

**ELG2136**  
**Winter 2019**  
**Assignment 1**  
**Posting Date 1/7/2019**

**General instructions**

- 1. Your equations and solutions may be hand-written, scanned into a PDF format.**
- 2. A fully typed solution can be given a bonus mark of up to 10% the full mark.**
- 3. Solutions photographed will not be marked, as they cannot be viewed clearly on the compute monitor.**
- 4. Once you have a PDF file for your entire assignment you can upload it to your account on the Brightspace.**
- 5. The deadline is firm. Once the deadline has passed, the assignment will not be available on Brightspace.**

# ELG2136 - Winter 2019

## Assignment 1

### Part 1/2

For the circuit shown in Figure 1, find the Thevenin equivalent resistance seen between the terminals a and b using **three different methods**.

You can assume that

- $r_o = 1\text{k}\Omega$
- $\beta = 50$
- $r_\pi = 1\text{k}\Omega$
- $R_L = 10\text{k}\Omega$

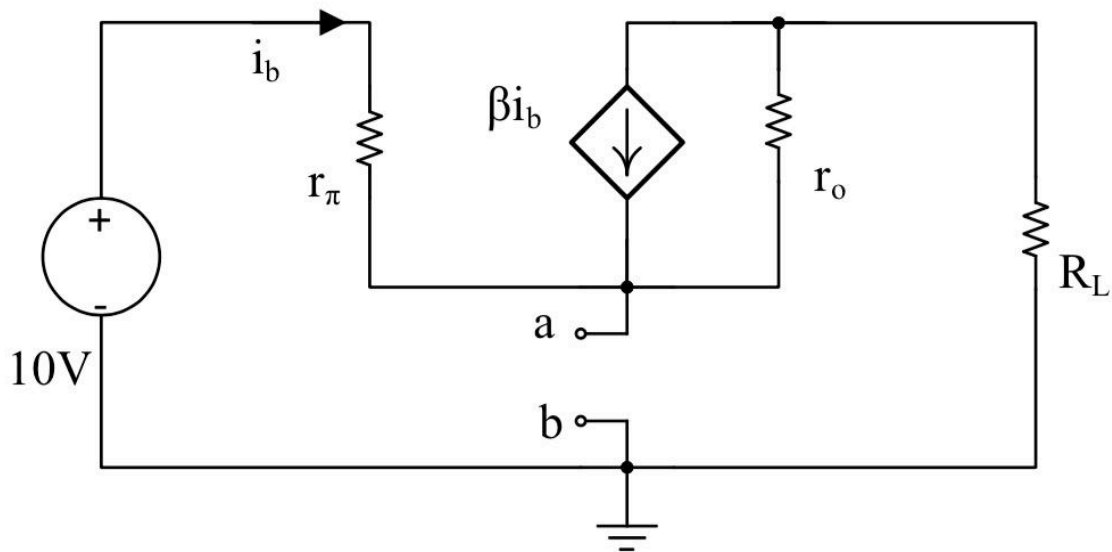


Figure 1

### Part 2/2

Use the Mutli-Sim circuit simulator to validate the results of the analysis in the previous part.