Abc Xyz
Mark: 6/10 (total score: 6/10)

+1/1/60+

Example Exam - Basic Electricity, 08/10/2018

Name: Abc Xyz

Student ID:

0 0 0 [0] 0 0 0 0
1 1 1 1 1 1 1 1
[2] 2 2 2 2 [2] 2 2
3 3 3 3 3 3 3 3
4 [4] 4 4 4 4 4 4
5 5 5 5 5 5 [5] 5
6 6 6 6 6 6 6 6
7 7 [7] 7 7 7 7 7
8 8 8 8 8 8 8 [8]
9 9 9 9 9 9 9 9

In the following circuit, where source voltage is $V_s = 110$ V, current and active power measurements were taken:

- $I_2 = 2$ A:
- $I_3 = 4$ A;
- $P_3 = 300$ W (measured in RL branch)

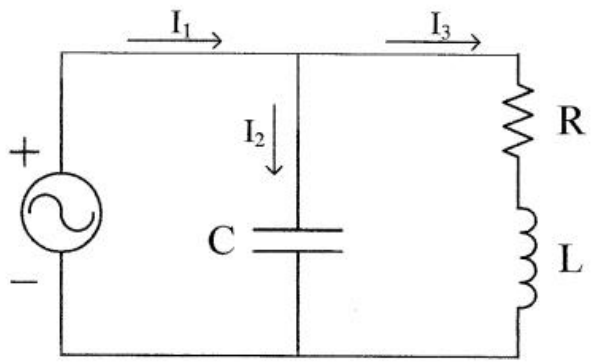

Figura 1: Circuit

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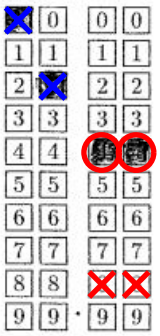
Question 1 Find the magnitude for current I_1, in amperes.



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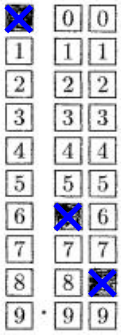
Question 2 Find the power factor in the RL branch (leading or lagging).



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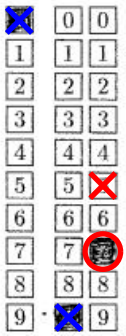
Question 3 Find the power factor as seen from the voltage source (leading or lagging).



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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 2.5 3

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