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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Electronics and Communication Engineering

Semester End Examination; Dec. - 2019

Biometrics

Time: 3 hrs

Max. Marks: 100

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

UNIT - I

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|------|--|----|
| 1 a. | What is Biometrics? Explain architecture of enrollment process and recognition with block diagram. | 10 |
| | b. List the various types of Biometrics. Explain any three type of Biometrics system. | 10 |
| 2 a. | Explain the basic working of Biometric matching with block diagram. | 6 |
| | b. Explain Character Recognition System with the help of block diagram. | 10 |
| | c. Explain Feature Extraction for Character Recognition. | 4 |

UNIT - II

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|------|---|----|
| 3 a. | Explain the Neural Network for Face Recognition along with the resemblance of Neural Network with brain of human. | 10 |
| | b. Explain the challenges on Face Biometrics. | 5 |
| | c. List the steps involved in Feature Extraction. | 5 |
| 4 a. | Explain the steps involved in image preprocessing of Iris biometrics and flow diagram of Iris Recognition System. | 10 |
| | b. Explain Carry Edge Detection. | 5 |
| | c. List the advantages and disadvantages of Retina Biometrics. | 5 |

UNIT - III

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|------|---|----|
| 5 a. | Explain general structure of Fingerprint Biometrics and explain important components of Fingerprint matching. | 10 |
| | b. Discuss Histogram Equalization steps. | 5 |
| | c. List the advantages and diadvantages of Fingerprint Biometrics. | 5 |
| 6 a. | Explain general architecture of hand geometry biometrics system with block diagram. | 10 |
| | b. Explain the major steps of SIFT algorithm with flowchart. | 10 |

UNIT - IV

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|------|---|----|
| 7 a. | Write the comparison of various Biometrics in terms of privacy. | 10 |
| | b. Explain Privacy Intrusion. | 5 |
| | c. Explain Soft Biometrics. | 5 |

Contd...2

- 8 a. Explain the various components of multimodal biometrics system with block diagram. 10
- b. Explain RSA and DES algorithms for biometrics cryptography and compare their performance. 10

UNIT - V

- 9 a. Explain the characteristics of watermark. 7
- b. Explain the general block diagram of water marking. 7
- c. What are the benefits of DNA Biometrics and what are the features of DNA? 6
- 10 a. Explain Information Security and Biometrics standards. 8
- b. Write a note on Application Program Interface (API). 6
- c. Explain the application of Biometrics. 6

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