



*Laxmi 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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ISO 9001 : 2008 Certified

\*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)

TCET/FRM/IP-02/10

Revision: B

## Semester Plan (Practical / Tutorials / Assignment)

Semester: VII

Course: B.E EXTC-A & B

Batches: A1-A2, A3-A4, B1-B2, B3-B4

Subject: Advanced Communication Engineering Laboratory-I  
(ETL-702)

Class: B.E EXTC- A & B

Batch size: 20 Students

Laboratory faculty in charge: Dr. Sangeeta Mishra

Lab Assistant: Ms. Jinal Rathod

Note: Experiment planned as per University Curriculum

### Basic Experiments:

Sr. No.	TITLES Experiments / Tutorials / Assignment (Planning with use of Technology)	Batches	Planned Date	Completion Date	Remarks
1.	Introduction to Matlab	A1-A2	17/07/17		
		A3-A4	18/07/17		
		B1-B2	19/07/17		
		B3-B4	20/07/17		
2.	Study the relation between cluster size N and capacity C.	A1-A2	24/07/17		
		A3-A4	26/07/17		
		B1-B2	26/07/17		
		B3-B4	27/07/17		
3.	Study the effect of cluster size n and no. of co channel interfering cells i0 on signal to interference ratio.	A1-A2	31/07/17		
		A3-A4	02/08/17		
		B1-B2	02/08/17		
		B3-B4	03/08/17		
4.	Setup for basic communication between mobile station and base station using OMNET++.	A1-A2	07/08/17		
		A3-A4	09/08/17		
		B1-B2	09/08/17		
		B3-B4	10/08/17		
5.	Setup for GSM handover procedure using OMNET++.	A1-A2	14/08/17		
		A3-A4	16/08/17		
		B1-B2	16/07/17		
		B3-B4	24/08/17		
6.	Generation of PN sequence for the given polynomial.	A1-A2	04/09/17		
		A3-A4	30/08/17		
		B1-B2	30/08/17		
		B3-B4	31/08/17		

### Design/ Development Experiments:

Issued By: MR

Approved By: Principal

7.	Design of communication system using Simulink to study the effect of Rayleigh fading.	A1-A2	11/09/17		
		A3-A4	06/09/17		
		B1-B2	06/09/17		
		B3-B4	07/09/17		
8.	Design of communication system using Simulink to study the effect of Rician fading.	A1-A2	11/09/17		
		A3-A4	06/09/17		
		B1-B2	06/09/17		
		B3-B4	07/09/17		
9.	Design of network to demonstrate handover in UMTS using OPNET.	A1-A2	18/09/17		
		A3-A4	13/09/17		
		B1-B2	13/09/17		
		B3-B4	14/09/17		
Group Learning Activity:					
10.	Tutorial 1 (3GPP and UMTS)	A1-A2	29/09/17		
		A3-A4	20/09/17		
		B1-B2	20/09/17		
		B3-B4	21/09/17		
	Tutorial 2 (LTE , MIMO and SDR)	A1-A2	29/09/17		
		A3-A4	20/09/17		
		B1-B2	20/09/17		
		B3-B4	21/09/17		
	Presentations on the topics related to emerging technologies of 3G and 4G	A1-A2	16/10/17		
		A3-A4	04/09/17		
		B1-B2	04/09/17		
		B3-B4	05/09/17		
1. <b>Mini /Minor Projects Objective:</b> To get hands on experience to execute projects with respect to student choice in the following areas. <b>(30 Hrs / Semester / Student).</b> <b>(Total 120 Hrs)</b> <b>The areas are :</b> 1. <b>Research</b> 2. <b>Core</b> 3. <b>Interdisciplinary</b> 4. <b>Application</b>					
<b>Mini/ Major project :</b> As per University Scheme					
S.No	Project Title/Group Size	Class	Type / Project Hours	Modes of Learning	Reference
1.	Enhancing Performance Of Optical Fibers	B.E EXTC-A	Research	Project Based Learning	<a href="http://www.mycollegeproject.com/Abstracts/SEM-53.%20Talking%20energy%20meter.pdf">http://www.mycollegeproject.com/Abstracts/SEM-53.%20Talking%20energy%20meter.pdf</a> <a href="http://ijiet.com/wp-content/uploads/2014/05/29.pdf">http://ijiet.com/wp-content/uploads/2014/05/29.pdf</a>
2.	Haptic based finger print recognition	B.E EXTC-A	Application	Project Based Learning	<a href="https://www.cogenda.com/">https://www.cogenda.com/</a> <a href="http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?reload=true&amp;punumber=43">http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?reload=true&amp;punumber=43</a>
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						<a href="http://publications.lib.chalmers.se/records/fulltext/226466/local_226466.pdf">http://publications.lib.chalmers.se/records/fulltext/226466/local_226466.pdf</a> <a href="http://www.ios.ac.cn/bdtxben/ch/reader/create_pdf.aspx?file_no=10020101">http://www.ios.ac.cn/bdtxben/ch/reader/create_pdf.aspx?file_no=10020101</a> <a href="http://www.mycollegeproject.com/Abstracts/SEM-53.%20Talking%20energy%20meter.pdf">http://www.mycollegeproject.com/Abstracts/SEM-53.%20Talking%20energy%20meter.pdf</a> <a href="http://ijiet.com/wp-content/uploads/2014/05/29.pdf">http://ijiet.com/wp-content/uploads/2014/05/29.pdf</a>		
3	LI-FI: Light Fidelity in Communication		B.E EXTC-A		Application	Project Based Learning		
No. of Prac	Planned	Completed	No. of Assignments	Planned	Completed	No. of Tutorial	Planned	Completed
	<b>Basic Exp:</b> 06 <b>Design Base Exp:</b> 03 <b>Group Learning:</b> 3 <b>Bridge Course:</b> 01 <b>Major Project:</b> 03			02			NIL	NIL
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. <b>Note:</b> 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.								
<b>Sd/-</b> <b>( Ms. Sukruti Kaulgud)</b> <b>(Ms. Megha Gupta)</b> Name & Signature of Faculty			<b>Sd/-</b> <b>(Dr. Vinitkumar Dongre)</b> Signature of HOD			<b>Sd/-</b> <b>(Dr. R. R. Sedamkar)</b> Signature of Principal / Dean Academic		
Date: 14/07/2017			Date: 19/07/2017			Date: 20/07/2017		
Issued By: MR					Approved By: Principal			