



Syllabus		
Unit No	Contents	Mapped CO
I	<b>Steganography:</b> Overview, History, Methods for hiding (text, images, audio, video, speech etc.), Issues: Security, Capacity and Imperceptibility. Steganalysis: Active and Malicious Attackers, Active and passive steganalysis.	CO1
II	<b>Introduction:</b> Benefits of biometric security – Verification and Identification – Basic working of Biometric matching – Accuracy – False match rate – False non-match rate – Failure to enroll rate – Derived metrics – Layered biometric solutions.	CO2
III	<b>Finger Scan:</b> Features – Components – Operation (Steps) – Competing finger Scan technologies – Strength and weakness. Types of algorithms used for interpretation.	CO3
IV	<b>Facial Scan :</b> Features – Components – Operation (Steps) – Competing facial Scan technologies – Strength and weakness. Iris Scan : Features – Components – Operation (Steps) – Competing iris Scan technologies – Strength and weakness.	CO3
V	<b>Voice Scan:</b> Features – Components – Operation (Steps) – Competing voice Scan (facial) technologies – Strength and weakness. Other physiological Biometrics: Hand scan – Retina scan – AFIS (Automatic Finger Print Identification Systems)-DNA Scan – Behavioral Biometrics – Signature scan keystroke scan.	CO4

Learning Resources
<b>Text books</b>
<ol style="list-style-type: none"> <li>1. Peter Wayner, Disappearing Cryptography - Information Hiding: Steganography &amp; Watermarking, Morgan Kaufmann Publishers, New York, 2002.</li> <li>2. Biometrics – Identity Verification in a Networked World – Samir Nanavati, Michael Thieme, Raj Nanavati, WILEY- Dream Tech, 2007.</li> <li>3. Biometrics for Network Security- Paul Reid, Pearson Education, 2004.</li> </ol>
<b>References</b>
<ol style="list-style-type: none"> <li>1. Introduction to Biometrics, Anil K. Jain, Arun A. Ross and Karthik Nanda kumar, 2011.</li> <li>2. Guide to Biometrics, Ruud Bolle, Jonathan Connell, Sharanth Chandra Pankanti, Nalini Ratha and Andrew Senior, 2003.</li> <li>3. Biometric Systems Technology, Design and Performance Evaluation, by James L. Wayman, Anil K. Jain, Davide Maltoni and Dario Maio, 2004.</li> <li>4. Handbook of Face Recognition, Stan Z. Li and Anil K. Jain, 2005</li> </ol>
<b>e-Resources and other Digital Material</b>
<ol style="list-style-type: none"> <li>1. <a href="http://freevideolectures.com/Course/3252/Biometrics">http://freevideolectures.com/Course/3252/Biometrics</a></li> <li>2. <a href="http://nptel.ac.in/courses/106104119/">http://nptel.ac.in/courses/106104119/</a></li> </ol>