BIOMETRIC SECURITY
(ELECTIVE – II)

Course Code: 13CS2213 **L P C**
4 0 3

Pre-Requisites: Fundamental knowledge in Biometrics

Course Educational Objective:
To provide students with understanding of biometrics, biometric equipment and standards applied to security.

Course Outcomes:
1. Demonstrate knowledge of the basic physical and biological science and engineering principles underlying biometric systems.
2. Understand and analyze biometric systems at the component level and be able to analyze and design basic biometric system applications.
3. Be able to work effectively in teams and express their work and ideas orally and in writing.
4. Identify the sociological and acceptance issues associated with the design and implementation of biometric systems.
5. Understand various Biometric security issues.

UNIT-I
Biometrics- Introduction- benefits of biometrics over traditional authentication systems -benefits
of biometrics in identification systems-selecting a biometric for a system –Applications - Key
biometric terms and processes - biometric matching methods -Accuracy in biometric systems.

UNIT-II
Physiological Biometric Technologies: Fingerprints - Technical description –characteristics - Competing technologies - strengths – weaknesses – deployment - Facial scan - Technical description - characteristics - weaknesses-deployment - Iris scan - Technical description – characteristics - strengths – weaknesses – deployment - Retina vascular pattern

UNIT-III

Technical description – characteristics - strengths – weaknesses – deployment - Hand scan - Technical description-characteristics - strengths – weaknesses deployment – DNA biometrics.

Behavioral Biometric Technologies: Handprint Biometrics - DNA Biometrics.

UNIT-IV

signature and handwriting technology - Technical description – classification – keyboard / keystroke dynamics- Voice – data acquisition - feature extraction - characteristics - strengths – weaknesses-deployment.

UNIT-V

Multi biometrics and multi factor biometrics - two-factor authentication with passwords - tickets and tokens – executive decision - implementation plan.

TEXT BOOKS:

1. Samir Nanavathi, Michel Thieme, and Raj Nanavathi : "Biometrics -Identity verification
   in a network", 1st Edition, Wiley Eastern, 2002.
2. John Chirillo and Scott Blaul : "Implementing Biometric Security", 1st Edition, Wiley Eastern Publication, 2005.

REFERENCES:

1. John Berger: "Biometrics for Network Security", 1st Edition, Prentice Hall, 2004.