

Name:

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24.04.2023

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T.C.

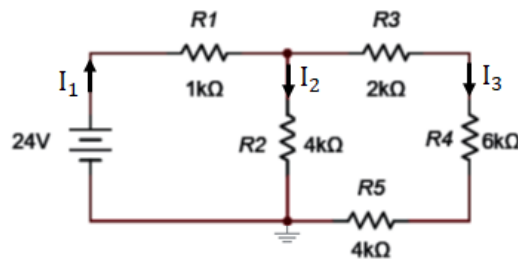
**BANDIRMA ONYEDI EYLÜL UNIVERSITY
FACULTY OF ENGINEERING AND NATURAL SCIENCES
DEPARTMENT OF COMPUTER ENGINEERING**

2022-2023 SPRING SEMESTER ANALYSIS OF CIRCUITS COURSE MIDTERM EXAM

QUESTIONS

1: Calculate the resistance of a transmission line made of copper with a diameter of 0.5 cm and a length of 29 km. Copper resistivity ($\rho = 0.017 \Omega \cdot \text{mm}^2 / \text{m}$) (15 Points)

2: Perform the following calculations according to the circuit below. (35 Points)



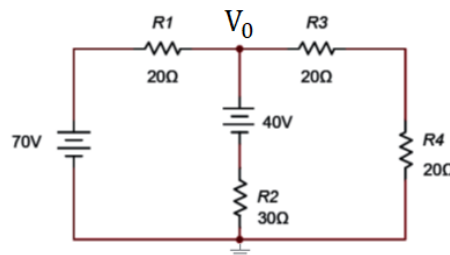
(a) Find the equivalent resistance.

(b) Find the current for I_1 , I_2 , and I_3 .

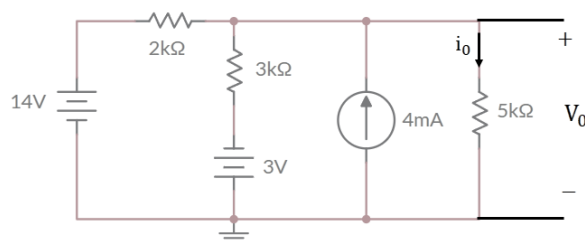
(c) Find the voltage for R_1 , R_2 , and R_4 .

(d) Find the generated power by the voltage source and the dissipated powers by R_3 and R_5 .

3: Find V_0 with **loop analysis** in the circuit below. (30 Points)



4. Find I_0 and V_0 in the circuit using **source transformation** step by step. (20 Points)



Note: All questions will be answered. **Answers must be written by hand.** Exam duration is 90 minutes.

Good luck.

Asst. Prof. Dr. Semih KORKMAZ