

Faculty of Science

End Semester Examination May 2025

FS3SE03 Scientific Investigation

Programme	:	B. Sc. (Hons.)	Branch/Specialisation	:	FS
Duration	:	3 hours	Maximum Marks	:	60

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))

Q1. Which of the following is a major challenge in criminal investigation?

Marks CO BL
1 1 1

Rubric	Marks
Lack of proper training for investigators	1

- Easy access to suspects Proper maintenance of crime scene records
 Lack of proper training for investigators Availability of high-end technology

Q2. Which report is crucial in crime scene investigation?

1 2 1

Rubric	Marks
Crime scene report	1

- Media report Suspect list
 Forensic report Crime scene report

Q3. Which of the following is not an example of transfer blood spatter pattern?

1 2 1

Rubric	Marks
Drip	1

- Drip Wipe
 Swipe Perimeter

Q4. Which of the following is not the other name of striation tool mark?

1 2 1

Rubric	Marks
Compression	1

- Slipped Sliding
 Compression Abrasion

Q5. Skeletal remains are analyzed to determine:

1 3 1

Rubric	Marks
Height, age, and gender of the individual	1

- Height, age, and gender of the individual Time of death accurately
 Cause of death Blood group of the victim

Q6. Which characteristic is commonly seen in accidental deaths?

1 3 1

Rubric	Marks
Random, blunt-force trauma	1

- Premeditated acts
 Random, blunt-force trauma
 Multiple sharp injuries
 Intentional overdose

Q7. What is the primary objective of vehicle identification in investigations?

1 4 1

Rubric	Marks
To link vehicles to crimes	1

- To determine the vehicle's manufacturer
 To link vehicles to crimes
 To track stolen vehicles
 To evaluate vehicle performance

Q8. In hit-and-run cases, which evidence is most significant?

1 4 1

Rubric	Marks
CCTV footages	1

- Blood stains only
 Driver's fingerprints
 Tire marks and paint traces
 CCTV footages

Q9. Which section of the Bharatiya Nyaya Sahita (BNS) deals with extortion?

1 5 1

Rubric	Marks
308(1)	1

- 303(1)
 316(1)
 308(1)
 323

Q10. What is the primary cause of blast injuries in explosions?

1 2 1

Rubric	Marks
Shock waves	1

- Fragmentation
 Shock waves
 Heat radiation
 Flame ignition

Section 2 (Answer all question(s))

Marks CO BL

Q11. List two common challenges in criminal investigation.

2 1 1

Rubric	Marks
Name of two common challenges in criminal investigation with descriptions: 2 marks	2

Q12. (a) Explain the detailed police procedures in modern crime investigation.

8 1 2

Rubric	Marks
define procedure 4 and steps 4	8

(OR)

(b) Explain different types of methods for documenting a crime scene.

Rubric	Marks
photography 2.5 marks	
videography 2.5 marks	
note making 3 marks	8

Section 3 (Answer all question(s))

Marks CO BL
3 2 2

Q13. Explain the importance of gait pattern analysis.

Rubric	Marks
Defination: 1 marks and importance: 2 marks	3

Q14. (a) Explain different types of bite marks with diagram.

7 2 2

Rubric	Marks
Defination of bite mark: 2 marks and description of bite marks: 5 marks	7

(OR)

(b) What is Modus Operandi? Explain the characteristic features of Portrait Parle.

Rubric	Marks
Definition of modus operandi: 2 marks, at least 8 characteristic feature of Portrait Parle: 5Marks	7

Section 4 (Answer all question(s))

Marks CO BL
4 3 2

Q15. Describe the forensic significance of skeletal remains.

Rubric	Marks
Forensic significance of skeletal remains- 4 marks	4

Q16. (a) Explain the process of investigating death by asphyxia.

6 3 3

Rubric	Marks
Types of asphyxia 2 marks and investigation process 4 marks	6

(OR)

(b) Describe the steps involved in firearms investigation.

Rubric	Marks
What is firearm investigation: 1 mark, 5 steps: 5 marks	6

Section 5 (Answer all question(s))

Marks CO BL
2 4 2

Q17. What are the important evidences in hit-and-run cases?

Rubric	Marks
Name of primary evidence in hit-and-run cases: 2 marks	2

Q18. (a) Discuss the methods used to investigate aircraft accidents.

8 4 1

Rubric	Marks
Different methods used to investigate aircraft accidents 6 marks and forensic importance 2 marks	8

(OR)

- (b)** What are the factors considered in rail accident investigations? Explain with one case study.

Rubric	Marks
Factor 6 marks and case study 2 marks	8

Section 6 (Answer all question(s))

Marks CO BL
3 5 2

Q19. Write a note on Theft Act (1968).

Rubric	Marks
Define: 1 mark, note: 2 marks	3

Q20. (a) Describe the investigating process in case of bank fraud.

7 5 2

Rubric	Marks
introduction and types of bank fraud 3 marks and investigation 4 marks	7

(OR)

- (b)** Explain BNS sections pertaining to offenses against crime. (Any four)

Rubric	Marks
4 different sections: 7 Marks	7
