Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (please print)

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ECE 2202 – Exam 2

November 6, 2021

Keep this exam closed until you are told to begin.

1. This exam is closed book, closed notes. You may use one 8.5” x 11” crib sheet, or its equivalent. You may use a calculator. You should **not** use a cell phone, tablet computer, or laptop computer, as you work on this exam.

2. Show all work on these pages. You may use both sides of each page. You may separate the pages as you work. Show all work necessary to complete the problem. A solution without the appropriate work shown will receive no credit. A solution that is not given in a reasonable order will lose credit. Clearly indicate your answer (for example by enclosing it in a box).

3. It is assumed that your work will begin on the same page as the problem statement. If you choose to begin your work on another page, you must indicate this on the page with the problem statement, with a clear indication of where the work can be found.

4. Show all units in solutions, intermediate results, and figures. Units in the exam will be included between square brackets.

5. Do not use red ink. Do not use red pencil.

6. You will have 90 minutes to work on this exam.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/40

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/20

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/40

Total = 100

Room for extra work

1. {40 Points} Use the circuit shown below to solve.

Switches SWA and SWB were open for a long time before *t* = 0. At *t* = 0, both switches closed. Then, switch SWB opened again at *t* = 2[s].

1. Find *vA*(1[s]).
2. Find the energy stored in inductor *LA* at *t* = 1[s].



# Room for extra work

2. {20 Points} Given that



and



1. Find the phase of *A*.
2. Find *A / B*.
3. Find (*A – B*)\*.
4. Find the real part of *(A)(B\*)*.
5. Find the imaginary part of *B*.

Room for extra work

3. {40 Points} The circuit shown is in steady state. Find the numerical expression for *vB(t)*.















