

Enrollment No.....



Faculty of Science

End Sem (Odd) Examination Dec-2022

FS3CO08 Advancement in Forensic Science

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.

- Q.1 i. Body parts associated with Human vocal system are: **1**
 (a) Epiglottis (b) Trachea
 (c) Larynx (d) All of these
- ii. Analyse the speech sample from, dialect, sociolect, **1**
 accent, grammar, etc
 (a) Forensic Audiologist (b) Forensic Toxicologist
 (c) Forensic Linguist (d) None of these
- iii. Questionnaire framed for Polygraph test includes which type of **1**
 questions?
 (a) Accusatory questions (b) Non-Leading Questions
 (c) Leading Questions (d) All of these
- iv. The psychological stress evaluator works on which trait- **1**
 (a) Voice (b) Sweat (c) Pulse (d) Respiration
- v. Brain waves studied in Brain Fingerprinting is: **1**
 (a) P300 (b) P30 (c) P3000 (d) P03
- vi. Brain fingerprinting involves the use of..... to check deception? **1**
 (a) Stress (b) Voice (c) Memory (d) Sweat
- vii. Facial reconstruction done by making sculptures from modelling clay **1**
 and other different materials is known as:
 (a) Skull Superimposition (b) 3D Reconstruction
 (c) 2D reconstruction (d) Positive Reconstruction
- viii. Superimposition technique in which photograph of a deceased person **1**
 is matched with skull of a deceased person is
 (a) Photographic Superimposition (b) Computer aided
 (c) Videographic Superimposition (d) None of these

P.T.O.

- ix. Bloodstain pattern caused when a blood ejects out with force due to **1**
 rupture of artery is known as:
 (a) Contact bloodstain Pattern (b) Cast off Bloodstain Pattern
 (c) Impact bloodstain Pattern (d) Projected bloodstain Pattern
- x. When the center of a dried bloodstain flakes away and leaves a visible **1**
 outer rim, the result is referred to as:
 (a) Smudge (b) Skeletonised blood
 (c) Smear (d) Swipe

- Q.2 i. Define Phonetics and Syntax with respect to Forensic Linguistics. **2**
 ii. Differentiate between Language and Speech. **3**
 iii. Explain human anatomy of vocal tract, with the help of a diagram. **5**
 OR iv. Discuss any two techniques of forensic analysis of vocal sound. **5**
- Q.3 i. Write the names of instruments used for polygraph test. **2**
 ii. Discuss in detail the questionnaire formulation of polygraph test. **8**
 OR iii. What is the working principle of polygraph test? Discuss in detail about **8**
 the procedure of Polygraph test.
- Q.4 i. Discuss in brief about admissibility of Brain Mapping in court of law. **3**
 ii. Discuss the stimuli used and procedure of Brain Fingerprinting in **7**
 detail.
 OR iii. Describe about MERMER and analysis of Brain waves for Detection **7**
 of Deception.
- Q.5 i. What do you mean by superimposition? Discuss in brief, any three **4**
 superimposition techniques used for identification.
 ii. Describe Photographic Superimposition and Videographic **6**
 Superimposition techniques.
 OR iii. What is Somatoscopy? Discuss its parameters which can help in facial **6**
 reconstruction
- Q.6 Attempt any two:
 i. Write a short note on characteristics of Bloodstain. **5**
 ii. Explain the following: **5**
 (a) Contact Bloodstain Pattern (b) Projected Bloodstain Pattern
 iii. Discuss documentation of bloodstain pattern. **5**

Marking Scheme
FS3CO08 Advancement in Forensic science

Q.1	i)	All of the above	1
	ii)	Forensic Linguist	1
	iii)	Leading Questions	1
	iv)	Voice	1
	v)	P300	1
	vi)	Memory	1
	vii)	3D Reconstruction	1
	viii)	Photographic Superimposition	1
	ix)	Projected bloodstain Pattern	1
	x)	Skeletonised Blood	1
Q.2	i.	Define Phonetics and Syntax with respect to Forensic Linguistics Definition of Phonetics- 1 Mark Definition of Syntax – 1 Mark	2
	ii.	Differentiate between Language and Speech Each point of differentiation carries 0.5 Marks (0.5x6 =3)	3
	iii.	Write a note on human anatomy of vocal tract Diagram – (1 Marks) Explanation – (4 Marks)	5
OR	iv.	Discuss any two techniques of forensic analysis of vocal sound Each technique carries 2.5 Marks (2X2.5= 5)	5
Q.3	i.	Write the names of instruments used for polygraph test. Names of atleast two instruments 1 mark for each instrument (1 mark * 2)	2
	ii.	Discuss in detail the questionnaire formulation of polygraph test Introduction (2 Marks) Types of questions (Each type carries 2 Marks, Relevant, Irrelevant and Control Questions) (2X3=6 Marks)	8
OR	iii.	What is the working principle of polygraph test? Discuss in detail about the procedure of Polygraph test Principle of Polygraph test (2 Marks) Procedure of Polygraph Test (6 Marks)	8
Q.4	i.	Discuss admissibility of Brain Mapping in court of law. At least Two points mentioning explanation for Admissibility of Brain Mapping in court	3

		1.5 mark for each (1.5 marks * 2)	
	ii.	Discuss the stimuli used and procedure of Brain Fingerprinting in detail. Stimuli (3 Marks) Procedure of Brain Fingerprinting (4 Marks)	7
OR	iii.	Describe about MERMER and analysis of Brain waves for Detection of Deception. MERMER (3.5 Marks) Analysis of Brain waves (3.5 Marks)	7
Q.5	i.	What do you mean by superimposition? Discuss in brief, any 3 superimposition techniques used for identification. Definition of Superimposition (1 Marks) Superimposition Techniques (3 Marks)	4
	ii.	Describe Photographic Superimposition and Videographic Superimposition techniques. Description of each technique carries 3 Marks	6
OR	iii.	What is Somatoscopy? Discuss its parameters which can help in facial reconstruction Definition of Somatoscopy (2 Marks) Parameters of Somatoscopy for facial reconstruction (4 Marks)	6
Q.6			
	i.	Write a short note on characteristics of Bloodstain Discuss any 5 points of characteristics of Bloodstains	5
	ii.	Explain a) Contact Bloodstain Pattern b) Projected Bloodstain Pattern Both patterns carries 2.5 Marks each (2.5X 2)	5
	iii.	Discuss documentation of bloodstain pattern. Explanation in at least 5 points	5
