Mansoura University Faculty of Computer and Information Total Grade: Pass/Fail No. of pages: 1 page.	Final Term Exam - Model 1	Academic Year 2019/2020 Course Name: Biometrics- MED 147 Open book exam June 2020

Choose the best answers and write them in your answer sheet model (1).

1. The automated process of locating and encoding distinctive characteristics from a biometric sample in order to generate a template refers to_____.

A) Verification. B) Encoding.
C) Feature Extraction. D) Template identification.

2. The process used to recognize an individual's handwritten signature refers to_____.

A) Signature Dynamics. B) Keystroke Verification.
C) Keystroke Dynamics. D) Signature Verification.

3. A biometric modality that uses the individual's typing pattern for recognition refers to_____.

A) Signature Dynamics. B) Keystroke Verification. C) Keystroke Dynamics. D) Signature Verification.

4. A type or class of biometric, such as face, fingerprint, and iris is called_____.

A) Nodal Points. B) Modality.
C) Model. D) Both (B) and (C) are true.

5. Synonym for verification is_____.

A) One-to-one. B) Comparison. C) One-to-many. D) Extraction.

6. Iris recognition has _____false acceptance rate than fingerprint.

A) more. B) same. C) lower.
D) A or B.

7. Which of the following biometrics is considered the least acceptable?

A) Face. B) Fingerprint. C) Retina. D) Signature.

8. Use more than one source of information for biometric recognition refers to_____.

A) Characteristics. B) Verification. C) Multimodal biometrics.
D) None of these.

9. What is called the percentage of invalid subjects that are falsely accepted?

A) Type I error. B) Type II error. C) Type III error.
D) EER.

10. What is true for equal error rate?

A) Lower the equal error rate, higher the accuracy.
B) Higher false positive make lower equal error rate.
C) Lower false negative, higher equal error rate.
D) None of these.

11._____is a fixed value used to make decision to accept or reject the biometric user.

A) Accept rate. B) Matching score. C) Reject rate. D) Matching threshold.

12. Which biometric has lower distinctiveness?

A) Face. B) Hand geometry. C) Iris. D) Fingerprint.

13. Which biometric has higher performance?

A) Face. B) Hand geometry. C) Iris. D) Signature.

14. _____ is to confirm that a user is not enrolled in the biometric system.

A) Positive Identification. B) Enrollment. C) Negative Identification. D) Extraction.

15. Which biometric has lower circumvention?

A) Face. B) Signature. C) Iris. D) Voice.

16. Synonym for identification is_____.

A) One-to-one. B) Comparison. C) One-to-many. D) Extraction.

17. 100 individuals try to use a biometric system. There are 38 genuine individuals accepted, 8 genuine individuals rejected, 44 imposter rejected and 10 imposter accepted. What is the value of FAR?

A) 0.19 B) 0.17 C) 0.1 D) None of these values.

18. 100 individuals try to use a biometric system. There are 38 genuine individuals accepted, 8 genuine individuals rejected, 44 imposter rejected and 10 imposter accepted. What is the value of FRR?

A) 0.19 B) 0.17 C) 0.08 D) None of these values.

19. A value returned by a biometric algorithm that indicates the correlation between a biometric sample and a reference is_____.

A) Comparison. B) Modality. C) Difference Score. D) Similarity Score.

20. Biometric authentication_____.

A) is inexpensive.
B) is used only for security applications.
C) can use a person's face as a unique trait.
D) only uses physical traits as a measurement.

21. A security engineer has recently installed a biometric system and needs to tune it. Currently the biometric system is rejecting too many valid registered users. What adjustment does the security engineer need to make?

A) Increase the False Accept Rate.
B) Reduce the False Accept Rate.
C) Increase the False Reject Rate.
D) Reduce the False Reject Rate.

22. You are comparing biometric systems. Security is the top priority. A low _____is most important in this regard.

A) FAR. B) FRR. C) ERR. D) FTA.

23. What physical characteristics does a retinal scan biometric device measure?

A) The amount of light reaching the retina. **B) The amount of light reflected by the retina.** **C) The size, curvature, and shape of the retina.** **D) The pattern of blood vessels at the back of the eye.**

24. The similarities between Forensics and Biometrics science is_____.

A) Applications. **B) Goals.** **C) Outcomes.** **D) Technology.**

25. _____is the failure of the technology to extract adequate distinguishing features.

A) FAR. **B) FTE.** **C) FRR.** **D) EER.**

26._____occurs when null hypothesis is false but is accepted.

A) Type I error. **B) Type II error.** **C) Type III error.** **D) EER.**

27.Standard plot for biometric evaluation is _____.

A) ROC. **B) FTE.** **C) ERV.** **D) REC.**

28.All of the following are advantages of Multimodal biometric systems EXCEPT_____.

A) increase accuracy. **B) enhanced security.** **C) few enrollment problems.** **D) many enrollment problems.**

29.Systems using _____ for recognition, use infrared light transmitted or reflected through a biometric sample.

A) face. **B) voice.** **C) hand geometry.** **D) veins.**

30._____undertake testing in simulated but controlled environment that is as close to operational.

A) Technology Evaluation. **B) Scenario Evaluation.** **C) Operational Evaluation.** **D) All of these.**

Define the following Terms:

1. Biometric reference.
2. Enrollment.
3. FTE.
4. Biometric template.
5. FAR.
6. FRR.
7. Positive identification.

8. False Accept.
9. False Reject.

1. Which of **Biometric characteristics are** considered not permanent?
2. **Which Biometric characteristics are most constant over time?**
3. **In terms of the order of effectiveness, which Biometric characteristics is the LEAST effective?**
4. **Which Biometric characteristics have the lowest user acceptance level?**
5. **What are the types of eye scan in use today?**
6. **Which Biometric characteristics offer greater accuracy?**
7. What is the difference between biometrics and forensics?
8. Out of the following, put in order from most accurate to least accurate
   Iris/ Retina- Facial- DNA- Voice- fingerprint
9. **Which Biometric characteristics are the least commonly used?**
10. **What is a biometric sample?**
11. **Which part of the iris is used to develop biometric data?**
12. **What is a biometric template?**