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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*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: **B1-B2**
**B3-B4**

Subject: Advanced Communication Engineering Laboratory-I (ETL-702) Class: **B.E EXTC- 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 | B1-B2 | 19/07/17 | | |
| | | B3-B4 | 20/07/17 | | |
| 2. | Study the relation between cluster size N and capacity C. | 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. | B1-B2 | 02/08/17 | | |
| | | B3-B4 | 03/08/17 | | |
| 4. | Setup for basic communication between mobile station and base station using OMNET++. | B1-B2 | 09/08/17 | | |
| | | B3-B4 | 10/08/17 | | |
| 5. | Setup for GSM handover procedure using OMNET++. | B1-B2 | 16/07/17 | | |
| | | B3-B4 | 24/08/17 | | |
| 6. | Generation of PN sequence for the given polynomial. | B1-B2 | 30/08/17 | | |
| | | B3-B4 | 31/08/17 | | |

**Design/ Development Experiments:**

| | | | | | |
|---|---|---|---|---|---|
| 7. | Design of communication system using Simulink to study the effect of Rayleigh fading. | B1-B2 | 06/09/17 | | |
| | | B3-B4 | 07/09/17 | | |
| 8. | Design of communication system using Simulink to study the effect of Rician fading. | B1-B2 | 06/09/17 | | |
| | | B3-B4 | 07/09/17 | | |
| 9. | Design of network to demonstrate handover in UMTS using OPNET. | B1-B2 | 13/09/17 | | |
| | | B3-B4 | 14/09/17 | | |

| Issued By: MR | Approved By: Principal |
|---|---|

**Group Learning Activity:**

| | | | | | |
|---|---|---|---|---|---|
| **10.** | Tutorial 1 (3GPP and UMTS) | B1-B2 | 20/09/17 | | |
| | | B3-B4 | 21/09/17 | | |
| | Tutorial 2 (LTE , MIMO and SDR) | B1-B2 | 20/09/17 | | |
| | | B3-B4 | 21/09/17 | | |
| | Presentations on the topics related to emerging technologies of 3G and 4G | B1-B2 | 04/09/17 | | |
| | | B3-B4 | 05/09/17 | | |

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). (Total 120 Hrs)**

**The areas are :**

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

**Mini/ Major project :** As per University Scheme

| **S.No** | **Project Title/Group Size** | **Class** | **Type / Project Hours** | **Modes of Learning** | **Reference** |
|---|---|---|---|---|---|
| **1.** | Simulation of Solar Cell Structure for Low Cost Application | B.E EXTC-B | Application | Project Based Learning | http://www.sciencedirect.com/science/article/pii/S0040609009017453 https://www.scribd.com/document/103476174/IM-TCAD-Multijunction-Solar-Cell https://nanohub.org/resources/10771/download/Silvaco_simulation_Solar_cells.pdf |

| | Planned | Completed | | Planned | Completed | | Planned | Completed |
|---|---|---|---|---|---|---|---|---|
| No. of Prac | **Basic Exp:** 06 **Design Base Exp**: 03 **Group Learning:** 3 **Bridge Course:** 01 **Major Project:** 02 | | No. of Assignments | 02 | | No. of Tutorial | 00 | -- |

| | |
|---|---|
| DOSLNE: | DOSLE (engaged in some other dates): |

| | |
|---|---|
| Issued By: MR | Approved By: Principal |

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 | SD | SD |
| **(Ms. Sukruti Kaulgud)** | **(Dr. Vinitkumar Dongre)** | **(Dr. R. R. Sedamkar)** |
| Name & Signature of Faculty | Signature of HOD | Signature of Principal / Dean Academic |
| Date: 25/07/2017 | Date: 25/07/2017 | Date: 25/07/2017 |