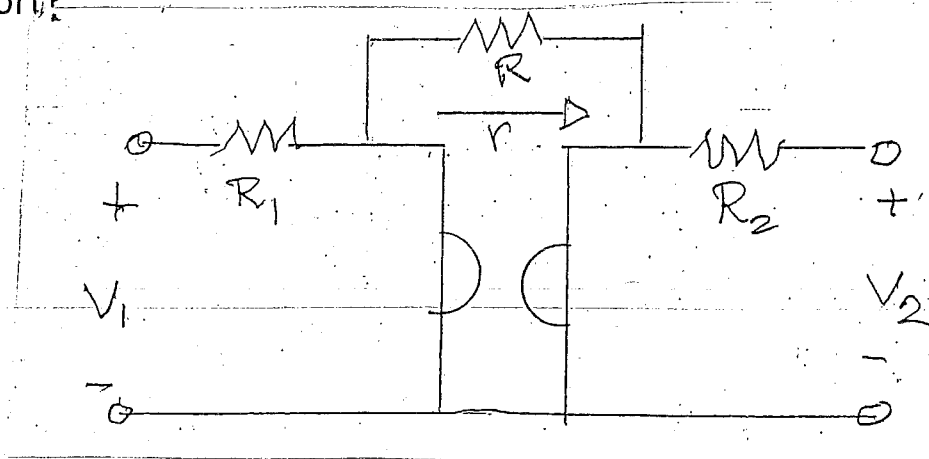


ECE 580

HOMEWORK 3

Due November 27, 2015

1. a. Find the scattering matrix of the circuit shown. Assume that all resistors (including the gyration resistance  $R$ ) equal  $50 \Omega$ .
- b. What can you state about the physical properties of the two-port?



2. Find the sensitivities of the output voltage of the amplifier shown to variations of all circuit parameters (including  $\beta$ ).

