BIOMETRIC SECURITY
(ELECTIVE – II)

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

Pre-Requisites: Fundamental knowledge in Biometrics

Course Outcomes:

By the end of the course :

CO1: Demonstrate knowledge of the basic physical and biological science and engineering principles underlying biometric systems.

CO2: Understand and analyze biometric systems at the component level and be able to analyze and design basic biometric system applications.

CO3: Able to work effectively in teams and express their work and ideas orally and in writing.

CO4: Identify the sociological and acceptance issues associated with the design and implementation of biometric systems.

CO5: 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.