Bridge Course on

Electronics Design Technology-I

Class: SE – EXTC (A&B)

Gap Identification:

- Lack of basic understanding of subject area and different approaches to solve particular problems.
- Inadequate knowledge on how to design, implement & analysis circuit.

Course Description:

This bridge course will help students to improve experimental and designing skills for electronic circuits. Provides an overview on component identification. Learn the process and procedures needed to implement, troubleshoot, repair and maintain an electronic circuit. It also explains the principles of how to design and develop Electronics Circuits and Projects.

The course lays foundation of essential concepts required to design electronic circuit based products. Students will have the opportunity to apply and enhance their skills through hands-on lab sessions.

Prerequisites:

Students are expected to have knowledge of basic semiconductors, working of basic electronic devices and the components.

- Applied Physics
- BEE

Learning Objectives:

1. To enable students to translate theoretical electronics concepts into practically working circuits
2. To inculcate team work skills through group activities.
3. To develop ability to design experiments to verify practical concepts.
4. To develop engineering design competencies for electronics circuit design.

TCET
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING (EXTC)
Choice Based Credit and Grading Scheme (Revised - 2016) - University of Mumbai
CBGS(2012)/CBCGS-2016(R)

Estd. 2001

Learning Outcomes:

Students will be able to

1. Structure open ended problems for given partially -structured problems.
2. Use various information sources such as data sheets, characteristics, waveforms, graphs to design circuits.
3. Identify appropriate circuits/graphs/ waveforms to design circuits.
4. Build and test the circuits designed for given problem.
5. Simulate and test circuit for given problem.
6. Write report of practical testing of designed circuit.

Details for Course Conduction:

Sr. no.	Module	No. of Hours	Date	Detailed Content
1.	1. **Design of Wave shaping Circuits**	06	25/07/17	Linear wave shaping circuits
2.			26/07/17	Design of integrator using R, C components.
3.			01/08/17	Design of differentiator using R, C components.
4.			02/08/17	Nonlinear wave shaping circuits
5.			08/08/17	Design of Clippers circuits
6.			09/08/17	Design of clampers circuits
7.	2. **Design of waveform generators**	02/08	16/08/17	BJT as switch and inverter
8.			30/08/17	Design of Astable multivibrator
9.			06/09/17	Design of monostable multivibrator
10.			09/09/17	Problem Solving
11.			12/09/17	Design of Schmitt trigger circuits
12.			13/09/17	Design of Schmitt trigger circuits
13.			16/09/17	Design of Saw tooth waveform generator using UJT

14.			19/09/17	Design of Saw tooth waveform generator using UJT
15.	3. **Software simulations of electronic circuits**	03/04	20/09/17	Introduction to Multisim and SEQUEL for simulation of circuits.
16.			23/09/17	Simulation of circuits in SEQUEL.
17.			26/09/17	Simulation of circuits in SEQUEL.
18.			03/10/17	Simulation of circuits in SEQUEL.
19.	4. **Design of circuits for given application**	04/02	04/10/17	Design of circuits for given application
20.			07/10/17	Design of circuits for given application

Digital Reference:

1. https://onlinecourses.nptel.ac.in/noc16_ge01/preview
2. https://www.coursera.org/
3. https://en.wikipedia.org/wiki/Main_Page

Faculty Coordinators

Sd/-   **Sd/-**

Dr. Madhuri Mavinkurve   Dr. VinitkumarDongre

Ms. Anvita Birje   (**HOD-EXTC**)