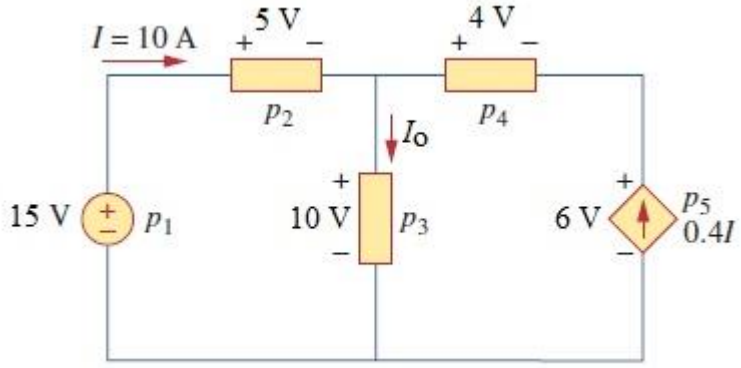
EAST WEST UNIVERSITY
Department of Computer Science and Engineering
B.Sc. in Computer Science and Engineering Program
In Course Assessment - 1, Spring 2021

Course: CSE 209 – Electrical Circuits, Section-4
Instructor: SHK, Senior Lecturer, CSE Department
Full Marks: 14
Time: 1 Hour and 30 Minutes [Including submission time]

Note: There are four questions, answer ALL of them. Course outcomes (CO) and marks of each question are mentioned at the right margin.

Problem 1

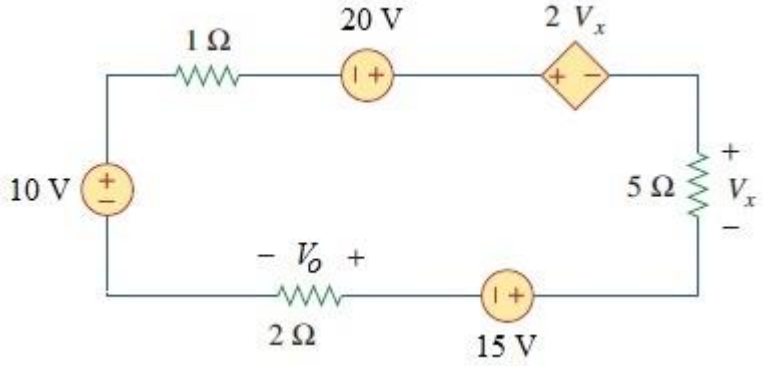
a) **Estimate** the power absorbed or supplied by all the circuit elements from the figure given below, [CO1, Mark: 3]



b) Also, **verify** the law of conservation of energy from the above circuit.

Problem 2

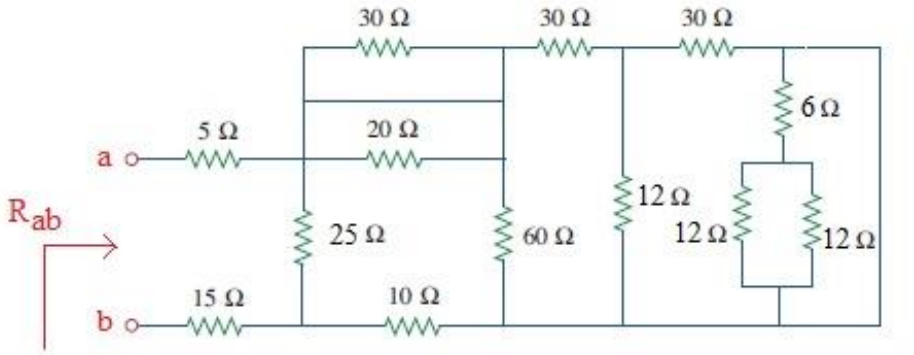
[Note that, **to solve** this circuit you **cannot use** advance analysis techniques like Nodal Analysis. You have to use the **basic laws** for analysis!] [CO1, Mark: 4]



a) **Find** V_x and V_O from the circuit given above.
b) Also, **verify** Kirchhoff's voltage law (KVL) from the circuit.

Problem 3

Determine R_{ab} from the circuit given below. [CO1, Mark: 3]

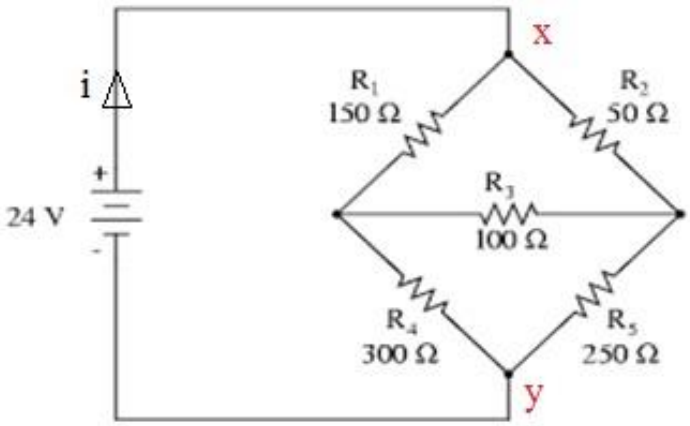


Problem 4

Analyze the bridge network circuit given below using wye-delta transformation technique and find the followings: [CO1, Mark: 4]

a) **Find** the voltage V_{R4}(voltage across 300Ω resistor) and the total current i.
b) **Find** the voltage V_{R5}(voltage across 250Ω resistor) and the total current i.

[**Note that, if the last digit of your student ID is even, then solve a, otherwise solve b**].



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