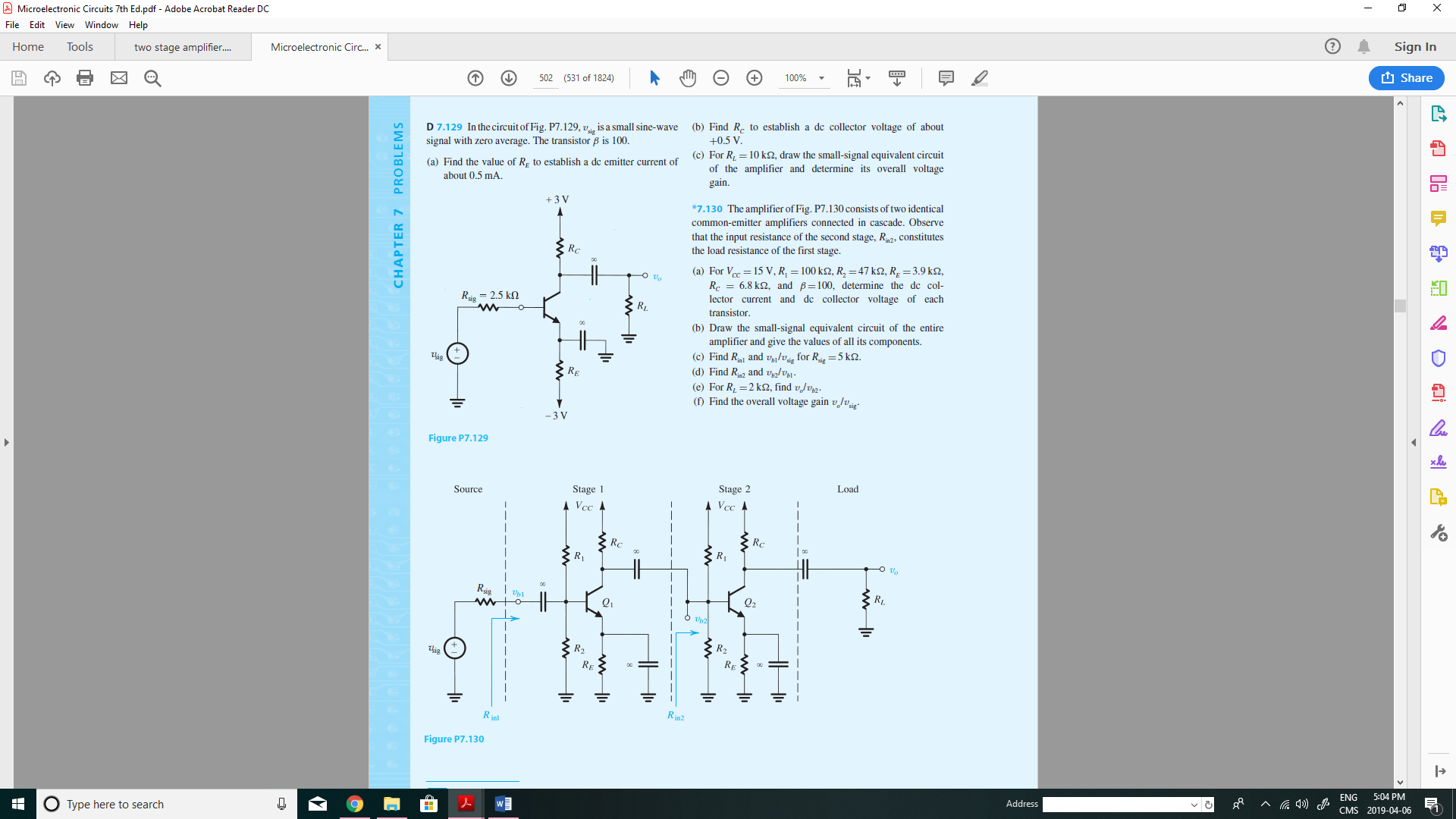
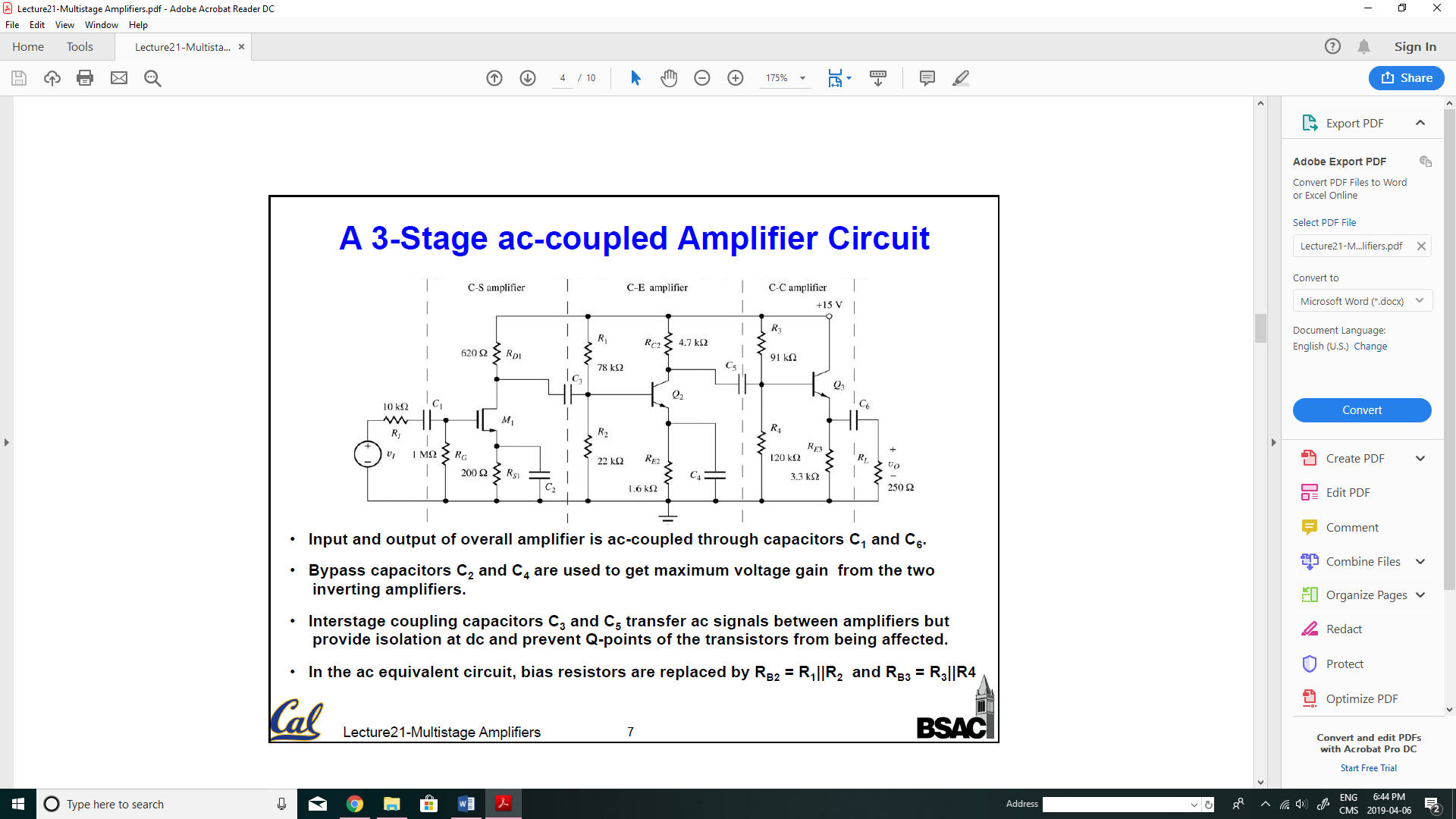
Q1.

The amplifier in the following figure consists of two identical common-emitter amplifiers connected in cascade. Observe that the input resistance of the second stage, , constitute the load resistance of the first stage.

1. For and determine the dc collector current and dc collector voltage of each transistor.
2. Draw the small-signal equivalent circuit of the entire amplifier and give the values of all its components.
3. Find and for .
4. Find and .
5. For find .
6. Find the overall voltage gain .

Q2.

In the following circuit, the MOSFET parameters are: and the dc drain current , the transistors and parameters are: and . Find the input resistance, output resistance and the overall voltage gain.

Q3.

