PEI303: BIOMETRICS TECHNIQUES

	L	T	P	Cr
	3	1	0	3.5

Course Objectives: To understand the concepts of Biometrics, to enable design of biometric system Introduction: Benefits of biometrics, Verification and identification: Basic working of biometric matching, Accuracy, False match rate, False non-match rate, Failure to enroll rate, Active and passive biometric, Parameters of a good biometrics

Finger Biometric Technology: General description of fingerprints, Micro and Macro Features , Types of algorithms used for interpretation, Components and Operations: Strength and weakness.

Facial Biometric Technology: General description, Features, Types of algorithms used for interpretation, Components and Operations, Strength and weakness.

Iris Biometric Technology: General description, Feature , Types of algorithms used for interpretation, Components and Operations, Strength and weakness.

Voice Biometric Technology: General description, Feature, Types of algorithms used for interpretation, Components and Operations , Strength and weakness.

Other Physiological Biometrics: Hand scan , Retina scan, Behavioral Biometrics: Signature scan, keystroke scan etc. Applications of biometrics.

Minor Project:

1.   Finger print recognition using statistical and / or soft computing techniques.

Application of statistical and / or soft computing techniques for face recognition.

Speech/speaker recognition.

Iris recognition

Course learning outcome (CLO): After the completion of the course the students will be able to

1.   Use biometric matching for identification

Identify algorithms for finger biometric technology

Use facial biometrics for identification.

Apply iris biometric, voice biometric, physiological biometrics etc. for identificarion.

Recommended Books:

1.   *Reid, P., Biometrics for Network Security, Dorling Kingsley (2007).*
2.   *Woodward, J.D. and Orlans, Nicholos M., Biometrics, McGraw Hill (2002).*

Evaluation Scheme:

S.No.	Evaluation Elements	Weightage (%)
1.	MST	30
	EST	45
	Sessionals (May include Assignments/ Projects/ Tutorials/ Quizes/ Lab Evaluations)	25

S.No.	Evaluation Elements	Weightage (%)
1.	MST	30
	EST	45
	Sessionals (May include Assignments/ Projects/ Tutorials/ Quizes/ Lab Evaluations)	25