Seat Number

King Mongkut's University of Technology Thonburi
Final Examination
Semester 1 -- Academic Year 2013

Subject: EIE 210 Electronic Devices and Circuit Design I
For: Electrical Communication and Electronic Engineering, 2nd Yr (Inter. Program)
Exam Date: Wednesday November 27, 2013 **Time:** 13.00-16.00 pm.

Instructions:-

1. This exam consists of 5 problems with a total of 6 pages, including the cover.
2. This exam is closed books.
3. You are **not** allowed to use any written A4 note for this exam.
4. Answer each problem on the exam itself.
5. A calculator compiling with the university rule is allowed.
6. A dictionary is **not** allowed.
7. **Do not** bring any exam papers and answer sheets outside the exam room.
8. Open Minds … No Cheating! GOOD LUCK!!!

Remarks:-

- **Raise your hand when you finish the exam to ask for a permission to leave the exam room.**
- **Students who fail to follow the exam instruction might eventually result in a failure of the class or may receive the highest punishment with university rules.**
- **Carefully read the entire exam before you start to solve problems. Before jumping into the mathematics, think about what the question is asking. Investing a few minutes of thought may allow you to avoid twenty minutes of needless calculation!**

Exam No.	1	2	3	4	5	6	7	8	TOTAL
Full Score									
Graded Score									

Name _____ **Student ID** _____

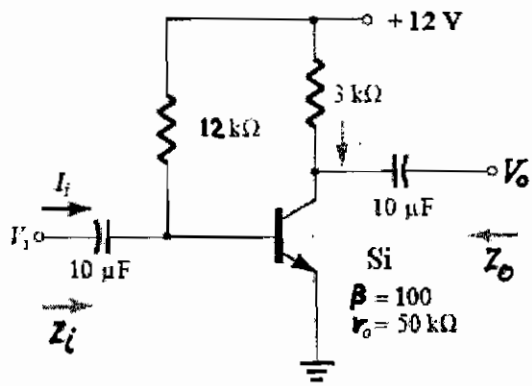
This examination is designed by
Dr. Kamon Jirasereeamornkul; Tel: 9067.

This examination has been approved by the committees of the ENE department.

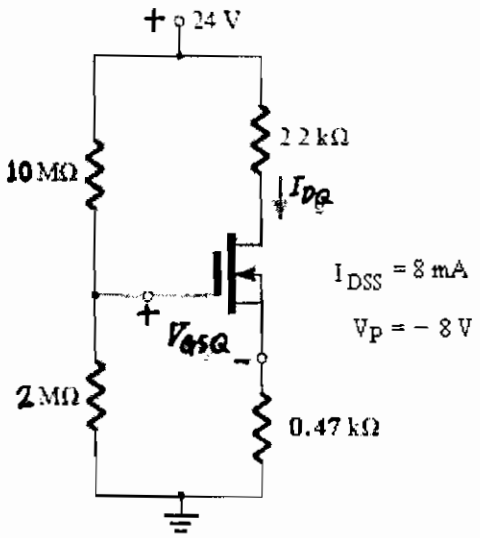
A. Wudhichai

(Assoc. Prof. Wudhichai Assawinchaichote, Ph.D.)
Head of Electronic and Telecommunication Engineering Department

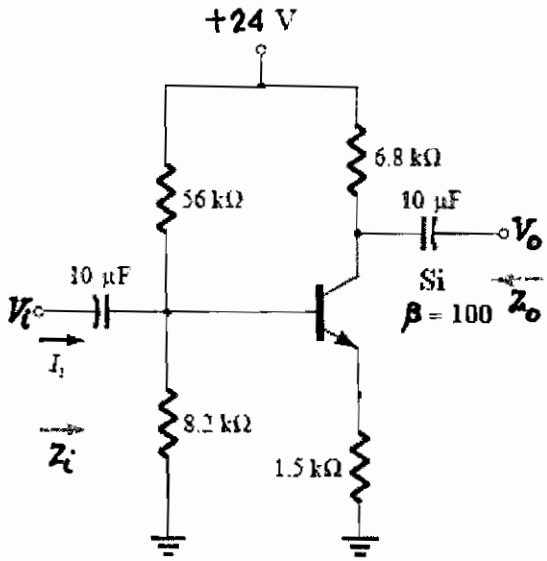
1. From the Fixed bias circuit, determine I_{BQ}, I_{CQ} and V_{CEQ}. (10 marks)



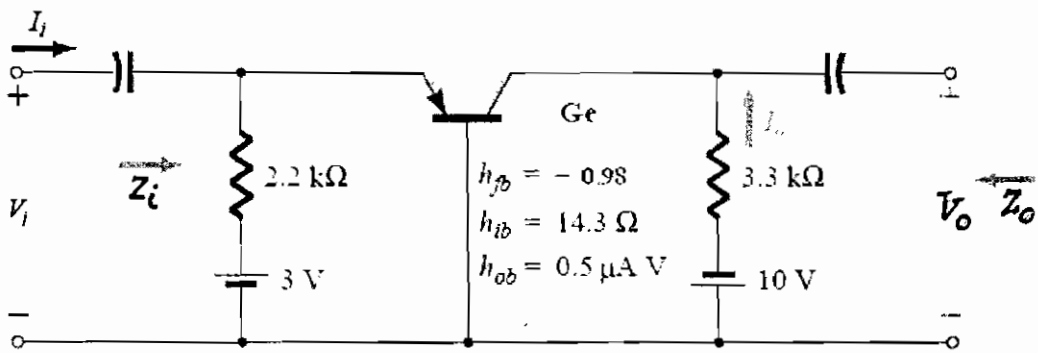
2. Consider the following circuit, determine V_{GSQ} and I_{DQ}. (10 marks)



3. From the following amplifier circuit, determine I_{CQ} and V_{CEQ}. Also, find Z_i, Z_o and A_V by using r_e model. (20 marks)



4. Please determine Z_i, Z_o and A_v of Common-Base Amplifier. (5 marks)



5. Please analyze the following circuit and conclude its function. Assume that the input voltage has only 2 levels, 0 V or 15 V. (5 marks)