

S.S. Jain Subodh P.G. (Autonomous) College
M.Sc. Forensic Science Second Semester Examination, 2025-26

Assignment 2026

Paper I- Forensic Biological Sciences

Unit I

Q1. Describe the structure and functions of nucleic acids with suitable diagrams.

OR

Discuss the DNA fingerprinting and its impact on forensic investigations.

Unit II

Q2. Explain normal and pathological variations in biological fluids with respect to age, sex, and health status.

OR

Write a detailed note on **biological markers** and discuss their significance in forensic identification and interpretation.

Unit III

Q3. Write a detailed note on minor blood group antigens MN, I, P, Kell, Duffy, Kidd, Lewis, Lutheran, and Bombay blood group.

OR

Describe the morphological, anatomical, and microscopic examination of hair.

Unit IV

Q4. Discuss the application of DNA technologies in wildlife forensics.

OR

Discuss the principle and forensic significance of diatom examination in cases of suspected drowning.

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Assignment 2026

Paper II - Forensic Question Document and Fingerprint

Unit 1

Q1. Define Question Documents? State the evidences found in a Questioned Document and state the procedure of collection, handling and preservation of document?

OR

Explain VSC and ESDA for Forensic Document Examination?

Unit 2

Q2. Explain the principle of handwriting identification. Discuss class and individual characteristics of handwriting and the factors influencing handwriting of an individual?

OR

Define signatures. Describe authentic, forged, and disguised signatures. Discuss the methods adopted for comparison of handwriting and signatures in forensic examination?

Unit 3

Q3. Define fingerprints and explain the principles of fingerprints. Discuss the history and importance of fingerprints in personal identification?

OR

Describe the development of friction ridge skin and dermal ridges. Explain the composition of sweat and classify fingerprint patterns such as loops, arches, whorls, and composite patterns?

Unit -4

Q4. Describe the methods of collection of fingerprints from living and deceased individuals. Explain the techniques used for preservation and lifting of fingerprints?

OR

Explain poroscopy and edgeoscopy in fingerprint examination. Discuss ridge characteristics, standards of proof, and the role of AIFS in fingerprint comparison?

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Paper III – Crime Scene Management and Forensic Photography

Unit I

1. What is crime scene management? Describe the initial response at a crime scene and explain the sequence of actions.

OR

Give detailed account inter-agency coordination in crime scene management with reference to police, fire brigade and medico-legal experts.

Unit – II

2. Describe the methods of protecting a crime scene from contamination with suitable examples.

OR

Explain the point-to-point method of crime scene search and its significance.

Unit – III

3. Explain the principles of forensic photography, including accuracy, clarity, continuity and authenticity.

OR

What are the limitations of forensic photography and write the methods of them.

Unit – IV

4. Describe the legal and ethical aspects of forensic photography and videography.

OR

Explain how forensic photographs and videos are presented in courts of law.

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Paper IV - Basics of Digital Forensic

Unit1

Q1. Explain the different number systems—Binary, Octal, Decimal, and Hexadecimal. Describe the conversion techniques between number systems and discuss logical operations on the binary number system?

OR

Describe the basic architecture of a computer system. Explain the components of a computer. Discuss the structure of HDD and SSD?

Unit 2

Q2. Define computer forensics. Discuss the nature, sources, retrieval, and analysis of digital evidence. Explain the relationship between computer security and computer forensics?

OR

Describe the emergence of computer crime. Classify computer crimes and explain various cyber threats such as computer viruses (types), worms, Trojan horse, trap door and logic bomb. Also discuss the characteristics of computer crime and criminals?

Unit 3

Q3. Explain mobile phone forensics. Discuss the introduction, importance, and forensic tools used in mobile forensics with special reference to EnCase and I look Investigator?

OR

Explain the concept of digital signatures and cryptography. Discuss signatures in paper-based society, transfer of computer-based documents, digital signature generation and verification, certification of public keys, and role of certification authority?

Unit-4

Q4. Describe the principles of audio forensics. Explain voice identification and speaker recognition techniques including speech enhancement, speaker profiling, auditory analysis, spectrographic (voiceprint) analysis, and automatic speaker recognition. Add a note on audio authentication?

OR

Explain video and image forensics. Discuss video processing and enhancement, video authentication, metadata analysis, hash value generation, and video analysis techniques such as frame extraction, frame-by-frame and shot-by-shot analysis. Also describe collection, handling, preservation of video files, and introduction to CCTV forensics?