


Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, Dec. 2021

Course: Forensic Science

Semester: V

Programme: BSC LLB (H)IPR

Time: 03 hrs.

Course Code: CLNL 3005

Max. Marks: 100

SECTION A

S. No.	1. Each Question will carry 2 Marks. 2. Attempt All Questions.	Marks	CO
Q 1	<p>A half eaten sandwich, apparently abandoned by a criminal recently, is found at a crime scene. Which of the following forensic science laboratories would be least interested in it?</p> <ol style="list-style-type: none"> 1. Odontology lab 2. Dna lab 3. Blood typing lab 4. Entomology lab 	2	CO1
Q 2	<p>A body is found. The skin temperature is found to be 86 °F (30 °C). Assume normal physiological temperature to be 99 °F (37 °C). From this, we can conclude that</p> <ol style="list-style-type: none"> 1. we can conclude nothing because skin temperature is not a reliable indicator. 2. the person has been dead for less than 10 hours. 3. the person has been dead for 8-12 hours. 4. the person has been dead for over 10 hours. 	2	CO1
Q 3	<p>The Kastle-Meyer test can</p> <ol style="list-style-type: none"> 1. prove that a stain is blood. 2. indicate blood type. 3. indicate that a stain is likely to be blood. 4. test for the presence of vegetables. 	2	CO1
Q 4	<p>The techniques of DNA fingerprinting can (in principle) be used by forensic scientists with</p> <ol style="list-style-type: none"> 1. humans only. 2. any species. 3. animals only. 	2	CO1

	4. mammals only.		
Q 5	The most useful method for determining the chemical composition of a fibre is 1. TLC. 2. SEM-EDX. 3. a flame test. 4. Infra-red spectroscopy.	2	CO1
SECTION B			
S.No.	1. Each Question will carry 5 Marks 2. Instruction: Answer all the questions.	20	CO
Q 6	Discuss the applications of forensic science.	5	CO2
Q 7	Explain the locard exchange principle.	5	CO2
Q 8	Explain element analysis use in forensic science	5	CO2
Q 9	Explain the “factors considered” to determine time of death	5	CO2
SECTION C			
S.No.	1. Each Question will carry 10 Marks 2. Instruction: Attempt all.	20	CO
Q 10	Analyze the principles of fingerprint with the help of case laws.	10	CO 3
Q11	Analyze the use of fibres and polymers in forensic science with the help of leading cases.	10	CO 3
SECTION D			
S.No	1. Instruction: Attempt all.	50	CO
You are instructed to refer to Annexure 1 and answer the question 12 & 13.			
12	A. What marks would you expect to find on the attacker? Explain your answer. B. The blood stains near the TV and the bookshelf are found to be type O+. The blood stains on the armchair and between the armchair and the door are either type O+ or AB-. Explain your answer. C. A blood stained ashtray (below) is found on the floor by the table. A junior police officer suggests that the victim was killed by a blow from this ashtray. Is this likely to be true ?	30	CO4



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- D. Considering all of the evidence presented, which part(s) do you consider to be unreliable? Explain your answer.
- E. Most of the blood spatter is on the West wall of the apartment, but the body is against the North wall. The junior police officer suggests that the body was moved after death. Do you agree with this suggestion? Explain why and, if you disagree, give your explanation of this fact.

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C04

Annexure A

The Ang Mo Kio Case

Acting on information, police enter a fourth floor apartment in Ang Mo Kio at 4 a.m. They find the dead body of an adult female on the floor of the front room, at the foot of the book shelf. She is lying face down. There is no sign of any disturbance in any other room, but bloodstains are found on the stairs leading to the ground. Inspection of the body reveals severe bruising and abrasion to the head and abdomen. There is some discolouration of the front of her body. The medical examiner subsequently determines that death was caused by a severe blow to the head, leaving a circular indentation and causing a fracture of the skull. The rectal body temperature is found to be 33°C. You may take normal body temperature as 37°C. The temperature in the room is 27°C. There is no air conditioning. The arms but not the legs are stiff.

Enquiries yield the following information. Witness 1, who lives in a neighbouring apartment, reports hearing a disturbance in the apartment at 10 p.m. Witness 2 reports that the resident of the apartment was on bad terms with the landlords, Mr. and Mrs. A, and their two sons. Witness 3, who was looking out of his window from the opposite apartment block, reports seeing the sons of Mr. and Mrs. A leaving the victim's block soon after 11 p.m..

Scrapings from under the deceased fingernails provide material for DNA analysis. The STR gel electrophoresis of this material and some suspects are shown in figure 1.

Diagrams showing blood spatter patterns in the room are shown (figures 2-4).

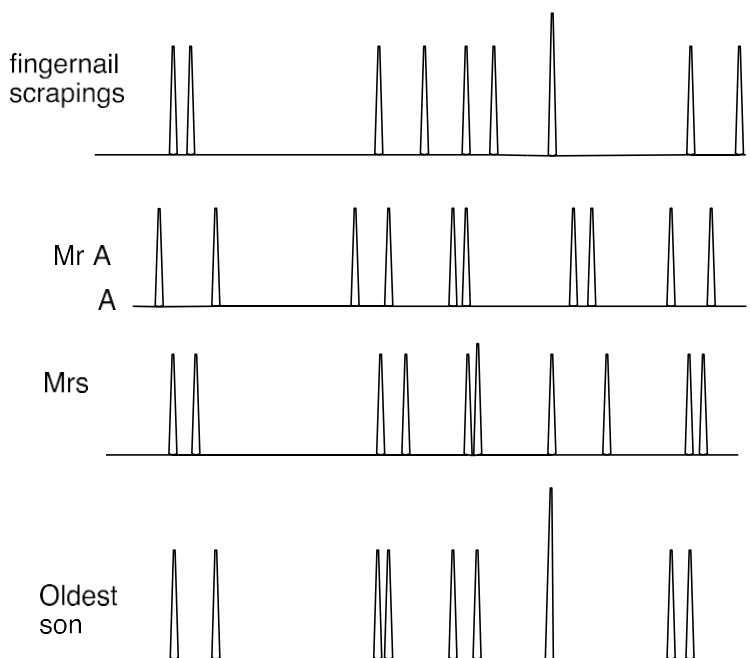


figure 1: DNA analysis

FLOOR PLAN

● Blood Spots on Floor

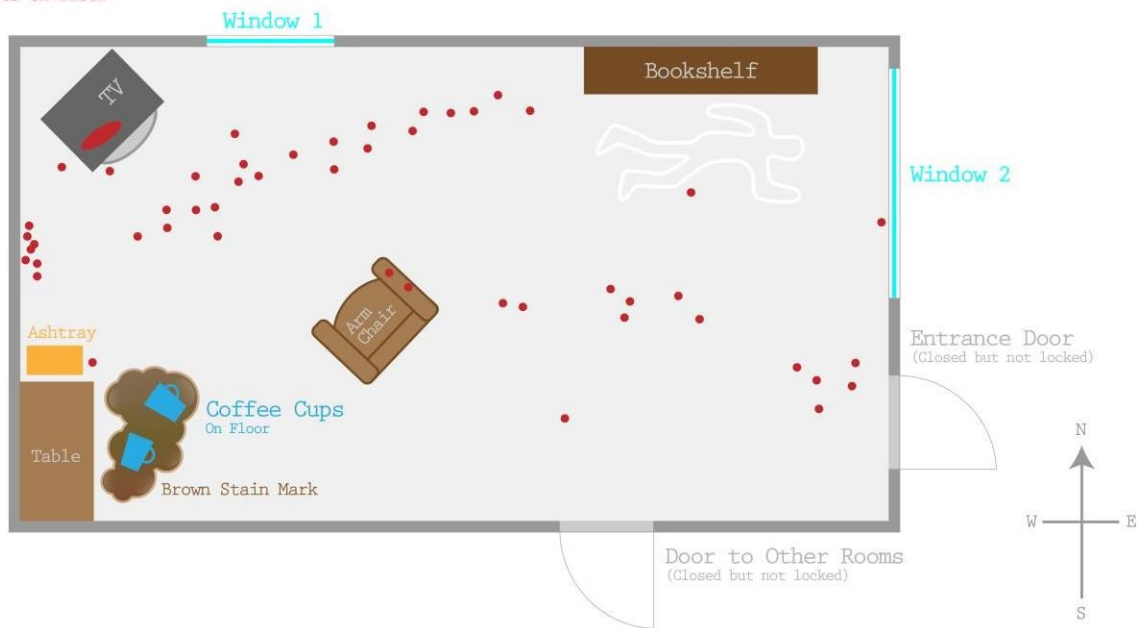


figure 2: plan of room

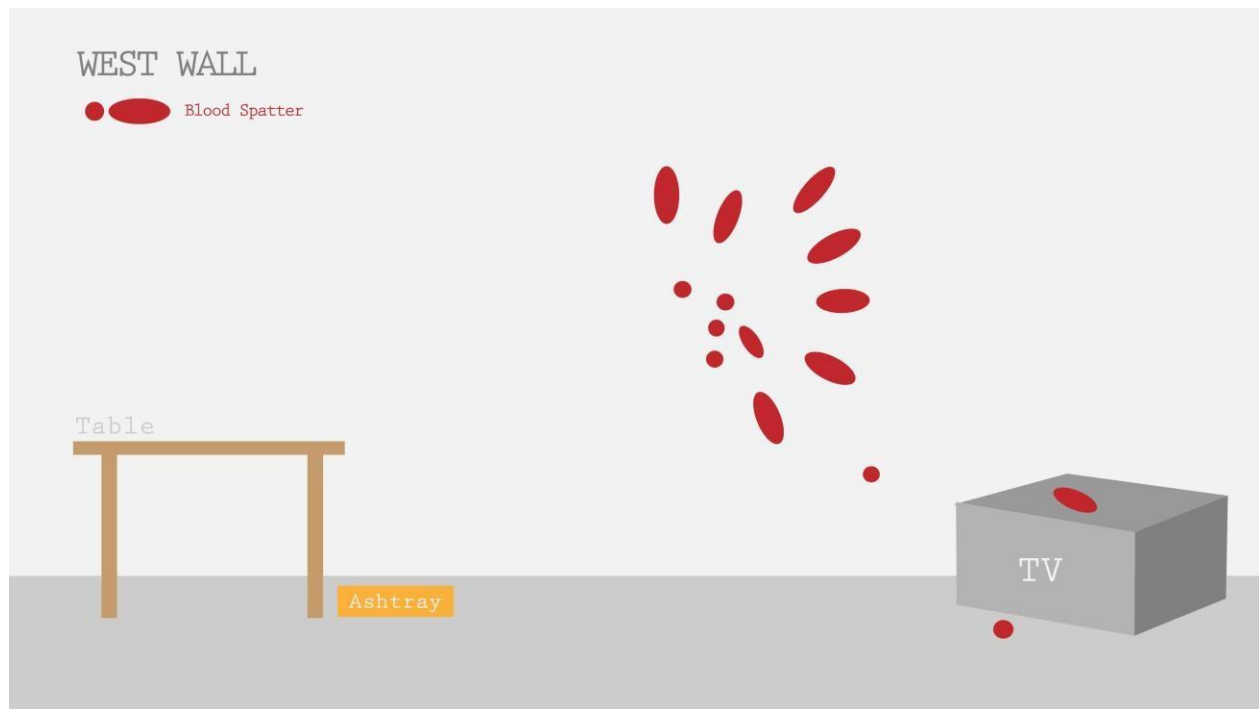


figure 3: West wall

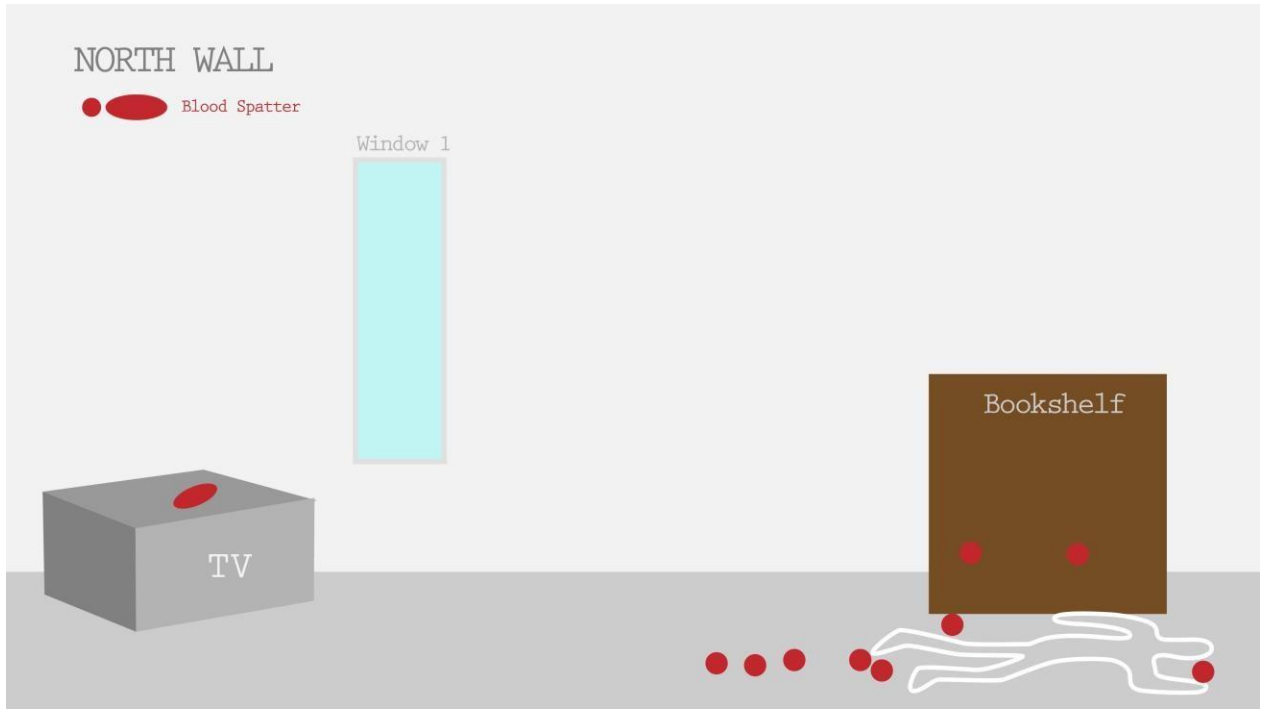


figure 4: North wall