RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

Credit Based Grading System

Electronics & Communication Engineering, IV-Semester

EC-4006 Simulation Lab

COURSE OBJECTIVE:

The focus of this course is to introduce the fundamental concepts and tools of electronic circuit designing software & let students acquaint with the software being used in the electronic circuit designing industries.

COURSE CONTENTS:

Introduction to circuit simulation software (TINA-PRO/ PSPICE/ CIRCUIT MAKER). Study of the key features and applications of the software in the field of Electronic Circuits, Electronic Instrumentation and Network Analysis. Design, Optimization and simulation of;

1. Basic Electronic circuits (examples rectifiers, clippers, clampers, diode, transistor characteristics etc).
2. Transient and steady state analysis of RL/ RC/ RLC circuits, realization of network theorems.
3. Use of virtual instruments built in the software.

Introduction to PCB layout software

Overview and use of the software in optimization, designing and fabrication of PCB pertaining to above circuits simulated using above simulation software.

Students should simulate and design the PCB for at least two circuits they are learning in the current semester.

COURSE OUTCOMES:

After completion of this course students should be able to,

1.Understand the basics of electronic circuit designing software's.

2.Design & simulate various electronic circuits.

3.Analyze the circuit's behavior & characteristics.

4.Verify the characteristics obtained after simulation by implementing circuits on bread board practically.

5.Simulate and design the PCB layout