Post-Lab Intro to Simscape

Due No due date	**Points** 14	**Questions** 14	**Time Limit** None

Attempt History

	Attempt	**Time**	**Score**
LATEST	Attempt 1	89 minutes	8 out of 14 *

* Some questions not yet graded

Score for this quiz: **8** out of 14 *
Submitted Feb 18 at 8:03pm
This attempt took 89 minutes.

Question 1 — 1 / 1 pts

Source resistor: R1(Ω)

Correct!

80.9

orrect Answers

Between 1 and 1,000

Question 2 — 1 / 1 pts

Source resistor: R4 (Ω)

Correct!

80.9

orrect Answers

Between 1 and 1,000

Question 3

1 / 1 pts

Biasing resistor: R2 (Ω)

Correct!

10

orrect Answers

Between 0 and 100

Question 4

1 / 1 pts

Biasing resistor: R3 (Ω)

Correct!

10

orrect Answers

Between 1 and 100

Question 5

1 / 1 pts

Backflow capacitor value (in microfarads uF)

Correct!

0.8754

orrect Answers

0 (with margin: 1)

Question 6

1 / 1 pts

What is the current gain (amps/amps) of your amplifier?

Correct!

10

orrect Answers

Between 1 and 50

Question 7

1 / 1 pts

What is the voltage attenuation of your amplifier (volts/volts)?

Correct!

0.21

orrect Answers

Between 0 and 1

Question 8

Not yet graded / 1 pts

Are there any design improvements you can make to this amplifier (please list 3 or 4)?

Your Answer:

You can increase the R_{LOAD}

You can increase the resistance of R_1 and R_4

You can lower the resistances of R_2 and R_3

Question 9

1 / 1 pts

Load Resistance value: R_{load} (Ω)

Correct!

4

orrect Answers

4 (with margin: 0)

Question 10

Not yet graded / 1 pts

What is the function of the load resistor? Is its value significant to the performance of the amplifier? Please explain.

Your Answer:

The load resistor is added to simulate something being connected to the circuit.

The numerical value itself is not significant as an arbitrary value but would be in a real-world application.

Question 11

Not yet graded / 1 pts

Identify types of basic circuits used in the construction of this amplifier (please list 3 or 4).

Your Answer:

Resistors in series

Parallel Circuits

RC Circuit

Question 12

Not yet graded / 1 pts

Submit your Simscape model file (both as an image and an .slx model).

CircuitSchematic.slx (https://sit.instructure.com/files/5828809/download)

Question 13

Not yet graded / 1 pts

Submit plots of V_{in}, I_{in}, V_{out}, and I_{out}.

AllPlotsTogether.png (https://sit.instructure.com/files/5828793/download)

Question 14

Not yet graded / 1 pts

Detail the characteristics (numerical values) of your amplifier (e.g. Source and Bias Resisters, R_{eq}, C, V_{in}, V_{out}, I_{in}, I_{out}, Current Gain, Voltage Attenuation and whatever else you think is important.)

Your Answer:

I_{in} = 0.0183 A I_{out} = .183 A

V_{in} = 3 V V_{out} = 0.63 V

R_{eq} = 181.8 Ohms

C = 0.8754 microfarads

Current Gain = 10 A/A

Voltage Attenuation = 0.21 V/V

Quiz Score: **8** out of 14