(Maximum marks : 10)**

| <b>Task</b>   | <b>Max marks</b> | <b>Marks awarded</b> |
|---|------------------|----------------------|
| Preliminary details (as printed from No. 1 to 11 in the format given) | 0.5              |                      |
| Consent   | 1                |                      |



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|  |           |  |
|--|-----------|--|
| Identification marks   | 0.5       |  |
| Relevant medical/surgical history  | 0.5       |  |
| History related to sexual violence   | 0.5       |  |
| General physical examination   | 0.5       |  |
| Examination for injuries on body   | 0.5       |  |
| Local examination of genital parts/other orifices                              | 1         |  |
| Sample collection/ investigations for hospital laboratory/ Clinical laboratory | 1         |  |
| Samples Collection for FSL   | 1         |  |
| Hospital laboratory/FSL reports  | 0.5       |  |
| Opinion  | 2         |  |
| Signature, Name & Designation of doctor  | 0.5       |  |
| <b>Total</b>   | <b>10</b> |  |

**Drunkenness certificate**

**(Maximum marks : 10)**

| <b>Component of certificate</b>   | <b>Max marks</b> | <b>Marks awarded</b> |
|---|------------------|----------------------|
| Preliminary details (OPD/IPD No., MLC No., Name, Age, Sex, Address, Date & time of examination, Brought by) | 0.5              |                      |
| Consent   | 1                |                      |
| Identification marks  | 0.5              |                      |
| History   | 1                |                      |
| General examination   | 1                |                      |
| Examination for muscular Co-ordination  | 1                |                      |
| Injuries  | 1                |                      |
| Systemic examination  | 0.5              |                      |
| Collection of materials for analysis  | 1                |                      |
| Opinion   | 2                |                      |
| Signature, Name & Designation of doctor   | 0.5              |                      |
| <b>Total</b>  | <b>10</b>        |                      |

**Preservation of evidentiary material in Poisoning**

**(Maximum marks :5)**

| <b>Component of certificate</b>           | <b>Max marks</b> | <b>Marks awarded</b> |
|---|------------------|----------------------|
| From and To address                       | 0.5              |                      |
| PM No., Name, Age, Sex, Crime/UDR No., PS | 0.5              |                      |
| List of evidentiary materials collected   | 2                |                      |
| Signature, Name & Designation of doctor   | 0.5              |                      |
| Labels for evidentiary materials          | 1.5              |                      |

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|              |          |  |
|--------------|----------|--|
| <b>Total</b> | <b>5</b> |  |
|--------------|----------|--|

**Preservation of evidentiary material for DNA analysis**

(Maximum marks :5)

| <b>Component of certificate</b>               | <b>Max marks</b> | <b>Marks awarded</b> |
|---|------------------|----------------------|
| From and To address                           | 0.5              |                      |
| PM/MLC No., Name, Age, Sex, Crime/UDR No., PS | 0.5              |                      |
| List of evidentiary materials collected       | 2                |                      |
| Signature, Name & Designation of doctor       | 0.5              |                      |
| Labels for evidentiary materials              | 1.5              |                      |
| <b>Total</b>                                  | <b>5</b>         |                      |

**Blood grouping**

(Maximum marks :5)

| <b>Component of certificate</b>               | <b>Max marks</b> | <b>Marks awarded</b> |
|---|------------------|----------------------|
| From and To address                           | 0.5              |                      |
| PM/MLC No., Name, Age, Sex, Crime/UDR No., PS | 0.5              |                      |
| Test conducted                                | 0.5              |                      |
| Method used for testing                       | 0.5              |                      |
| Findings observed after testing               | 1.5              |                      |
| Final opinion                                 | 1                |                      |
| Signature, Name & Designation of doctor       | 0.5              |                      |
| <b>Total</b>                                  | <b>5</b>         |                      |

**MCCD certification**

(Maximum marks :5)

| <b>Component of certificate</b>                                | <b>Max marks</b> | <b>Marks awarded</b> |
|--|------------------|----------------------|
| Preliminary details (Name of hospital, Date and time of death) | 0.5              |                      |
| Name, Age, Sex   | 0.5              |                      |
| Cause of death (Immediate & Antecedent cause)                  | 2                |                      |
| Cause of death (Other contributing causes)                     | 0.5              |                      |
| Manner of death  | 0.5              |                      |
| Death associated with pregnancy/ delivery                      | 0.5              |                      |

|   |          |  |
|---|----------|--|
| Signature, Name & Designation of doctor | 0.5      |  |
| <b>Total</b>                            | <b>5</b> |  |

**PM certificate**

(Maximum marks :10)

| Component of certificate          | Max marks | Marks awarded |
|-----------------------------------|-----------|---------------|
| Drafting PM certificate + Opinion | 3+2       |               |
| Question 1                        | 1         |               |
| Question 2                        | 1         |               |
| Question 3                        | 1         |               |
| Question 4                        | 1         |               |
| Question 5                        | 1         |               |
| <b>Total</b>                      | <b>10</b> |               |

**Annexure**

## Integration topics

**Integration:** The teaching should be aligned and integrated horizontally and vertically recognizing the importance of medico-legal, ethical and toxicological issues as they relate to the practice of medicine.

### Integration of Forensic Medicine with Other departments:

The suggested topics, competencies and the subjects/departments for integrated teaching are shown in below table.

| <i>Sl. No.</i> | <i>Topic for integration</i> | <i>Subject [Competencies]</i>   |
|----------------|------------------------------|---|
| 1              | Injuries / Trauma            | Forensic Medicine [FM 3.3, 3.4, 3.8, 3.9, 3.10]<br>General Surgery [SU 17.1, 17.2, 17.3]                  |
| 2              | Wound healing                | General Surgery [SU 5.1, 5.2, 5.3, 5.4]<br>Pathology [PA 5.1]<br>Forensic Medicine [FM 3.6]               |
| 3              | Regional injuries            | Forensic Medicine [FM 3.11, 3.12]<br>General Surgery [SU 17.4, 17.5, 17.6, 17.7, 17.8, 17.9, 17.10]       |
| 4              | Burns                        | Forensic Medicine [FM 2.24, 2.25]<br>General Surgery [SU 4.1, 4.2, 4.3, 4.4]                              |
| 5              | Organ transplantation        | General Surgery [SU 13.1, 13.2, 13.3, 13.4]<br>Ophthalmology [OP 4.9, 4.10]<br>Forensic Medicine [FM 2.4] |
| 6              | Pregnancy and labour         | Forensic Medicine [FM 3.19, 3.20]<br>OBG [OG 6.1, 7.1]  |
| 7              | Abortion                     | Forensic Medicine [FM 3.27, 3.28]<br>OBG [OG 1.3, 9.1, 9.2, 20.1, 20.2]                                   |

|    |                               |   |
|----|-------------------------------|---|
| 8  | PCPNDT Act                    | OBG [OG 20.3]<br>Radiodiagnosis [RD 1.13]<br>Forensic Medicine [FM 3.21]  |
| 9  | Impotence and Sterility       | Forensic Medicine [FM 3.22, 3.23, 3.24, 3.25, 3.26]<br>Pharmacology [PH 1.40]<br>OBG [OG 28.1, 28.2, 28.3, 28.4]  |
| 10 | Psychiatric disorders         | Psychiatry [PS 3.7, 3.8]<br>Forensic Medicine [FM 5.1, 5.2, 5.3, 5.4, 5.5, 5.6]   |
| 11 | General toxicology            | Forensic Medicine [FM 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8]<br>Pharmacology [PH 1.4, 1.5, 1.11]<br>General Medicine [IM 21.1, 21.5, 21.6, 21.7, 21.8] |
| 12 | Insecticides                  | Forensic Medicine [FM 8.6]<br>Pharmacology [PH 1.52]<br>Community Medicine [CM 3.8]   |
| 13 | Corrosives                    | Forensic Medicine [FM 9.1]<br>General Medicine [IM 21.3]  |
| 14 | Heavy metal poisoning         | Forensic Medicine [FM 9.2, 9.3]<br>Pharmacology [PH 1.53]   |
| 15 | Plant poisons                 | General Medicine [IM 21.2]<br>Forensic Medicine [FM 10.1]   |
| 16 | Snake, scorpion, insect bites | Forensic Medicine [FM 11.1]<br>General Medicine [IM 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9]   |
| 17 | Alcohol disorders             | Pharmacology [PH 1.20, 1.21]<br>Pathology [PA 12.1, 25.4]<br>General Medicine [IM 5.5]<br>Forensic Medicine [FM 9.4]                                    |
| 18 | Drugs of abuse                | Pharmacology [PH 1.22, 1.23]<br>Forensic Medicine [FM 12.1]<br>Psychiatry [PS 4.1, 4.2, 4.3, 4.4, 4.6, 4.7]   |

| Sl no | Subject        | Competency number | Competency   | TL method     | Assessment             | Vertical Integration   | Horizontal Integration |
|-------|----------------|-------------------|--|---------------|------------------------|------------------------|------------------------|
| 1     | Anatomy        | AN14.3            | Describe the importance of ossification of lower end of femur & upper end of tibia                                       | Lecture       | Viva voce / Practicals | Forensic Medicine      | -                      |
| 2     | Pharmacology   | PH1.22            | Describe drugs of abuse (dependence, addiction, stimulants, depressants, psychedelics, drugs used for criminal offences) | Lecture / SGD | Written / Viva voce    | Psychiatry             | Forensic Medicine      |
| 3     |                | PH5.7             | Demonstrate an understanding of the legal and ethical aspects of prescribing drugs                                       | SGD           | Short note / viva voce | -                      | Forensic Medicine      |
| 4     | Radiodiagnosis | RD1.13            | Describe the components of the PC & PNDT act and its medicolegal implications  | Lecture / SGD |                        | OBG, Forensic Medicine | -                      |
| 5     | Psychiatry     | PS19.3            | Describe and discuss   | Lecture /     | Written / Viva         | Forensic Medicine,     | -                      |



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|   |                  |        |  |                       |  |                                 |  |
|---|------------------|--------|--|-----------------------|--|---------------------------------|--|
|   |                  |        | the basic legal and ethical issues in psychiatry   | SGD                   | voce                                   | AETCOM                          |  |
| 6 | General Medicine | IM20.1 | Enumerate the poisonous snakes of your area and describe the distinguishing marks of each  | Lecture / SGD         | Written / Viva voce                    | Forensic Medicine, Pharmacology |  |
| 7 |                  | M20.2  | Describe, demonstrate in a volunteer or a mannequin and educate (to other health care workers / patients) the correct initial management of patient with a snake bite in the field | DOA P session         | Skill assessment / Written / Viva voce | Forensic Medicine               |  |
| 8 |                  | M20.3  | Describe the initial approach to the stabilisation of the patient who presents with snake bite   | Lecture / SGD         | Written / Viva voce                    | Forensic Medicine               |  |
| 9 |                  | M20.4  | Elicit and document and present an appropriate   | Bedside clinic, DOA P | Skill assessment                       | Forensic Medicine               |  |

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|    |  |        |  |               |                     |                                 |  |
|----|--|--------|--|---------------|---------------------|---------------------------------|--|
|    |  |        | history, the circumstance, time, kind of snake, evolution of symptoms in a patient with snake bite   | session       |                     |                                 |  |
| 10 |  | IM21.2 | Enumerate the common plant poisons seen in your area and describe their toxicology, clinical features, prognosis and specific approach to detoxification | Lecture / SGD | Written / Viva voce | Forensic Medicine, Pharmacology |  |
| 11 |  | IM21.3 | Enumerate the common corrosives used in your area and describe their toxicology, clinical features, prognosis and approach to therapy                    | Lecture / SGD | Written / Viva voce | Forensic Medicine, Pharmacology |  |
| 12 |  | IM21.4 | Enumerate the commonly observed drug overdose in your area and describe their  | Lecture / SGD | Written / Viva voce | Forensic Medicine, Pharmacology |  |

|    |  |        |  |                               |  |                                 |  |
|----|--|--------|--|-------------------------------|--|---------------------------------|--|
|    |  |        | toxicology, clinical features, prognosis and approach to therapy   |                               |  |                                 |  |
| 13 |  | IM21.5 | Observe and describe the functions and role of a poison centre in suspected poisoning  | DOA P Session                 | Document in log book                   | Forensic Medicine, Pharmacology |  |
| 14 |  | IM21.6 | Describe the medico legal aspects of suspected suicidal or homicidal poisoning and demonstrate the correct procedure to write a medico legal report on a suspected poisoning | Lecture / SGD / DOA P Session | Written / Viva voce / Skill assessment | Forensic Medicine, Pharmacology |  |
| 15 |  | IM21.7 | Counsel family members of a patient with suspected poisoning about the clinical and medico legal aspects with empathy  | DOA P Session                 | Skill assessment                       | Forensic Medicine, Pharmacology |  |
| 16 |  | IM21.8 | Enumerate the indications for  | DOA P Session                 | Skill assessment                       | Forensic Medicine, Psychiatry   |  |

|    |     |        |  |                               |                     |                   |  |
|----|-----|--------|--|-------------------------------|---------------------|-------------------|--|
|    |     |        | psychiatric consultation and describe the precautions to be taken in a patient with suspected suicidal ideation / gesture  |                               |                     |                   |  |
| 17 | OBG | OG1.3  | Define and Discuss still birth and abortion  | Lecture / SGD                 | Notes               | Forensic Medicine |  |
| 18 |     | OG9.2  | Describe the steps and observe/ assist in the performance of an MTP evacuation   | DOA P Session, Bedside clinic | Viva voce           | Forensic Medicine |  |
| 19 |     | OG20.1 | Enumerate the indications and describe and discuss the legal aspects, indications, methods for first and second trimester MTP; complications and management of complications of medical termination of pregnancy | Lecture / SGD                 | Written / Viva voce | Forensic Medicine |  |
| 20 |     | OG20.2 | In a   | DOA                           | Skill               | Forensic          |  |

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|    |                 |        |   |                               |                                       |                           |  |
|----|-----------------|--------|---|-------------------------------|---------------------------------------|---------------------------|--|
|    |                 |        | simulated environment administer informed consent to a person wishing to undergo medical termination of pregnancy | P Session                     | assessment                            | Medicine                  |  |
| 21 |                 | OG20.3 | Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC& PNDT) Act 1994 & its amendments                   | Lecture / SGD                 | Written / Viva voce                   | Forensic Medicine         |  |
| 22 | General Surgery | SU8.1  | Describe the principles of Ethics as it pertains to surgery   | Lecture / SGD                 | Written / Viva voce/ Skill assessment | Forensic Medicine, AETCOM |  |
| 23 |                 | SU8.2  | Demonstrate Professionalism and empathy to the patient undergoing surgery   | Lecture / SGD / DOA P Session | Written / Viva voce/ Skill assessment | Forensic Medicine, AETCOM |  |
| 24 |                 | SU8.3  | Discuss Medico legal issues in surgical practice  | Lecture / SGD                 | Written / Viva voce/ Skill assessment | Forensic Medicine, AETCOM |  |

## **Annexure**

### **Topics for Electives**

### **Topics for Electives**

- Disaster management
- Medicolegal aspects of healthcare / hospital administration
- Deposing evidence in a Court of Law
- Medicolegal aspects in management of emergency cases
- Forensic odontology
- Disaster victim identification
- Forensic anthropology
- Forensic psychiatry



- Forensic radiology
- Forensic toxicology
- Snake bite – species identification and management
- Crime scene examination
- Forensic ballistics

## Annexure

### Reference Books and Journals

**Suggested references** (as per Vancouver style): (Specification mentioned such as edition – subject to change with newer edition)

- **Basic references**
  - 1) Reddy KSN, Murthy OP. The Essentials of Forensic Medicine and Toxicology. 34<sup>th</sup> edition, 2017. Jaypee Brothers Medical Publishers, New Delhi.
  - 2) Pillay VV. Textbook of Forensic Medicine and Toxicology, 19<sup>th</sup> edition, 2019, Paras Medical Publishers, Hyderabad.

- 3) Karmakar RN. Forensic Medicine and Toxicology: Theory, Oral and Practical, 5<sup>th</sup> edition, 2015. Academic Publishers, Kolkata.
- 4) Nandy A. Principles of Forensic Medicine including Toxicology, 3<sup>rd</sup> edition, 2010, New Central Book Agency.
- 5) Subrahmanyam BV. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology, 8<sup>th</sup> edition, 2019, CBS Publishers.
- 6) Guharaj PV, Gupta SK. Forensic Medicine and Toxicology, 3<sup>rd</sup> edition, 2019, Universities Press (India) Private Ltd., Hyderabad.
- 7) Bardale R. Principles of Forensic Medicine & Toxicology, 2<sup>nd</sup> edition, 2016, Jaypee Brothers Medical Publishers, New Delhi.
- 8) Biswas G. Review of Forensic Medicine & Toxicology, 3<sup>rd</sup> edition, 2015, Jaypee Brothers Medical Publishers, New Delhi.
- 9) Vij K. Textbook of Forensic Medicine and Toxicology: Principles and Practice, 6<sup>th</sup> edition, 2014, Elsevier Ltd.
- 10) Ignatius PC. Forensic Medicine and Toxicology, 4<sup>th</sup> edition, 2019, Elsevier India.
- 11) Pillay VV. NACPFMT's Practical Medicolegal Manual: Medical Ethics, Clinical Forensics & Toxicology, 1<sup>st</sup> edition, 2019, Paras Medical Publishers, Hyderabad.
- 12) Bakkannavar SM. Forensic Medicine and Toxicology: Practical manual, 1<sup>st</sup> edition, 2018, Elsevier India.
- 13) Borah. Medical Ethics for Students and Doctors, 1<sup>st</sup> edition, 2014, Ahuja Publishers.

• **Advanced references (may also include journals/ web/ other electronic sources).**

- 1) Kannan K. Modi's Medical Jurisprudence and Toxicology, 26<sup>th</sup> edition, 2019, LexisNexis.
- 2) Karmakar RN. JB Mukherjee's Forensic Medicine and Toxicology, 2007, Academic Publishers.
- 3) Dogra TD, Rudra A. Lyon's Medical Jurisprudence and Toxicology. 11th edition (reprint), 2018. Delhi Law House, Delhi.
- 4) Saukko P, Knight B. Knight's Forensic Pathology. 4<sup>th</sup> edition. 2015, CRC Press
- 5) Pillay VV. Modern Medical Toxicology, 4<sup>th</sup> edition, 2013, Jaypee Brothers Medical Publishers Ltd., New Delhi.
- 6) Journal of Karnataka Medico-Legal Society.
- 7) Journal of South India Medico-Legal Association.
- 8) Journal of Indian Academy of Forensic Medicine.
- 9) Journal of Indian Society of Toxicology
- 10) Journal of Forensic and Legal Medicine
- 11) Journal of Forensic Sciences
- 12) Indian Journal of Medical Ethics

**Annexure**

**Log Book Format**

**College Name**

**College Logo**

**Affiliated to**

**Rajiv Gandhi University of Health  
Sciences, Karnataka**

**M.B.B.S Log Book**

**Forensic Medicine & Toxicology**

RGUHS Forensic Medicine Curriculum as per the new Competency Based Medical Education Preamble

# College Name

(Affiliated to Rajiv Gandhi University of Health Sciences, Karnataka)

## M.B.B.S Log Book

### Forensic Medicine and Toxicology

Name of the Student :

University Registration Number :

Academic year :

Signature of the Student :

## CERTIFICATE

This is to certify that Ms / Mr .....

is student of ..... Medical

College, ..... He / She has participated in the National

Medical Commission mandated sessions as a part of the Competency Based

Medical Education Curriculum in the subject of Forensic Medicine and Toxicology during the period ..... to .....

Recording of the contents in this Log Book is a bonafide work of the student.

Staff In-charge

Head of Department

Date:

Place:

## GENERAL INSTRUCTIONS

- 1) Log book is the record of all the relevant academic/co-curricular activities undertaken by the student in a particular department.
- 2) The student is responsible for getting the entries in the logbook verified by the Faculty in charge regularly.
- 3) Entries in the logbook will reflect the activities undertaken in the department and have to be scrutinized by the Head of the Department.
- 4) The logbook is a record of various activities by the student like:
  - a. Overall participation & performance
  - b. Attendance
  - c. Participation in sessions
  - d. Record of completion of pre-determined activities.
  - e. Acquisition of selected competencies

- 5) The logbook is the record of work done by the candidate in that department and should be verified by the college before submitting the application of the students for the University examination.

## INDEX

| Sl. No. | Type of activity  | Page Numbers |    |
|---------|---|--------------|----|
|         |   | From         | To |
| 1       | MBBS Phase II: Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc           |              |    |
| 2       | MBBS Phase II: Skill / Practical Sessions, Postmortem/ Clinical case observation          |              |    |
| 3       | MBBS Phase II: Self-directed learning   |              |    |
| 4       | MBBS Phase II: AETCOM module  |              |    |
| 5       | MBBS Phase II: Attendance and Internal Assessment   |              |    |
| 6       | MBBS Phase III, Part I: Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc  |              |    |
| 7       | MBBS Phase III, Part I: Skill / Practical Sessions, Postmortem/ Clinical case observation |              |    |

|    |   |  |  |
|----|---|--|--|
| 8  | MBBS Phase III, Part I: Self-directed learning                    |  |  |
| 9  | MBBS Phase III, Part I: AETCOM module                             |  |  |
| 10 | MBBS Phase III, Part I: Attendance and Internal Assessment        |  |  |
| 11 | Final Attendance and Internal Assessment marks                    |  |  |
| 12 | Certifiable Skill Acquisition in Forensic Medicine and Toxicology |  |  |
| 13 | Achievements, Awards, Conference/ CME/ Workshop attended          |  |  |

## ACTIVITIES DONE IN MBBS PHASE II

### Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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**Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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**Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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**Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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**Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**



**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.

2.

3.

4.

**Reflective narration:**

1. What did you learn from the above session?

2. How do you apply your knowledge in a medical / medicolegal situation?

3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

1.

2.

3.

4.

**Reflective narration:**

1. What did you learn from this AETCOM session?

2. How do you apply the knowledge gained in a medical / medicolegal situation?

3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

1.

2.

3.

4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

1.

2.

3.

4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

**Formative Assessment**

(Written test/ MCQs/ Viva Voce/ Quiz/ Debate etc)

| Sl No. | Name of Activity | Date | Rating | Faculty's signature | Feedback | Student's signature |
|--------|------------------|------|--------|---------------------|----------|---------------------|
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**Rating:** Below Expectations (B) – less than 50 %; Meets Expectations (M) – 51 to 70 %; Exceeds Expectations (E) – above 70 %.

### **Formative Assessment**

(Written test/ MCQs/ Viva Voce/ Quiz/ Debate etc)

| Sl No. | Name of Activity | Date | Rating | Faculty's signature | Feedback | Student's signature |
|--------|------------------|------|--------|---------------------|----------|---------------------|
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**Rating:** Below Expectations (B) – less than 50 %; Meets Expectations (M) – 51 to 70 %; Exceeds Expectations (E) – above 70 %.

### Attendance at the end of MBBS Phase II

| Percentage of classes attended |     |     |        | Student's signature | Faculty's signature |
|--------------------------------|-----|-----|--------|---------------------|---------------------|
| Lecture                        | SGD | SDL | AETCOM |                     |                     |
|                                |     |     |        |                     |                     |

### Internal Assessment (IA)

| Sl. | Type of Assessment | Date of | Total | Marks | Student's | Faculty's |
|-----|--------------------|---------|-------|-------|-----------|-----------|
|-----|--------------------|---------|-------|-------|-----------|-----------|

| No. |  | Assessment | marks | scored | signature | signature |
|-----|--|------------|-------|--------|-----------|-----------|
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# **In theory marks**, certain weightage can be given to up-to-date entries of logbook, AETCOM module reflection, Showing Professionalism during the course, etc.

# **In practical marks**, certain weightage can be given to acquisition of skills and up-to-date entries of practical record book.

## ACTIVITIES DONE IN MBBS PHASE III, Part I

### Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
|--------|------------------|------|---------------------------|---------------------|
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### **Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Seminars, Tutorials, Projects, Case discussion, Debate, Quiz etc**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Skill / Practical Sessions, Postmortem/ Clinical case observation**

| Sl No. | Name of Activity | Date | Completed (C) /Repeat (R) | Faculty's signature |
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### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?

2. How do you apply your knowledge in a medical / medicolegal situation?
3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?



3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?

3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **Self-directed learning**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from the above session?
2. How do you apply your knowledge in a medical / medicolegal situation?
3. What knowledge or skill do you need to develop to handle similar situation in future?

Signature of Faculty

### **AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

## **AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

## **AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty



## **AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

## **AETCOM Session**

**Module number:**

**Name of the topic:**

**Objectives:**

- 1.
- 2.
- 3.
- 4.

**Reflective narration:**

1. What did you learn from this AETCOM session?
2. How do you apply the knowledge gained in a medical / medicolegal situation?
3. What skill do you need to develop to handle a real situation in future?

Signature of Faculty

### **Formative Assessment**

**(Written test/ MCQs/ Viva Voce/ Quizzes/ Debate etc)**

| Sl No. | Name of Activity | Date | Rating | Faculty's signature | Feedback | Student's signature |
|--------|------------------|------|--------|---------------------|----------|---------------------|
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|        |                  |      |        |                     |          |                     |

**Rating:** Below Expectations (B) – less than 50 %; Meets Expectations (M) – 51 to 70 %; Exceeds Expectations (E) – above 70 %.

### **Formative Assessment**

(Written test/ MCQs/ Viva Voce/ Quizzes/ Debate etc)

| Sl No. | Name of Activity | Date | Rating | Faculty's signature | Feedback | Student's signature |
|--------|------------------|------|--------|---------------------|----------|---------------------|
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**Rating:** Below Expectations (B) – less than 50 %; Meets Expectations (M) – 51 to 70 %; Exceeds Expectations (E) – above 70 %.

### **Formative Assessment**

(Written test/ MCQs/ Viva Voce/ Quizzes/ Debate etc)

| Sl No. | Name of Activity | Date | Rating | Faculty's signature | Feedback | Student's signature |
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|        |                  |      |        |                     |          |                     |

**Rating:** Below Expectations (B) – less than 50 %; Meets Expectations (M) – 51 to 70 %; Exceeds Expectations (E) – above 70 %.

### Attendance at the end of MBBS Phase III, Part I

|                                       |                  |                            |
|---------------------------------------|------------------|----------------------------|
| <i>Percentage of classes attended</i> | <i>Student's</i> | <i>Faculty's signature</i> |
|---------------------------------------|------------------|----------------------------|

| <i>Lecture</i> | <i>SGD</i> | <i>SDL</i> | <i>AETCOM</i> | <i>signature</i> |  |
|----------------|------------|------------|---------------|------------------|--|
|                |            |            |               |                  |  |

### Internal Assessment (IA)

| <i>Sl. No.</i> | <i>Type of Assessment</i> | <i>Date of Assessment</i> | <i>Total marks</i> | <i>Marks scored</i> | <i>Student's signature</i> | <i>Faculty's signature</i> |
|----------------|---------------------------|---------------------------|--------------------|---------------------|----------------------------|----------------------------|
|                |                           |                           |                    |                     |                            |                            |
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# **In theory marks**, certain weightage can be given to up-to-date entries of logbook, AETCOM module reflection, Showing Professionalism during the course, etc.

# **In practical marks**, certain weightage can be given to acquisition of skills and up-to-date entries of practical record book.

### FINAL ATTENDANCE

| <i>Phase</i> | <i>Percentage of classes attended</i> | <i>Eligible for</i> | <i>Student's</i> | <i>Faculty's</i> |
|--------------|---------------------------------------|---------------------|------------------|------------------|
|--------------|---------------------------------------|---------------------|------------------|------------------|

|  | <i>Theory</i> | <i>Practical</i> | AETCOM | <i>University examination</i><br><i>(Yes / No)</i> | <i>signature</i> | <i>signature</i> |
|--|---------------|------------------|--------|--|------------------|------------------|
| Attendance at the end of MBBS Phase II           |               |                  |        | Not applicable                                     |                  |                  |
| Attendance at the end of MBBS Phase III (Part I) |               |                  |        |  |                  |                  |

### FINAL INTERNAL ASSESSMENT MARKS

| <i>Sl. No.</i> | <i>Type of Assessment</i> | <i>Total marks</i> | <i>Marks scored</i> | <i>Student's signature</i> | <i>Faculty's signature</i> |
|----------------|---------------------------|--------------------|---------------------|----------------------------|----------------------------|
| 1              | Theory                    |                    |                     |                            |                            |
| 2              | Practical                 |                    |                     |                            |                            |

### **Certifiable Skill Acquisition in Forensic Medicine and Toxicology** **Internship**

| Sl No. | Competency | Certification date | Faculty's signature |
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### **Achievements, Awards, Conference/ CME/ Workshop attended**

**(Related to Forensic Medicine and Toxicology)**

| Sl No. | Date | Particulars | Faculty's signature |
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## Annexure

### Model Question papers

**Department of Forensic Medicine & Toxicology**  
**Rajiv Gandhi University of Health Sciences, Karnataka**

RGUHS Forensic Medicine Curriculum as per the new Competency Based Medical Education Preamble

**Forensic Medicine & Toxicology****QP Code - XXXXX****Answer all questions, Illustrate your answer with diagrams wherever relevant****Max Marks 100      (This Question paper has XX pages)      Max Time 3 hours****Long Essay: (10 M X 2 = 20 M)**

1. A 30 year old agricultural labourer was brought to emergency department of the hospital with symptoms of excessive salivation, tears in the eyes, blurred vision, frequent urination, diarrhea and difficulty in breathing. Relatives accompanying him give history of he spraying some fluid in the fields when they saw him collapsed at the field. The doctor on examination found smell of kerosene emitting from mouth and nostrils, miosis, hypotension, bradycardia.
  - a) What is the probable diagnosis of poisoning? Give reasons  
**2M**
  - b) What is the mechanism of action in such poisoning for the expression of different signs and symptoms  
**2M**
  - c) Describe the management of such poisoning cases.  
**2M**
  - d) Describe the postmortem examination features in such poisoning case deaths.  
**2M**
  - e) Describe the Medicolegal importance of such poisoning cases  
**2M**
2. Classify changes after death. Describe in detail about the mechanism of action, factors affecting, medicolegal importance and conditions mimicking Rigor mortis.  
**(2+2+2+2+2= 10M)**

**Short Essay: (5 M X 8= 40 M)**

3. The Police found a human hand in a dust bin with intact fingers and tissues without any decomposition. How to identify the owner of this hand by examining the skin findings of the finger tips only? Describe in detail about this method of identification.

What is the medicolegal importance of such method of identification?  
(1+2+2= 5M)

4. Describe in detail the procedure of calculation of time since death by use of features of late changes after death in a dead body.

**5M**

5. Describe in detail the procedure of medicolegal autopsy in a case of Custodial death as per NHRC (National Human Rights Commission) guidelines.

**5M**

6. Describe the mechanism of action, clinical features, management, postmortem findings and medicolegal aspects of chronic lead poisoning

(1+1+1+1+1= 5M)

7. Describe the mechanism of action, clinical features, management, postmortem findings and medicolegal aspects of Organophosphorus poisoning

(1+1+1+1+1= 5M)

8. Define Professional Misconduct, Enlist four examples. What is the disciplinary procedure in such cases by State medical Council? (1+2+2= 5M)

9. Classify Skull fractures. What is Signature fracture and Ring fracture? What is lucid interval of head injury? (2+2 +1= 5M)

10. Describe the differentiating features between dry flame burns, scalds and chemical burns of skin. Add a note on Heat hematoma and heat laceration. (3+2=5M)

**Short Answer: (3 M X 10 = 30 M)**

11. Define Rape under Section 375 IPC

**3M**

12. Describe the entry wound of a Rifled firearm of a contact shot over the temple region of skull

**3M**

- i. Name three poisons which can be identified by their characteristic smell / odour in a poisoned person. (Both Poison name and characteristic smell / odour has to be written)

(1+1+1= 3M)

13. Describe the changes brought out by the MTP Amendment Act of 2021

3M

14. What is Privileged Communication, Describe with examples

3M

15. What constitutes Res ipsa loquitor, Describe with examples

3M

16. Describe the Rights of a registered medical practitioner

3M

17. Describe three differences between True insanity and Feigned insanity

3M

18. Describe three acts of Omission for causing Infanticide

3M

19. Describe three differences between Dying Declaration and Dying Deposition

3M

**MCQ (Multiple choice questions): (1M X 10 = 10 M)**

20.

- i. Kleptomania is an example of ..... disorder

a) Delusion      b) Impulse      c) Hallucination      d) Insomnia

- ii. Luminal test is used to identify stains of  
 a) Blood      b) Semen      c) Feces      d) Saliva
- iii. Diagnosis of COMA in a dead person is also known as  
 a) Moment of death    b) Mode of death    c) Cause of death    d) Manner of death
- iv. Oochronosis is seen in poisoning of  
 a) Formic acid      b) Nitric acid      c) Oxalic acid      d) Carbolic acid
- v. N-acetyl Cysteine is used as antidote in the poisoning of  
 a) Paraquat      b) Phosphorus      c) Paracetamol      d) Paraldehyde
- vi. Certifying Compositus mentis by the doctor is done by examining  
 a) Bicep reflex functions      b) Patellar reflex      c) Babinski sign      d) Higher mental functions
- vii. Suspended animation is also known as  
 a) Apparent death      b) Brain death      c) Sudden death      d) Instantaneous death
- viii. Brush burn is also known as  
 a) Scalds    b) Joule burn    c) Dermabrasion    d) Grazed abrasion
- ix. Penal erasure means  
 a) Punishment under IPC      b) Professional death sentence      c) Judicial hanging      d) Marking Nut

- x. Locard's method is also known as
- a) Poroscopy      b) Rugoscopy      c) Cheiloscopy      d) Palatoscopy
- 

**RAJIV GANDHI UNIVERSITY OF MEDICAL SCIENCES, KARNATAKA**

**MBBS Phase – III, Part I (CBME) Degree Examination**

**Time: Three hours**

**Max. Marks: 100 Marks**

**FORENSIC MEDICINE (RS-4)**

**Q.P. CODE:**

Your answers should be specific to the questions asked

Draw neat labelled diagrams wherever necessary

(Questions No. 21 & 22 will have Multiple Choice Questions)

RGUHS Forensic Medicine Curriculum as per the new Competency Based Medical Education Preamble

**LONG ESSAYS:****2 x****10 = 20 marks**

1. A 42-year-old male was found dead in his house in Mangalore. Autopsy was conducted on the deceased on 21<sup>st</sup> February, which revealed a moderately built adult male, measuring 165 cm in length and weighing 58 kg. Muscles of the jaw, neck, trunk and upper limbs were stiffened. The back of trunk was bluish to purplish coloured and on pressure over it for about a minute showed blanching. Body orifices are intact and healthy. Conjunctiva is pale on both sides. No external injuries are present on the body. Internal examination revealed oedematous lungs, congestion of liver, kidney and spleen. Heart examination revealed atherosclerotic changes in all the coronary arteries. Organs were preserved for histopathological examination. Viscera and blood preserved for chemical analysis. Cause of death kept pending histopathology and chemical analysis reports.

Question 1.1: Name of postmortem changes ‘muscle stiffness of the body’ and ‘bluish colouration

over back of trunk’.

(2 marks)

Question 1.2: Enumerate the early postmortem changes after death.

(2 marks)

Question 1.3: Describe the mechanism of postmortem change ‘muscle stiffness’.

(2 marks)

Question 1.4: Describe the medicolegal importance of postmortem change ‘muscle stiffness’. (2 marks)

Question 1.5: Estimate the time since death in this case with reasons.

(2 marks)

2. A 30-year-old male was brought to a casualty with a history of consumption of an unknown poison. Patient was in semiconscious state with vomitus material on the shirt with kerosene like odour. He had difficulty in breathing with excessive salivation and profuse sweating. On examination, it was observed that pupils were constricted with bradycardia, hypotension, abdominal cramps, wheezing and crepitations on lung auscultation.

Question 2.1: What is the most probable diagnosis in this case?

(1 mark)

Question 2.2: Explain the mechanism of this poisoning.

(2 marks)

Question 2.3: Interpret the lung findings in this case with reasoning.

(2 marks)

Question 2.4: Suggest the investigations required in this case.

(2 marks)

Question 2.5: Create a treatment plan for this poisoning.

(3 marks)

### SHORT ESSAYS:

8 x

5 = 40 Marks

3. Define hanging. Describe the postmortem findings in a complete hanging.

(1+4 = 5 marks)

4. Explain difference between scald and flame burn.

(5 marks)

5. Define Dactylography. Mention its types. Explain its medicolegal importance.

(1+2+2 = 5 marks)

6. A 25-year-old unmarried female was arrived to a hospital with history of sexual violence. The patient was examined by the duty doctor and documented the findings and preserved samples for medical laboratory and forensic laboratory analysis. After receiving the lab reports, doctor opines as 'there are signs suggestive of vaginal intercourse with force'.

Question 6.1: Enumerate the findings of general physical examination.

(1 mark)

Question 6.2: Describe the findings of genital examination.

(2 marks)

Question 6.3: Enumerate the samples collected for medical & forensic laboratory analysis. (1 mark)

Question 6.4: Justify with reasons for the doctor's opinion.

(1 mark)



7. Define contusion. Describe its medicolegal importance.

(1+4 = 5 marks)

8. A patient visits a doctor complaining of pain abdomen since 2 days. After clinical examination doctor asks the patient to get a US scan abdomen at XYZ laboratory. Patient pays his professional fee Rs. 300 and visits the laboratory for scanning. After scanning, the patient was asked to pay Rs. 2000, which was argued by the patient for extra charges and threatened to lodge a complaint. Finally, lab informs that 50% goes to the doctor as cuts for referring the patient.

Question 8.1: Name the unethical act by the doctor in this case.

(1 mark)

Question 8.2: Define the doctor's offence in this case as per the IMC Act.

(1 mark)

Question 8.3: Justify the reason for concluding the doctor's act as unethical.

(2 mark)

Question 8.4: Describe any two punishments for unethical act in this case.

(1 mark)

9. Differentiate between venomous and non-venomous snake.

(5 marks)

10. Explain the treatment of cyanide poisoning.

(5 marks)

### SHORT ANSWERS:

10

x 3 = 30 Marks

11. Define dying declaration and explain its medicolegal importance.

(1+2 = 3 marks)

12. Describe the skin incisions used for medicolegal autopsy.

(3

marks)

13. What is meant by tandem bullet, Dum-Dum bullet and Souvenir bullet.

(3

marks)

14. Write briefly on whiplash injury. (3 marks)
15. Enumerate any three indications for MTP. (3 marks)
16. Name any one active principle of Abrus precatorius, Ricinus and Cannabis. (1+1+1 = 3 marks)
17. Define Bioethics. Enumerate any 4 principles of Bioethics. (1+2 = 3 marks)
18. Define Euthanasia and explain it's types. (1+2 = 3 marks)
19. What is meant by 'Res Ipsa Loquitor'? Give any two suitable examples. (1+2 = 3 marks)
20. Explain the Criminal responsibility of an insane person. (3 marks)

**MULTIPLE CHOICE QUESTIONS:****10 x 1 = 10 Marks***[Instructions: Write the question number followed by your response.]*

- 21.i) The form used for Medical Certification of Cause of Death in institutional deaths is:
- a. Form No. 3
  - b. Form No. 3A
  - c. Form No. 4
  - d. Form No. 4A
- 21.ii) As per Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, 2002, a physician has to maintain indoor medical records for a period of:
- a. 2 years
  - b. 3 years
  - c. 5 years

d. 10 years

21.iii) All the following organs are shrunk in death due to starvation, EXCEPT:

- a. Pancreas
- b. Spleen
- c. Gall bladder
- d. Liver

21.iv) The measurement usually taken to calculate the gestational age in Haase's rule is:

- a. Crown-heel length
- b. Crown-rump length
- c. Crown-toe length
- d. Rump-heel length

21.v) For Homologous Artificial Insemination, the semen is obtained from:

- a. Husband
- b. Donor
- c. Sperm bank
- d. Both husband and donor

22.i) One of the following is NOT a recognized type of consent in medical practice:

- a. Implied
- b. Expressed
- c. Informed
- d. Hearsay

22.ii) A false perception in the absence of any sensory stimulus is called as:

- a. Delusion
- b. Hallucination

- c. Illusion
- d. Delirium

22.iii) One of the following is NOT a test for detecting seminal stains:

- a. Zinc test
- b. Florence test
- c. Phenolphthalein test
- d. Barberio's test

22.iv) The term "Corrosive sublimate" refers to:

- a. Sulfuric acid
- b. Carbolic acid
- c. Copper sulfate
- d. Mercuric chloride

22.v) One of the following opiates does NOT belong to 'Phenanthrene' group:

- a. Papaverine
- b. Thebaine
- c. Morphine
- d. Codeine

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