SAKARYA UNIVERSITY

PHYSICS LABORATORY II

2019-2020

EXPERIMENT REPORT

EXPERIMENT NUMBER:	5
EXPERIMENT TITLE	Transformers and Induction Coil
DATE	
GROUP NUMBER	
MEMBERS	

DEPARTMENT	
NAME-SURNAME	
NUMBER	
DELIVERY DATE	
REPORT SCORE	

1. Fill in Table 1 appropriately with the data you received. ***(10 point)***

Table 1

Coil's turn number (input)	Coil's turn number (output)	Input voltage V_1 (Volt)	Output voltage V_2 (Volt) "**cover closed**"	Output voltage V_2 (Volt) "**cover open**"
N_1=.....	N_2=.....	2		
		3		
		4		
		5		
		6		
N_1=.....	N_2=.....	2		
		3		
		4		
		5		
		6		

2. Plot the V_1-V_2 graphs for each N_2 value above for the closed cover. (***Not: Plot the V_1 values on the x-axis and V_2 values on the y-axis.***) ***(2x15 points=30 points)***

3. Find the slope ((V_2 / V_1) of each graph and determine the experimental N_2 / N_1 values. ***(2x10 points=20)***

First Chart : $Slope = V_2 / V_1 =$..... $N_2 / N_1 =$.....

Second Chart : $Slope = V_2 / V_1 =$..... $N_2 / N_1 =$.....

4. Calculate the percentage (%) error by comparing each experimental N_2 / N_1 ratio with the theoretical N_2 / N_1 ratio ***(2x5 points=10 points)***

5. Fill in Table 2 appropriately with the data you received. ***(10 points)***

6. Using this table, draw the V_1–V_2 voltage graph for the coil with unknown winding number. ***(10 points)***

7. Using the slope of the graph, find the number of turns of the coil. ***(10 points)***

Table 2

Coil's turn number (input)	Coil's turn number (output)	Input voltage V_1 (Volt)	Output voltage V_2 (Volt) "**cover closed**"
N_1=.....	.....?	2	
		3	
		4	
		5	
		6	
		7	
		8	

Graphics