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Mark: 6.5/10 (total score: 6.5/10)

+5/1/44+

Example Exam - Basic Electricity, 08/10/2018

Name: .....

Student ID:

0	0	0	0	■	0	0	0
1	1	1	1	1	1	1	1
2	2	2	■	2	2	2	2
3	■	3	3	3	3	3	3
4	4	4	4	4	4	4	■
5	5	5	5	5	■	5	5
■	6	6	6	6	6	6	6
7	7	■	7	7	7	7	7
8	8	8	8	8	8	■	8
9	9	9	9	9	9	9	9

In the following circuit, where source voltage is $V_s = 220$ V, current and active power measurements were taken:

- $I_2 = 2$ A;
- $I_3 = 3$ A;
- $P_3 = 400$ W (measured in RL branch)

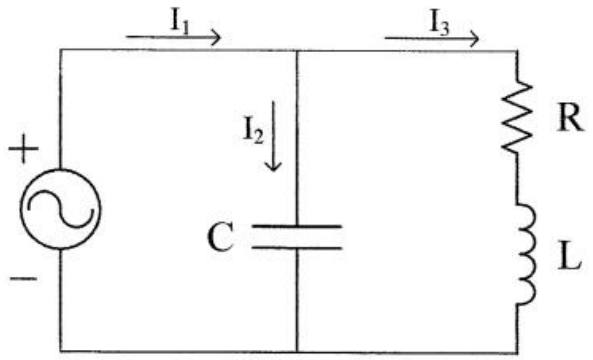
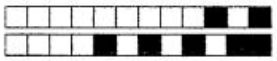


Figura 5: Circuit



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Question 1 Find the magnitude for current I_1, in amperes.

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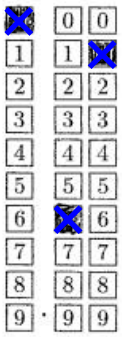
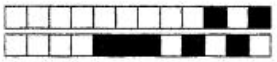
Question 2 Find the power factor in the RL branch (leading or lagging).



2/2

Question 3 Find the power factor as seen from the voltage source (leading or lagging).

0/3



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Question 4 Describe the procedure and assumptions that should be followed to find the capacitor that adjusts the power factor to a specific value.

0 0.5 1 1.5 2 [redacted] 3

2.5/3