

 Universidad Cooperativa de Colombia	PRACTICE SCENARIO GUIDE PRACTICAL LEARNING ENVIRONMENTS	Code: Version: 1 Date: November 2018
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PRACTICAL STUDENT
GUIDE

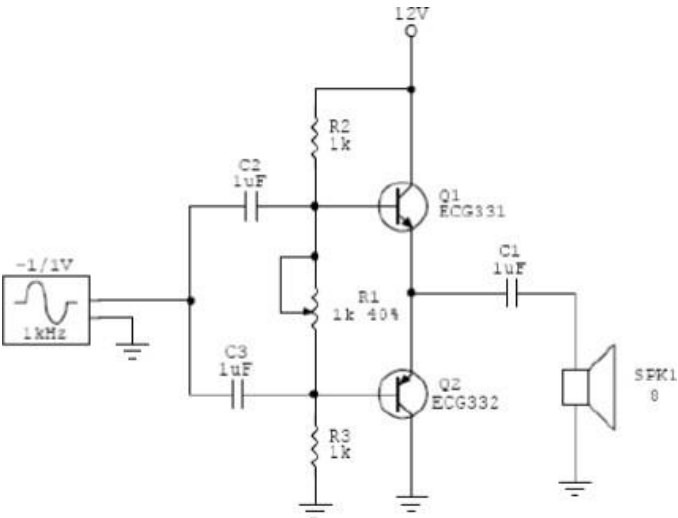
CAMPUS:	Bogotá
PRACTICE:	Class AB and Class C Amplifiers
ID CURSE:	706635
CURSE:	Voltage Amplifiers with Transistors
PROGRAM:	Electronic Engineering
TEACHER:	Juan Carlos Ramirez Rodriguez
SPACE - PRACTICAL ENVIRONMENT LEARNING:	Laboratory 401
SUBSPACE - PRACTICAL LEARNING ENVIRONMENT:	Laboratory 301 – 402
DATE:	Week 7, 8, 9, 10
ESTIMATED TIME:	8 hours

PRACTICE TOPIC

(Precise description of the practice that will be worked on with this Guide)

PROBLEM WHAT RESOLVES:	- Amplifiers in Common Emitter configuration are the most commonly used type of amplifier, as they can have a very large voltage gain. These amplifiers are designed to produce a large output voltage swing from a relatively small input signal voltage of only a few millivolts and are primarily used as "small signal amplifiers." - The main function of the power amplifier, which is also known as "large signal amplifier", is to supply power, which is the product of the load voltage and current. Basically, a power amplifier is also a voltage amplifier, with the difference that the load resistance connected to the output is relatively low, for example, a
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	4 Ω or 8 Ω speaker results in high currents flowing through the collector of the transistor.
UNIT OF COMPETENCE:	Design electronic systems to solve practical problems of organizations that safely achieve the expected objective.
COMPETITION ELEMENT TO DEVELOP:	Select relevant amplifier circuits using transistors.
INDICATOR:	Check the equivalences between the different amplifier systems.
EVIDENCE:	Laboratory report
DESCRIPTION FROM PRACTICE Here we prepare a detailed description of the procedure or skill to be evaluated in the scenario, from the beginning to the end.	PROCEDURE: 1. Class AB Amplifier Circuit. The class AB amplifier is a hybrid type of amplifier, which combines the characteristics of class A and class B amplifiers in order to take advantage of their advantages. This type of amplifier eliminates zero-volt crossover distortion and has high efficiency, although it is not as efficient as the class B amplifier, nor as linear as the class A amplifier. 



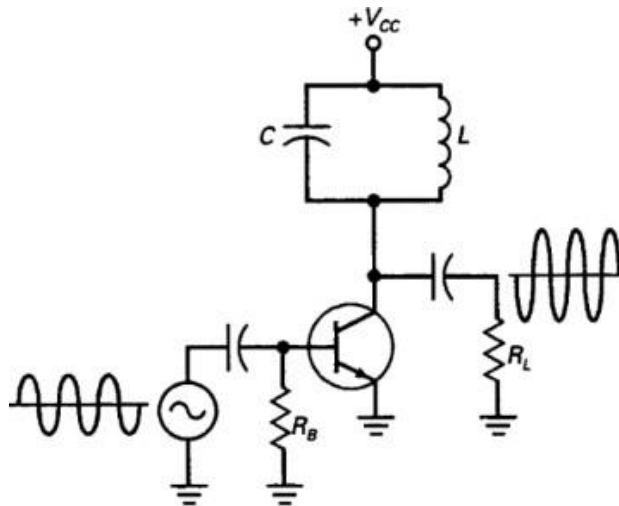
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2. Class C Amplifier.

Class C power amplifiers are based on the following premise: it is not about amplifying the input signal with quality, it is simply about amplifying the input signal so that the maximum possible performance is obtained at the output but only for a very narrow frequency range, around one of "resonance".



Write down your conclusions.

They are amplifiers that certainly are not suitable for audio signals, due to distortion. Its field of application is in telecommunications, in radio frequency, F , where an increase in the power level is required and linearity is not required between the input voltage and output voltage. Class C amplifiers can be amplitude modulated to amplify a frequency modulated carrier.

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INSTRUCTIONAL FOR THE TEACHER.

General recommendations for structuring the practice.

Next, we will define some basic characteristics that each case must have, which will facilitate not only the recreation of the situations to be evaluated and the scenarios, but also the selection criteria to which they will be subjected, to be part of our Library of practices.

Thus, each of these in its preparation must comply with the following aspects:

- a. REAL: that it is a real and authentic situation standardized internationally.
- b. PREVALENT: that is a situation of frequent performance for the professional.
- c. ACADEMIC RELEVANCE: that its development focuses on the competencies of the course program.
- d. COMPETENT RELEVANCE: that its development evaluates real performance situations.
- e. QUALITY: that each case in its resolution is supported by scientific evidence, allowing its validity and comprehensiveness.
- f. STRUCTURED: that it is adjusted to the attached instructions, complying with each of the points, which will facilitate its articulation with the Study Guides and the application of evaluation methods.
- g. SUFFICIENCY: articulation with indicators and evidence according to the model.
- h. FEASIBILITY: that its components can be recreated, in accordance with the resources and personnel of the Practical Learning Environments.
- i. EVALUABLE: that allows the definition of indicators and evidence.