

18. What are the different types of blood stain patterns that can be encountered in crime scenes, and how are they used in reconstruction?
  19. Why is the proper collection and preservation of entomological evidence crucial in forensic investigations? What are the systematic ways to ensure proper collection of entomological evidences?
  20. Explain the role of forensic science in combating wildlife crimes and how it helps in the prosecution of offenders.
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**S.No. 3455**

**19 SCCFS 7**

(For candidates admitted from 2019–2021 batch)

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.**

**Part III — Forensic Science – Major**

**FORENSIC BIOLOGY AND SEROLOGY**

**Time : Three hours**

**Maximum : 75 marks**

**SECTION A — (10 × 2 = 20)**

**Answer ALL questions.**

1. How can hair be used as biological evidence in forensic investigations?
2. What is forensic palynology, and how does it assist in criminal investigations?
3. What are the main components of blood, and what percentage of the human body's total volume does blood represent?
4. What are the key components of saliva, and how do they contribute to its forensic significance in DNA analysis?
5. What all are the methods for the documentation of blood stain patterns?

6. What are passive blood stain patterns, and how do they form at a crime scene?
7. How can forensic entomologists determine the temperature at the crime scene based on insect specimens collected?
8. In what type of cases can entomological evidence be particularly valuable for forensic investigators?
9. Name any four protected species in India.
10. Give examples for critically endangered and endangered species.

SECTION B — (5 × 5 = 25)

Answer ALL the questions, choosing either (a) or (b).

11. (a) Explain how wood identification is performed in forensic analysis, and what factors are considered.

Or

- (b) Elaborate the biochemistry of hair sample.

12. (a) What are some common tools and materials used for the collection of blood evidence at a crime scene?

Or

- (b) Why is the presence of spermatozoa in forensic evidence significant in sexual assault cases?

13. (a) What are the primary factors that influence the appearance of a bloodstain, and how do they affect its characteristics?

Or

- (b) Write a detailed note on different types of blood stain patterns and its significance in crime investigations.

14. (a) What role can forensic entomology play in cases involving buried bodies or clandestine graves?

Or

- (b) What steps should be taken when collecting insect specimens from a crime scene?

15. (a) How often is the IUCN Red List updated, and what leads to changes in a species' conservation status?

Or

- (b) Describe the conservation status of a species based on its population and distribution.

SECTION C — (3 × 10 = 30)

Answer any THREE questions.

16. Discuss in detail about morphology of hair with the help of a neat diagram.
17. How urine, sweat and saliva can be valuable in forensic investigations?