

Ministry of Higher Education

Electrical Engineering Department



قسـم الهندسـة الكهربائيــة

| Name: | Section: 1 | Quiz: 1 |
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| Student ID: |  |  |

For the shown SCR circuit:
Assume the supply is $120 \mathrm{~V} \mathrm{rms}, \mathrm{I}_{\mathrm{GT}}=20$ mA , and $\mathrm{R}_{1}=3 \mathrm{k} \Omega$.
a) Design the circuit to have a firing angle of $45^{\circ}$.
b) What is the minimum and maximum firing angle that could be achieved by varying $\mathrm{R}_{2}$ ?


