



QP CODE: 24800574



Reg No : .....

Name : .....

**INTEGRATED MSC DEGREE EXAMINATION, DECEMBER 2023**

**Sixth Semester**

INTEGRATED MSC BASIC SCIENCE-CHEMISTRY

**Elective - ICH6ELA1 - FORENSIC SCIENCE**

2020 Admission Onwards

093332FF

Time: 3 Hours

Weightage: 30

**Part A (Short Answer Questions)**

*Answer any **eight** questions.*

*Weight 1 each.*

1. What are the five key clinical symptoms that healthcare professionals look for when diagnosing poisoning in living individuals?
2. What are the potential limitations or challenges of NAA in arsenic analysis?
3. How do bomb disposal experts and law enforcement agencies safely handle and disarm explosive devices containing RDX?
4. What is the purpose of the silver line watermark in currency notes, and how does it enhance security?
5. Explain the concept of gold-plated jewelry and how it differs from solid gold jewelry in terms of composition.
6. Name any 5 techniques used to examine and compare tool marks
7. What databases or reference samples are often used in DNA fingerprinting for tissue identification, and how do they aid in matching unidentified tissue to individuals or missing persons?
8. Explain the classifications of burns (e.g., first-degree, second-degree, third-degree) and the criteria used to determine their severity.
9. Write a brief note on metabolite analysis using gas chromatography?
10. Explain the concept of flashover and backdraft in fires. What conditions lead to these phenomena

(8×1=8 weightage)





### **Part B (Short Essay/Problems)**

*Answer any **six** questions.*

*Weight 2 each.*

11. Explain the bioaccumulation and biomagnification processes of heavy metals in marine food chains. How do these processes contribute to the higher concentrations of these metals in larger predatory fish?
12. Discuss the general treatment given to a poisoned person
13. What is the importance of using surveillance cameras in VVIP security, and how do they complement other security measures?
14. What distinguishes traced signatures from other types of forgeries, and how do investigators determine if a signature has been traced?
15. What techniques are used to assess the age of typewritten documents when conducting forensic examinations?
16. Discuss the significance of saliva analysis in forensic cases, including its potential use in identifying suspects or victims
17. What are the potential consequences of steroid use in sports and racing?
18. Classify firearms based on their operation and design.

(6×2=12 weightage)

### **Part C (Essay Type Questions)**

*Answer any **two** questions.*

*Weight 5 each.*

19. Elaborate on the different types of poisons and discuss its classification.
20. What factors influence the extent and appearance of powder burns, and how can they be used in forensic investigations?
21. How can document security features, such as watermarks or tamper-evident materials, deter or detect attempts to modify writing in documents?
22. Describe the role of foot prints in forensic investigations. Explain the process of casting footprints at a crime scene. What materials and techniques are commonly used for this purpose?

(2×5=10 weightage)

