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APR-MAY

B. E. (Eighth Semester) Examination, 2020

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(New Scheme)

(Electronics & Telecommunication Engg. Branch)

BIOMETRIC TECHNIQUES

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each unit is compulsory and carries 2 marks. Attempt any two parts from (b), (c) and (d), each carry 7 marks. Assume suitable data if required.

Unit-I

1. (a) How is identification different from verification? 2
- (b) How do we evaluate the performance of biometric

system? What are various causes of errors in the biometrics? 7

(c) Define template. How do we use the templates in biometric recognition? 7

(d) Explain the basic process involved in biometrics verification and identification. 7

Unit-II

2. (a) Define self similarity in an image. 2

(b) Discuss EIGEN face method of face recognition system. 7

(c) What are the steps required to design an iris recognition system? 7

(d) What are the various advantages and disadvantages of iris biometrics? 7

Unit-III

3. (a) Define ridge, valleys and minute. 2

(b) What are the main stages of pre-processing involved in fingerprint matching? 7

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- (c) Why is SIFT algorithm most widely used for feature extraction? Draw and explain various stages involved in ISL recognition system. 7
- (d) Fingerprint biometrics is now commonly used at attendance record systems. What are the advantages and disadvantages of this application? 7

Unit-IV

4. (a) Define biometric cryptography. 2
- (b) Explain public key cryptography. Discuss secrecy and authenticity. 7
- (c) Discuss DES algorithm in detail. 7
- (d) Discuss RSA algorithm and compare it with DES algorithm. 7

Unit-V

5. (a) What do you mean by biometric standards? 2
- (b) How does AADHAAR help in providing various services to the common people? Explain. 7

- (c) What are the challenges of single modality biometrics and how does multimodal biometric system overcome them? 7
- (d) Discuss DNA biometric system. 7