Enrollment No......................................

Faculty of Science
End Sem Examination Dec 2024
FS3CO19 Forensic Dermatoglyphics

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. Assume suitable data if necessary. Notations and symbols have their usual meaning.

			Marks	BL	PO	CO	PSO
Q.1	i.	In which year did Sir Edward Henry introduce the fingerprint classification system in India?	1	1	1	1	
		(a) 1895 (b) 1897					
		(c) 1899 (d) 1920					
	ii.	Ridge characteristics are commonly known as-	1	1	1	2	
		(a) Henry details (b) Richard details					
		(c) Bifurcation details (d) Galton details					
	iii.	The ridge tracing technique is used for:	1	2	1	1	
		(a) Counting the ridges between core and delta					
		(b) Following the course of the ridges to determine patterns					
		(c) Identifying patterns based on minutiae					
		(d) Tracking bifurcations in loops					
	iv.	Which of the following is a minutiae point in fingerprints?	1	1	1	2	
		(a) Ridge ending (b) Core					
		(c) Delta (d) Type lines					
	v.	Which classification step is specifically designed to reduce the number of potential fingerprint matches by focusing on patterns in the index fingers?	1	1	2	3	
		(a) Final classification					
		(b) Key classification					
		(c) Primary classification					
		(d) Secondary classification					

vi. Key Classification takes into account: **1** 1 3 3
(a) Right thumb and left thumb
(b) Right Index and left Index
(c) Only the right thumb
(d) Only the right little

vii. Ninhydrin reacts with which component of sweat to develop fingerprints: **1** 1 2 4
(a) Amino Acids (b) Water
(c) NaCl (d) Urea

viii. Which of the following is used to develop fingerprints on non-porous surfaces: **1** 1 1 4
(a) Ninhydrin (b) Silver nitrate
(c) Cyanoacrylate (d) All of these

ix. Which area of the palm print is located at the base of the fingers? **1** 1 1 5
(a) Thenar region
(b) Interdigital region
(c) Hypothenar region
(d) Proximal phalanges

x. What is the most common pattern type found in palm prints? **1** 1 1 5
(a) Arches
(b) Loops
(c) Whorls
(d) Ridges and flexions

Q.2 i. Name the two Indian scientists which has contribution in fingerprint science. **2** 1 1 1

ii. Write the importance and functions of fingerprint bureau. **3** 2 1 1

iii. Give reason why fingerprint patterns are important physical evidence. **5** 2 1 1

OR iv. Elaborate the fundamental principles of fingerprinting. **5** 2 1 1

Q.3 i. List the names with definition of types of fingerprint. **2** 1 1 2

ii. Differentiate between ridge tracing and ridge counting with labelled diagram. **8** 2 1 2

OR iii. Define fingerprint characteristics/minutiae, elaborate its types and give its forensic importance. **8** 2 1 2

Q.4 i. Briefly explain the importance of AFIS. **3** 3 2 3

ii. Explain in detail the procedure of primary classification. **7** 3 2 3

OR iii. Write short note on following: **7** 3 2 3
(a) Secondary classification system
(b) Final classification system

Q.5 i. Discuss the application of light sources in fingerprint detection. **4** 3 1 4

ii. Explain latent fingerprint detection using physical and chemical techniques. **6** 3 1 4

OR iii. Describe the procedure, how we can take Fingerprints from the dead body. **6** 3 1 4

Q.6 Attempt any two:
i. What are palm prints? Give its forensic importance. **5** 3 1 5

ii. Describe the types of palm prints patterns and ridge characteristics. **5** 3 1 5

iii. Elaborate the classification of palm print in details. **5** 3 1 5

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Marking Scheme

FS3CO19 (T) Forensic Dermatoglyphics (T)

Q.1	i)	(b) 1897	**1**
	ii)	(d) Galton Details	**1**
	iii)	(b) Following the course of the ridges to determine patterns	**1**
	iv)	(a) Ridge Ending, b) core and c) Delta	**1**
	v)	(d) Secondary Classification	**1**
	vi)	(c) Only the Right Thumb	**1**
	vii)	(a) Amino Acids	**1**
	viii)	(c) Cyanoacrylate	**1**
	ix)	(b) Interdigital region	**1**
	x)	(d) Ridges and Flexions	**1**

Q.2	i.	Name the two Indian scientists which has contribution in fingerprint science.	**2**
	ii.	Write the importance and functions of fingerprint bureau.	**3**
	iii.	Give reason why fingerprint patterns are important physical evidence.	**5**
OR	iv.	Elaborate the fundamental principles of fingerprinting.	**5**

Q.3	i.	List the names with definition of types of fingerprint.	**2**
	ii.	Differentiate between Ridge tracing and Ridge counting with labelled diagram.	**8**
OR	iii.	Define Fingerprint characteristics/minutiae, elaborate its types and give its forensic importance.	**8**

Q.4	i.	Briefly explain the importance of AFIS.	**3**
	ii.	Explain in detail the procedure of primary classification.	**7**
OR	iii.	Write short note on following: (a) Secondary classification system (b) Final classification system	**7**

Q.5	i.	Discuss the application of light sources in fingerprint detection.	**4**
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Q.6		Attempt any two:	
	i.	What are palm prints? 2 marks Give its forensic importance. 3 marks	**5**
	ii.	Describe the types of palm prints patterns and ridge characteristics.	**5**
	iii.	Elaborate the classification of palm print in details.	**5**

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