

Total No. of Questions: 6

Total No. of Printed Pages:2

Enrollment No.....



Faculty of Science
End Sem (Odd) Examination Dec-2022
FS3EL01 Forensic Physics

Programme: B.Sc. (Hons.)

Branch/Specialisation:
Forensic Science

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

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|-----|------|---|---|
| Q.1 | i. | What is another name of spraying graffiti? | 1 |
| | | (a) Automotive paint (b) Vandal painting | |
| | | (c) Wall painting (d) All of these | |
| | ii. | MSP stand for- | 1 |
| | | (a) Micro spectrography (b) Micro spectrophotography | |
| | | (c) Micro spectrophotometry (d) None of these | |
| | iii. | Cone fracture helps to determine- | 1 |
| | | (a) Direction of external force (b) Ingress of criminal | |
| | | (c) Egress of criminal (d) Strength of glass | |
| | iv. | Wind glass of automobile is composed of- | 1 |
| | | (a) Borosilicate glass (b) Ordinary glass | |
| | | (c) Tempered glass (d) Fused-silica glass | |
| | v. | Mineral analysis of soil can be done by- | 1 |
| | | (a) SEM-EDX (b) SEM | |
| | | (c) Compound microscope (d) Stereo microscope | |
| | vi. | Petrography is the study of- | 1 |
| | | (a) Soil (b) Pollen grains | |
| | | (c) Rock (d) All of these | |
| | vii. | Ignition loss test is _____, used for cement analysis. | 1 |
| | | (a) Physical examination (b) Chemical examination | |
| | | (c) Molecular examination (d) None of these | |

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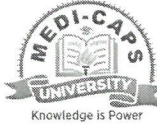
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|-----|-------|--|----------|
| | viii. | Soundness measures the- | 1 |
| | | (a) Sound produced when a block of cement falls on a hard surface | |
| | | (b) Strength of cement | |
| | | (c) Strength of soil | |
| | | (d) Strength of glass | |
| | ix. | Optical fibre comes under- | 1 |
| | | (a) Natural fiber | |
| | | (b) Unnatural fiber | |
| | | (c) Synthetic fiber | |
| | | (d) Automobile fiber | |
| | x. | Multiple matching of fibre- | 1 |
| | | (a) Increases the significance of fiber | |
| | | (b) Decrease the significance of fiber | |
| | | (c) Incorrect statement | |
| | | (d) None of these | |
| Q.2 | i. | What is forensic physics? | 2 |
| | ii. | Write about the collection and preservation of paint. | 3 |
| | iii. | What are the different types of paint? Write their chemical composition. | 5 |
| OR | iv. | Give a detailed note on automobile paint and its forensic significance. | 5 |
| Q.3 | i. | What is becke-line? How it is forensically important? | 2 |
| | ii. | What is glass? Write about its types and their forensic significance. | 8 |
| OR | iii. | What is glass fracture? What are the different types of glass fracture? | 8 |
| Q.4 | i. | Explain the composition of soil. | 3 |
| | ii. | What are the various soil horizons? Explain it with a diagram. | 7 |
| OR | iii. | Explain the different analysis techniques for soil analysis. | 7 |
| Q.5 | i. | What is the difference between cement and concrete? What is the forensic significance of cement? | 4 |

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|-----|------|--|----------|
| | ii. | Give a detailed note on bromoform test and ignition loss test for cement. | 6 |
| OR | iii. | What is cement adulteration? Explain the various identification methods for cement adulteration. | 6 |
| Q.6 | | Attempt any two: | |
| | i. | What is fibre? Write about the forensic significance of fibre. | 5 |
| | ii. | What are the different types of fibre? Give example. | 5 |
| | iii. | Explain about the different analysis methods for fibre. | 5 |

Scheme of Marking

	<p style="text-align: center;">Faculty of Science End Sem (Odd) Examination Dec-2022 Forensic Physics FS3EL01</p>		
	Programme: B.Sc.		Branch/Specialisation:

Note: The Paper Setter should provide the answer wise splitting of the marks in the scheme below.

Q.1	i)	b. vandal painting @ Automotive Paint	1
	ii)	c. micro spectrophotometry	1
	iii)	a. Direction of external force	1
	iv)	c. Tempered glass ✓	1
	v)	a. SEM-EDX ✓	1
	vi)	c. Rock ✓	1
	vii)	a. Physical examination • ⑤ Chemical	1
	viii)	b. Strength of cement ✓	1
	ix)	c. synthetic fibre • ④ Automobile fibre	1
	x)	a. increases the significance of fibre ✓	1
Q.2	i.	Definition	1
		role	1
	ii.	Collection and preservation methods - 3 points	3
	iii.	Types of paint	5
OR	iv.	Various layers of automotive paint -	3
		Forensic significance	2
Q.3	i.	Definition	1
		Forensic significance	1
	ii.	Glass definition	2
		types - diagram ✓	6
OR	iii.	Glass fracture definition	2
		Fracture types - diagram	6
Q.4	i.	Soil definition	1

		Various composition -	2
	ii.	Diagram -	3
		explanation -	4
OR	iii.	Analysis technique	7
Q.5	i.	Difference - 2 points	2
		Forensic significance -	2
	ii.	Bromoform test - observation / process / app.	3
		Ignition loss test - - +1 -	3
OR	iii.	Cement adulteration definition - defi.	2
		Analysis methods - 4 Methods.	4
Q.6			
	i.	Fibre definition -	2
		Forensic significance -	3
	ii.	Types of fibres - classification with eg.	5
	iii.	Analysis methods - physical / chemical	5
