

# KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

(4 Pages)

Reg. No: .....

Question Code: 26E03403

Course Code : 24UMCF12/25UMCF12

UG Degree - End Semester Examinations, April 2026

First Semester

B.Sc. CRIMINOLOGY AND FORENSIC SCIENCE

Introduction to Forensic Science

(For those who joined in July 2024 and June 2025 onwards)

Time : 3Hours

Maximum : 75 Marks

## PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

- CO:1  
K:1
1. The first police laboratory was established by Edmond Locard in \_\_\_\_\_
- (a) Lyon, France (b) London, UK  
(c) Berlin, Germany (d) New York, USA
- CO:1  
K:1
2. The formal beginning of the Indian Forensic Science Laboratory system took place in...
- (a) 1947 at Delhi (b) 1961 at Delhi  
(c) 1952 at Kolkata (d) 1957 at Kolkata
- CO:2  
K:1
3. The Directorate of Forensic Science Services (DFSS) functions under the administrative control of \_\_\_\_\_
- (a) Ministry of Law and Justice (b) Ministry of social Justice and Empowerment  
(c) Ministry of Home Affairs (d) Ministry of Defence
- CO:2  
K:1
4. The Central Forensic Science Laboratories (CFSLs) are established mainly to serve the needs of \_\_\_\_\_
- (a) Only state Agencies (b) Both central and state agencies  
(c) Central investigating agencies (d) Private investigation Agencies

- CO:3 5. Trace evidence generally refers to which type of material.  
K:2
- (a) Small and visible substances (b) Only biological fluids
- (c) Microscopic and easily transferred substances (d) Macroscopic and easily transferred substances
- CO:3 6. When analysing residues found on a shooter's hands or clothing,  
K:1 the primary elements typically detected are \_\_\_\_\_
- (a) Iron, copper, and barium (b) Nickel, cobalt, and antimony
- (c) Lead, barium, and cobalt (d) Lead, barium, and antimony
- CO:4 7. Fibers recovered from clothing or furniture are primarily  
K:1 considered as \_\_\_\_\_
- (a) Individual evidence (b) Class evidence
- (c) Conditional evidence (d) Associative evidence
- CO:4 8. In investigations where linking a suspect to multiple crime scenes  
K:1 is critical, the most informative type of evidence is \_\_\_\_\_
- (a) Individual Evidence (b) Class Evidence
- (c) Trace Evidence (d) Circumstantial Evidence
- CO:5 9. The procedure that ensures evidence remains untampered from  
K:1 the time it is collected until it is presented in court is called as \_\_\_\_\_
- (a) Evidence trail (b) Evidence management
- (c) Custody log (d) Chain of custody
- CO:5 10. Physical evidence collected at a crime scene is generally regarded  
K:1 as \_\_\_\_\_
- (a) Intangible and Measurable evidence (b) Tangible and non-measurable evidence
- (c) Tangible and Measurable evidence (d) Intangible and non-measurable evidence

**PART - B (5 X 5 = 25 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 250 words.**

- CO:1 11. (a) Discuss how forensic science integrates multiple scientific disciplines to solve complex criminal cases.

K:4

**(OR)**

(b) Enlighten the basic principles of forensic science and illustrate each principle with suitable examples from criminal investigations.

CO:2 12. (a) Deliberate the significance of allied institutions such as  
K:3 NICFS, CDTS, and PTA in supporting forensic science in India.

**(OR)**

(b) Precise the hierarchical structure of forensic science laboratories in India and discuss the coordination between central and state bodies during investigations

CO:3 13. (a) Examine the meaning and importance of trace evidence in  
K:3 criminal investigations.

**(OR)**

(b) Evaluate the evidentiary value of gunshot residue and detective dyes in the reconstruction of firearm-related offences.

CO:4 14. (a) Explain the role of tyre marks and skid marks in accident  
K:4 investigations.

**(OR)**

(b) Analyse the differences between class characteristics and individual characteristics of physical evidence, with suitable examples.

CO:5 15. (a) Define chain of custody and explain its significance in  
K:4 forensic investigations.

**(OR)**

(b) Discuss the importance of crime scene reconstruction in solving complex cases

**PART - C (5 X 8 = 40 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 500 words.**

CO:1 16. (a) Compare and contrast Frye's Standard and Daubert Standard  
K:5 in terms of admissibility of scientific evidence in court.

**(OR)**

(b) Examine the historical development of forensic science in India and identify the factors that shaped its evolution into contemporary practice.

CO:2 K:3 17. (a) Assess the role of NCRB and BPRD in supporting forensic investigations and identify areas for improvement in coordination and data management.

**(OR)**

(b) Critically analyse the challenges faced by Indian forensic science establishments in comparison to international models.

CO:3 K:4 18. (a) Apply Locard's Principle of Exchange in a hit-and-run case where paint, glass, and fabric evidence are present, and outline the forensic investigation steps.

**(OR)**

(b) Examine the role of the Indian Evidence Act, 1872, in governing admissibility of trace evidence and expert testimony in courts.

CO:4 K:5 19. (a) Assess the strengths and limitations of tool mark evidence in linking suspects to specific crimes

**(OR)**

(b) Examine the limitations of dust and airborne particles as trace evidence and analyse how they assist in narrow down the suspects.

CO:5 K:4 20. (a) Assess the effectiveness of different search methods in various types of crime scenes.

**(OR)**

(b) Clarify the general procedures followed during crime scene management and appraise the need of systematic documentation.