

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN  
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)  
Chromepet, Chennai - 600 044.

M.Sc.Chemistry - END SEMESTER EXAMINATIONS - NOV'2024  
SEMESTER - I

**24PCHET1B01 - Introduction to Forensic Science**

Total Duration : 1 Hrs. 30 Mins.

Total Marks : 40

**Section B**

Answer any **TEN** questions ( $10 \times 2 = 20$  Marks)

1. Explain Locard's Exchange Principle.
2. What is meant by Criminalistics? What it includes?
3. List out the basic terms used in the forensic science during the time of crime investigation.
4. How is the Griess test used in forensic science?
5. What are Short Tandem Repeats (STRs)?
6. Illustrate the primary objective of collecting blood sample in the investigation.
7. What is meant by LD50 and how it is necessary in the forensic science?
8. Classify the techniques that are helpful to identify and quantify molecules present in the sample.
9. Categories the types of illegal drugs in the narcotics.
10. Differentiate internal and external Ballistics.
11. What is meant by latent fingerprints?
12. What would be the notable characteristic of mitochondria DNA?

**Section C**

I - Answer any **FOUR** questions ( $4 \times 5 = 20$  Marks)

13. Explain the role of forensic science in establishing *Actus Reus* and *Mens Rea* in criminal cases.
14. Design a forensic protocol for analysing a suspected overdose case using chromatography and spectrometry techniques.
15. Evaluate the impact of Short Tandem Repeats (STR) in increasing the accuracy of DNA profiling in forensic investigations.

**Contd...**

16. Describe how low, medium, and high-velocity blood spatters differ and what they indicate about the crime.
17. How can forensic entomology assist in determining the time of death?
18. Analyze the statement "The dose makes the poison" by Paracelsus and discuss its relevance in modern toxicology.

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