Laxdu Singh Charitable Trust's (Regd.)
THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, Govt. of Maharashtra & Affiliated to University of Mumbai*)
(Accredited Programmes by National Board of Accreditation, New Delhi**)
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Website : www.tcetmumbai.in • www.thakureducation.org
*Permanent Affiliated UG Programmes : • Computer Engineering • Electronics & Telecommunication Engineering • Information Technology (w.e.f.: A.Y. 2015-16 onwards)
**1st time Accredited UG Programmes : • Computer Engineering • Electronics & Telecommunication Engineering • Information Technology
**2nd time Accredited UG Programmes : • Computer Engineering • Electronics & Telecommunication Engineering • Information Technology • Electronics Engineering (3 years w.e.f.: 01-07-2016)
ISO 9001 : 2008 Certified

TCET/FRM/IP-02/10 Revision: B

Semester Plan
(Practical / Tutorials / Assignment)

Semester: **VII** Course: B**.E EXTC B** Batches: **B.E B3, B1**

Subject: Data Compression & Encryption Class: B**.E EXTC B** Batch size: 20 Students

Laboratory faculty in charge: **Ms. Kalawati Patil** Lab. Assistant /Attendant: Mr. Chandresh Yadav **(Lab Assistant 106)**

Note: **Experiment planned as per University Curriculum**

Basic Experiments:

Sr. No.	TITLES Experiments / Tutorials / Assignment (Planning with use of Technology)	Planned Date	Completion Date	Remarks
1.	Arithmetic encoding and decoding	26/07/2017 27/07/2017		
Design/ Development Experiments:				
2.	Design of LZ78 dictionary based text compression technique.	30/07/2017 31/07/2017		
3.	To design Mu-Law compander.	16/08/17 24/08/17		
4.	To implement DCT and quantization on highly and less correlated images.	16/08/17 24/08/17		
5.	To implement Brute force attack on shift cipher algorithm.	07/08/17 08/08/17:		
6.	To implement Transposition cipher	07/08/17 08/08/17:		

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7.	To implement Square-and-multiply method for Exponentiation	14/08/17 15/08/17		
8.	To design & implement RSA algorithm	14/08/17 15/08/17		
9.	To implement Diffie Hellman Algorithm in OpenSSL software	21/09/17 22/09/17		
Group Learning Activity:				
10	**Case Study:-** 1) Firewall system at Thakur college of Engineering and Technology 2) Mobile security system	21/09/17 22/09/17		
11	**Project Based:-** Manipulating sound in MATLAB and Octave	04/10/17 05/10/17		
12	**IEEE Transaction: -** AES-512: 512-bit Advanced Encryption Standard algorithm design and evaluation	04/10/17 05/10/17		

Bridge courses Objective: Bridging of gaps with respect to prerequisites and industry skills or to carryout research in that particular field**. (30 Hrs / Semester / student)**

S.No.	Bridge courses/Technology	Duration (Week/hrs)	Modes of Learning	Recommended Sources
1.	**Prerequisite course:** 1) Fundamentals of computer communication and digital communication 2) MATLAB basics	2 Weeks / 2 Hrs	Self Learning/ Revision	1) https://onlinecourses.nptel.ac.in/noc17_ec11 2) nptel.ac.in/courses/106105081/1
2	**Advanced course:** Quantum Cryptography. Advanced system and network security course	12 Weeks / 2 Hrs	Technology Based learning	https://www.learningtree.com/courses/.../introduction-to-system-and-network-security

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1. **Mini /Minor Projects Objective:** To get hands on experience to execute projects with respect to student choice in the following areas. **(30 Hrs / Semester / Student).**

The areas are :

1. Research 2. Core 3. Interdisciplinary 4. Application

Major project : As per University Scheme

S.No	Project Title/Group Size	Class	Type / Project Hours	Modes of Learning	Reference
1.	Hardware implementation of AES using minimal resources on FPGA **(4 Students)**	T.E EXTC	Research / 120 Hrs	Project Based Learning	ieeexplore.ieee.org/iel7/7063888/7086957/07087187.pdf
2.	Security System for DNS Using Cryptography **(4 Students)**	T.E EXTC	Application / 120 Hrs	Project Based Learning	www.ijert.org/download/2533/security-system-for-dns-using-cryptography Researchgate.net

	Planned	Completed		Planned	Completed		Planned	Completed
No. of Prac	**Basic Exp:** 01 **Design Base Exp**: 08 **Group Learning:** 02 **Bridge Course:** 02 **Minor Project:** 02		No. of Assignments	02		No. of Tutorial	01(Low Profile Student)	

DOSLNE:	DOSLE (engaged in some other dates):

Group activities are required to be added with the practical related to course to enhance the learning activity of the student in the course. Group activity includes: Group presentation, new experiment design, mini projects etc.

Note:

1. The practical plan date and completion date shall be in compliance. For any non-compliance reason(s) required to be stated in remark column.
2. Learning objective and outcome shall be clearly stated with each of experiments/ tutorials/ assignments and are required to be mapped at the end of the semester.
3. Entry for DOSLE (engaged on some other date) shall be done with proper mapping to DOSLNE.

SD **(Kalawati Patil)**	SD	SD
Name & Signature of Faculty	Signature of HOD	Signature of Principal / Dean Academic
Date: 03/02/2017	Date:	Date:

Issued By: MR	Approved By: Principal