M. C. A. (Sem. V) Examination

November - 2019

E5032 - Biometrics Technology

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

1   (a)   Answer the following :   **4**

     (1)   Give full form of FMR.

     (2)   EER stands for _____

     (3)   Identification is often referred to As one-to-many, because a person's biometric information is compared against multiple records. True or false?

     (4)   Finger-scan, facial-scan, iris-scan, hand-scan, and retina-scan are considered physiological biometrics. True or False?

  (b)   Answer any **one** in brief :   **2**

     (1)   What is Biometrics?

     (2)   What are the benefits of biometrics in identification systems?

  (c)   Answer any **one** in detail :   **3**

     (1)   Explain benefits of Biometrics versus traditional authentication methods.

     (2)   Differentiate verification vs. Identification.

  (d)   Answer any **one** :   **5**

     (1)   How Biometric matching works ?

     (2)   Explain False Nonmatch Rate along with the factors for FNMR.

2   (a)   Answer the following :   **4**

     (1)   Give full form of LFA.

     (2)   Fingerprint ridges and valleys are characterized by discontinuities and irregularities known as _____

     (3)   Give full form of AFP.

     (4)   Optical technology is one of the finger-scan technology used in industry. True or False?

(b) Answer any one in brief : **2**

    (1) What are the components of fingerprint technology?

    (2) What are the components of facial scan technology?

(c) Answer any one in detail : **3**

    (1) Explain Eigenface.

    (2) Write strength and weaknesses of fingerprint technology.

(d) Answer any one : **5**

    (1) How Fingerprint technology works?

    (2) How Facial scan technology works?

3 (a) Answer the following : **4**

    (1) The retina's intricate network of _____ is a physiological characteristic that remains stable throughout the life of a person.

    (2) Cataracts and glaucoma, can render a person unable to use retina-scan technology, as the blood vessels can be obscured.
        True or false?

    (3) A series of cameras acquire 3-D images of the back and sides of the hand in hand scan.
        True or false?

    (4) Iris-scan deployments require specialized devices that provide necessary infrared illumination.
        True or false?

(b) Answer any one in brief : **2**

    (1) What is hand geometry?

    (2) What is eye signature?

(c) Answer any one in detail : **3**

    (1) Write strength and weakness of iris scan.

    (2) How retina scan works?

(d) Answer any one : **5**

    (1) How iris scan works?

    (2) How hand scan works?

4 (a) Answer the following : **4**

      (1) The templates used for _____ are typically larger than those used for most other biometrics.

      (2) Keystroke-scan technology utilizes a person's distinctive _____ patterns for verification.

      (3) _____ is referred to signify the human identification by the style/way people walk in image sequences.

      (4) Inconsistent Signatures Lead to Increased Error Rates.
         True or false?

    (b) Answer any one in brief : **2**

      (1) What is gait recognition?

      (2) What features are used in palm print recognition?

    (c) Answer any one in detail : **3**

      (1) Explain keystroke recognition.

      (2) Explain palm print recognition.

    (d) Answer any one : **5**

      (1) How Voice scan works?

      (2) Explain Signature scan recognition.

5 (a) Answer the following : **4**

      (1) _____ biometrics refers to the use of a combination of two or more biometric modalities in an identification system.

      (2) Smart card contains a tamper-resistant security system.
         True or false?

      (3) Smart card chips contain a microprocessor and/or memory.
         True or false?

      (4) Multimodal biometrics system is a solution to improve the accuracy and reliability of biometrics systems.
         True or false?

(b) Answer any one in brief : **2**

   (1) What is smart card?

   (2) What is taxonomy?

(c) Answer any one in detail : **3**

   (1) Explain smart card characteristics.

   (2) Write a note on smart card reader.

(d) Answer any one : **5**

   (1) Discuss applications of smart card.

   (2) Explain smart card security.

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