



# Faculty of Science

## End Semester Examination May 2025

### FS3SE03 Scientific Investigation

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

Marks CO BL

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

1 1 1

Rubric	Marks
Lack of proper training for investigators	1

- ☐ Easy access to suspects  
☒ Lack of proper training for investigators

☐ Proper maintenance of crime scene records  
☐ 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  
☐ Forensic report

☐ Suspect list  
☒ 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  
☐ Swipe

☐ Wipe  
☐ Perimeter

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

1 2 1

Rubric	Marks
Compression	1

- ☐ Slipped  
☒ Compression

☐ Sliding  
☐ 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  
☐ Cause of death

☐ Time of death accurately  
☐ 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 ☐ Multiple sharp injuries  
☒ Random, blunt-force trauma ☐ 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 track stolen vehicles  
☒ To link vehicles to crimes ☐ 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 ☐ Tire marks and paint traces  
☐ Driver's fingerprints ☒ CCTV footages

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

1 5 1

Rubric	Marks
308(1)	1

- ☐ 303(1) ☒ 308(1)  
☐ 316(1) ☐ 323

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

1 2 1

Rubric	Marks
Shock waves	1

- ☐ Fragmentation ☐ Heat radiation  
☒ Shock waves ☐ 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

**Q13.** Explain the importance of gait pattern analysis.

3 2 2

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

**Q15.** Describe the forensic significance of skeletal remains.

4 3 2

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

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

2 4 2

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

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

3 5 2

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

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