1 Objective

The objective is to analyze a circuit and measure the real values to validate the calculated values [1].

2 Equipment Used

- Digital Multimeter
- DC Power Supply
- Resistors: 470Ω, $1K\Omega$ (2), $5.1k\Omega$, $10k\Omega$

3 Experiment Setup

4 Results

Table 8-1: Resistors Values [1]

Resistance	Measured ($K\Omega$)	Color Code ($K\Omega$)	Error (%)
R_1			
R_2			
R_3			
R_4			
R_5			

Table 8-2: Mesh Currents [1]

Current	Measured (mA)	Calculated (mA)	Error (%)
I_A		.813 mA	
I_B		-.404 mA	
I_C		-.913 mA	

Table 8-3: Resistors Voltages [1]

	Measured	Mesh Method	Nodal Analysis	Superposition	Simulation
V_{R1}		4.1463 V	4.43368 V	4.1466 V	4.147 V
V_{R2}		.18988 V	-1.2158 V	-.01897 V	.01897 V
V_{R3}		9.13 V	-8.21786 V	-9.1276 V	9.128 V
V_{R4}		.409 V	.566316 V	.3061 V	.8534 V
V_{R5}		.509 V	1.78213 V	-.536	.8724 V

Table 8-4: Resistors Current [1]

	Measured	Mesh Method	Nodal Analysis	Superposition	Simulation
I_{R1}		.813 mA	.869 mA	.81305 mA	.8131 mA
I_{R2}		-.404 mA	-2.386 mA	-.04037 mA	.04037 mA
I_{R3}		-.913 mA	-.821786 mA	-.91276 mA	.9128 mA
I_{R4}		.409 mA	.566316 mA	.3061 mA	.8534 mA
I_{R5}		.509 mA	1.78213 mA	-.536 mA	.8724 mA

5 Conclusion

References

[1] UNCC ECE Department. Network analysis, 2023. [Online; accessed 10 November 2023].