

M. Sc. (Semester I)

M. Sc. First Semester-Forensic Science

Assignment October 2025

Paper I: Fundamentals of Forensic Science

Attempt four questions, one question from each unit.

MM: 30

Unit I

Q. 1 Explain the basic principles of forensic science and describe the various branches of forensic science and their scope in criminal investigation.

OR

Explain the physical, biological, chemical, and psychological types of forensic evidences with examples.

Unit II

Q. 2 Describe the organizational structure of a central and State Forensic Science Laboratory (FSL) in India.

OR

Write short notes on

- a) Research fields in Forensic Science
- b) Role and functions of the Finger Print Bureau (FPB)

Unit III

Q3. Differentiate between Frye and Daubert standards in terms of evidence admissibility

OR

Discuss the importance of ethics in forensic science. What are the ethical responsibilities of forensic experts in handling evidence?

Unit IV

Q4. Explain Environmental Forensics with reference to its applications in pollution-related crime investigation.

OR

Evaluate the advantages and limitations of biometrics in forensic investigations.

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Paper II: Forensic Criminology

Attempt four questions, one question from each unit.

MM: 30

Unit I

Q. 1 Define crime and discuss the various types of crime and its causes with examples.

OR

Write short notes on

- a) Cyber crimes**
- b) Juvenile delinquency**

Unit II

Q. 2 Define Forensic Criminology. Discuss its scope and relevance in the criminal justice system.

OR

Write short notes on

- a) Theories of criminology with examples**
- b) Criminal Profiling**

Unit III

Q. 3 Discuss the role and functioning of Lok Adalats, Lok Ayuktas, and Juvenile Courts in delivering justice.

OR

Write short notes on

- a) First Information Report (FIR)**
- b) Significance of case diaries in criminal investigations**

Unit IV

Q4. Explain the concept of an expert witness. How does the testimony of a forensic expert differ from an ordinary witness?

OR

Discuss the related laws and issues concerning forensic experts in India.

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Paper III: Analytical Instrumental Techniques in Forensics

Attempt four questions, one question from each unit.

MM: 30

Unit I

Q. 1 Describe the construction and working of a phase contrast microscope. How does it differ from a bright-field microscope?

OR

Explain the basic principles and working of electrophoresis and discuss its significance in forensic science.

Unit II

Q. 2 Describe the instrumentation of a UV–Visible spectrophotometer and Explain the advantages and limitations in forensic investigations.

OR

Describe the principle and instrumentation of a fluorescence spectrophotometer with a labelled diagram.

Unit III

Q. 3 Explain the basic principle of mass spectrometry and how it works. Discuss the forensic application of mass spectrometry.

OR

Describe the principle and applications of Fourier Transform Mass Spectrometry (FT-MS).

Unit IV

Q4. Explain the Instrumentation and application of Raman spectroscopy in structural analysis.

OR

Explain the principle and working of X-ray diffraction. How is it applied in forensic science?

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M. Sc. First Semester-Forensic Science Assignment October 2025 Paper IV: Advanced Forensic Toxicology

Attempt four questions, one question from each unit.

MM: 30

Unit I

Q. 1 Give a detailed account on different mode of Classification of Poisons.

OR

Define Veterinary Toxicology. Discuss its scope and importance in protecting animal and public health.

Unit II

Q. 2 Define Entomo-toxicology. Discuss its importance and forensic applications in poisoning cases.

OR

What are ptomaines? Describe poisoning cases due to ptomaines with suitable examples.

Unit III

Q. 3 Describe in detail the absorption, distribution, metabolism, and elimination of toxicants in the human body.

OR

Write short Notes

- a) Types of Antidotes
- b) Pharmacokinetics and Toxicokinetics

Unit IV

Q4. Describe the general principles and methods used in the analysis of poisons in forensic toxicology.

OR

Write short Notes

- a) Food Adulteration Act
- b) Method of analysis of metallic poisons