

Answers to EEE210 Quiz #4 AY2015-2016

1. Easy. Refer to notes.
2. Set all DC sources to 0, replace all capacitors by short-circuits, replace the BJT by its small signal AC model with:

$$h_{ie} = 240.55 \Omega$$

$$h_{fe} = 99$$

and redraw. Easy. Refer to notes.

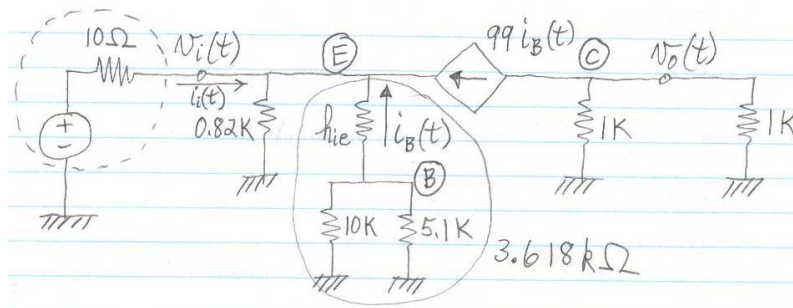


Figure 1:

3. Easy. Refer to notes.
4. $Z_{in} = 34.651 \Omega$, $Z_{out} = 1 \text{ k}\Omega$.
5. $A_I = 0.47409$, $A_P = 6.4866$.
6. $-0.382 \text{ V} < v_{in}(t) < 0.379 \text{ V}$.