Total No. of Questions: 6   *Total No. of Printed Pages:2*

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

Faculty of Science
End Sem Examination Dec-2023
FS3CO20 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. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1   i.   Admissibility of electronic evidences are mentioned in-   **1**
            (a) 65B IPC   (b) 65B IEA   (c) 306B IPC   (d) 206B IEA
      ii.   Uniqueness of voice does not depend on-   **1**
            (a) Shape and size of vocal tract
            (b) Shape and size of vocal cavity
            (c) Shape and size of oral cavity
            (d) Shape and size of the person
      iii. The colour which is not used in brain mapping is-   **1**
            (a) Red   (b) Yellow   (c) Green   (d) Blue
      iv.   Full form of BEOS-   **1**
            (a) Brain Energy Organizing System
            (b) Brain Electrical Oscillations System
            (c) Brain Electrical Oscillations Signature
            (d) Brain Energy Oscillations System
      v.   Who developed the technique portrait parle?   **1**
            (a) Francis Galton   (b) Alphonse Bertillion
            (c) Hans Gross   (d) Mateu Orfila
      vi.   Facial reconstruction is useful in-   **1**
            (a) Mass disaster   (b) Extremely putrefied body
            (c) Highly mutilated body   (d) All of these
      vii. What can be determined from blood stain patter?   **1**
            (a) Angle of impact   (b) Distance of blood source
            (c) Category of weapon used   (d) All of these
      viii. Which is not a type of blood spatter?   **1**
            (a) Passive   (b) Impact   (c) Casting   (d) Projected

      ix.   Which file system is used by Xbox?   **1**
            (a) FATX   (b) FTX   (c) NTFS   (d) None of these
      x.   Isotope analysis can provide   **1**
            (a) Possible geographical location of person previously lived
            (b) Possible geographical location of person previously travelled
            (c) Both (a) and (b)
            (d) None of these

Q.2   i.   What is speech?   **2**
      ii.   What are the methods used for speech enhancement in forensic   **3**
            laboratories?
      iii. Explain the mechanism of production of the human voice.   **5**
OR   iv.   What are the components of speaker recognition system?   **5**

Q.3   i.   Difference between brain fingerprinting and DNA fingerprinting. **2**
      ii.   Compare and contrast polygraph and brain mapping.   **8**
OR   iii. Explain the procedure of brain mapping along with the instruments **8**
            used.

Q.4   i.   Explain the superimposition techniques of facial reconstruction. **3**
      ii.   Explain 3-D facial reconstruction.   **7**
OR   iii. What are the applications and limitations of facial reconstruction? **7**

Q.5   i.   Explain contact blood stain pattern and when such patterns are **4**
            encountered in a crime scene.
      ii.   How blood stain pattern analysis can be helpful in the reconstruction of **6**
            a crime scene?
OR   iii. Describe the proper documentation of blood stains pattern as evidence. **6**

Q.6   Attempt any two:
      i.   Explain the applications of carbon dot powder in fingerprint analysis. **5**
      ii.   Write the applications of AI in forensic investigation.   **5**
      iii. What are the applications of 3D imaging and printing in forensic **5**
            science?

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P.T.O.