16200 - ELIN-U1T10 - Industrial Electronics

Coordinating unit: 340 - EPSEVG - Escola Politècnica Superior d'Enginyeria de Vilanova i la Geltrú
Teaching unit: 710 - EEL - Department of Electronic Engineering
Academic year: 2012
Degree: (ENG) ENGINYERIA EN AUTOMATICA I ELECTRONICA INDUSTRIAL (Syllabus 2003). (Teaching unit Compulsory)
Credits: 6  Teaching languages: Catalan, Spanish, English

Learning objectives of the subject

Content

Theory

Description:
Objectives
This subject orients to the study of converters and systems of the power electronics. Its main assignment is the design of converters and systems of power, starting off of its static analysis and dynamic. One tries at the same time as sufficient knowledge for the practical design of power converters, that is to say, the election and design of magnetic components are acquired, and the design of control circuits and protection of active devices.

Contents
1) Introduction. Types of converters. Analysis in stationary regime.
2) Rectifiers with high factor of power
3) Modeled and control of converters. Application to exchanged sources
4) Converters of resonant structure

Laboratory

Description:
Objectives
The basic objective consists of complementing at experimental level the distributed theoretical bases in the subject.

Contents
1rt practical: Introduction to the Simulink: Simulation of converters DC-DC.
2nd practical: Simulation of a Boost rectifier with high factor of power.
Qualification system

One is a progressive evaluation of the subject, with a test of theory and problems (TEO) and the accomplishment of a work in group (TRA). The practices of the subject will be part of the final evaluation (LAB). The final mark will calculate by means of the expression:

\[ N_{\text{FINAL}} = 0.3 \times \text{TEO} + 0.4 \times \text{TRA} + 0.3 \times \text{LAB} \]

Bibliography