Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous Institute Affiliated to University of Mumbai)

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
ETEL701	Data compression and Encryption	--	--	2	--	--	1	1
		Examination Scheme						
		ISE		ESE				Total
				Practical		Oral		
		40		--		20		60

Pre-requisite Course Codes	ETC 503 Random Signal Analysis
	ETC 601 Digital Communication
	ETC 603 Computer Communication and Networks
After successful completion of the course, student will be able to	
Course Outcomes	CO1 To understand the operational concept of Data Compression algorithms through source coding principles and various methods using software simulation tools.
	CO2 To get familiar with the operational concept of encryption and steganography algorithm through software simulation tools.

Exp. No.	Experiment Details	Ref.	Marks
1	For Huffman code for a particular message- "My name is ___".		5
2	To study qualitative performance data compression by applying compression in different formats on image, audio, video.		5
3	Significance of knowledge of probability and context based probability for text compression (Markov chain)		5
4	To get familiar with the concept of secret key encryption through 1) Encryption Algorithm (eg 3DES,AES etc), 2) Encryption modes(CBS,ECB), 3)Padding, 4) Initialization vector (IV).		5
5	To implement and test. a) Substitution, ROT13, Transposition, Double Transposition, Vernam Cipher in C/Python. b) Diffe-Hellman key management algorithm in C/Python.		5
6	To study personal firewell (FW) of host system using iptables configuration.		5
7	Design Project: Digital Audio Procesing Learn the fundamental of perceptual coding of audio.		5
8	Design a digital audio watermarking system in time and frequency domains.		5
*Any 08 Experiment to be performed.		**Total Marks**	**40**

References:

As per recommended by faculty .