UNIVERSITY
OF WOLLONGONG
IN DUBAI

Assignment Cover Sheet

Student Name	**Student number**
Taha Yaseen Parker	8243578

Subject code and name	ECTE202 – Circuits and Systems
Lab Instructor	Ms. Eva Barbulescu
Title of Assignment	Lab 3
Lab Number	3

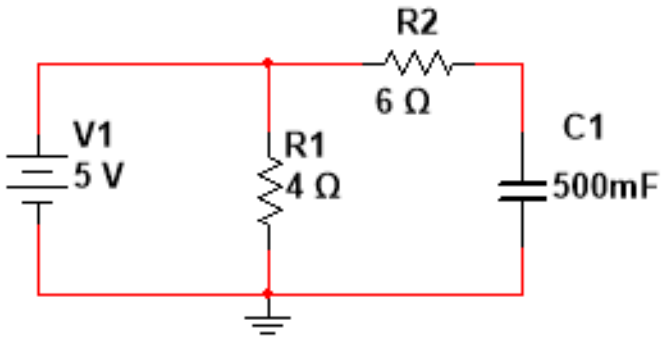
Student declaration and acknowledgment

By submitting this assignment online, the submitting student declares on behalf of the team that:

1. All team members have read the subject outline for this subject, and this assessment item meets the requirements of the subject detailed therein.
2. This assessment is entirely our work, except where we have included fully documented references to the work of others. The material in this assessment item has yet to be submitted for assessment.
3. Acknowledgement of source information is by the guidelines or referencing style specified in the subject outline.
4. All team members know the late submission policy and penalty.
5. The submitting student undertakes to communicate all feedback with the other team members.

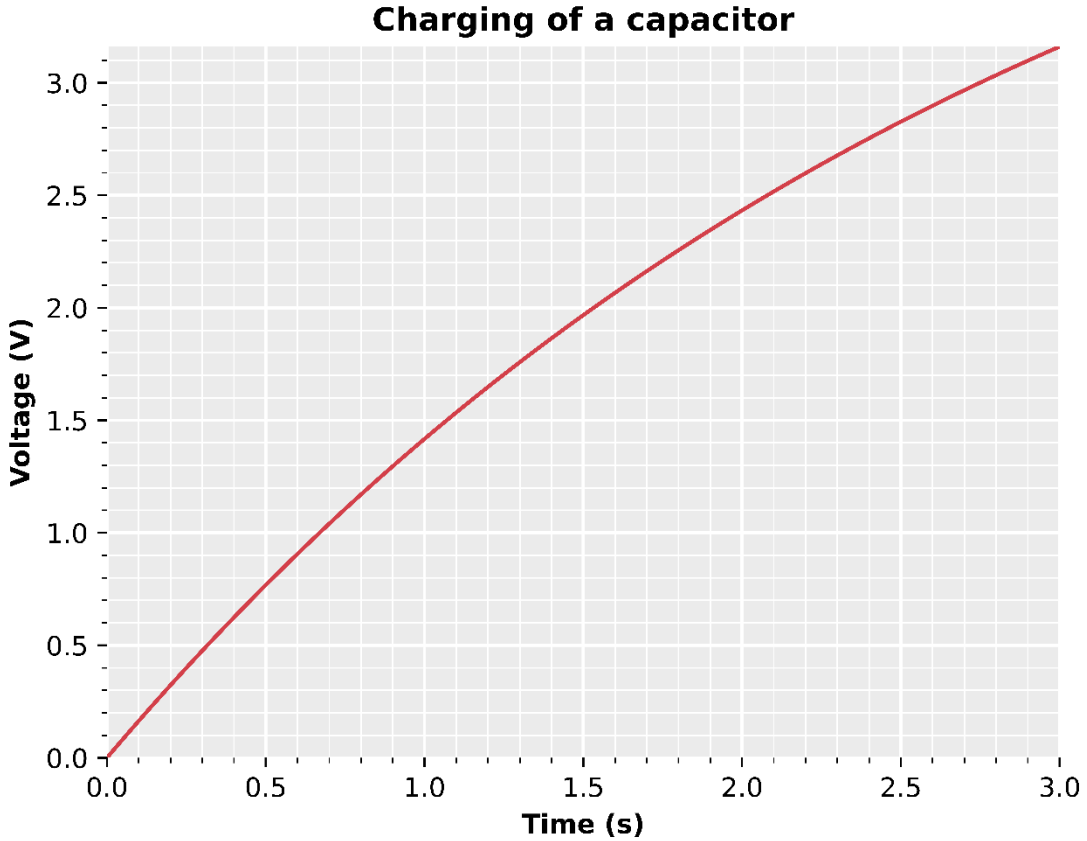
Lab 3

Task 1: The RC Circuit



Maximum Voltage	3.161 V
Time of maximum voltage	3 s
Minimum Voltage	0 V
Time of minimum voltage	0 s

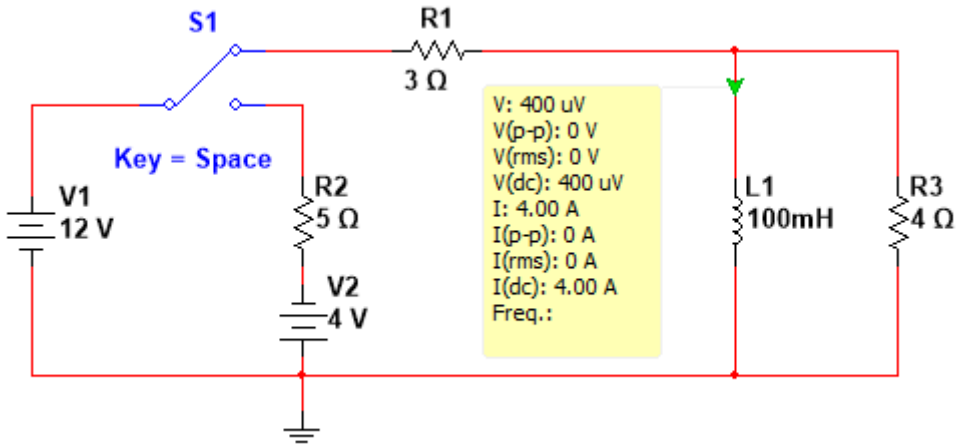
The graph displays the increase in the voltage of the capacitor as it charges up.



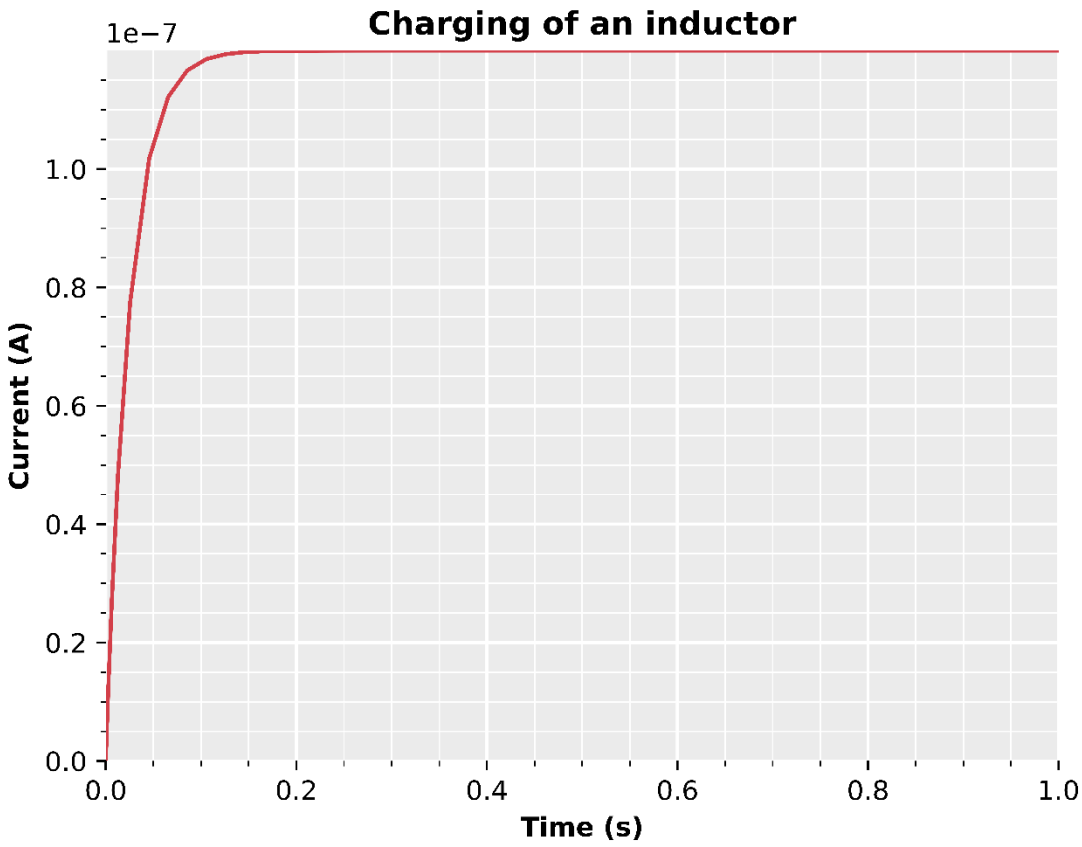
Excel Values:

X--Trace 1::[V(3)]	Y--Trace 1::[V(3)]
0	0
0.0006	0.0009998
0.0012	0.0019994
0.0024	0.003998201
0.0048	0.007993404
0.0096	0.01597423
0.0192	0.031897635
0.0384	0.063592068
0.0768	0.12637627
0.1368	0.222883671
0.1968	0.317480034
0.2568	0.410203202
0.3168	0.501090267
0.3768	0.590177588
0.4368	0.677500804
0.4968	0.763094848
...	...
1.7568	2.21619392
1.8168	2.271318793
1.8768	2.325352084
1.9368	2.378315409
1.9968	2.430229955
2.0568	2.481116491
2.1168	2.530995372
2.1768	2.579886553
2.2368	2.627809592
2.2968	2.674783659
2.3568	2.720827547
2.4168	2.765959675
2.4768	2.810198097
2.5368	2.853560511
2.5968	2.896064263
2.6568	2.937726357
2.7168	2.978563459
2.7768	3.018591905
2.8368	3.057827709
2.8968	3.096286566
2.9568	3.133983862
3	3.160662409

Task 2: The RL Circuit



Value of i_0 = 4 A



The graph signifies an inductor that is being charged. We can infer that when an inductor is charging, the current across it increases.

The graph stabilizes at 0.1456s.

Excel Values

X--Trace 1::[I(U1)]	Y--Trace 1::[I(U1)]
0	0
0.0002	9.52381E-10
0.0004	1.8972E-09
0.0008	3.77185E-09
0.0016	7.43257E-09
0.0032	1.44135E-08
0.0064	2.71156E-08
0.0128	4.81955E-08
0.0256	7.74655E-08
0.0456	1.0177E-07
0.0656	1.12185E-07
0.0856	1.16649E-07
0.1056	1.18562E-07
0.1256	1.19382E-07
0.1456	1.19733E-07
0.1656	1.19884E-07
0.1856	1.19949E-07
0.2056	1.19976E-07
0.2256	1.19988E-07
...	...
0.8056	1.19997E-07
0.8256	1.19997E-07
0.8456	1.19997E-07
0.8656	1.19997E-07
0.8856	1.19997E-07
0.9056	1.19997E-07
0.9256	1.19997E-07
0.9456	1.19997E-07
0.9656	1.19997E-07
0.9856	1.19997E-07
1	1.19997E-07