

ELEC 1111 - Electric Circuits

Tutorial 7 - AC Analysis I

Never Stand Still

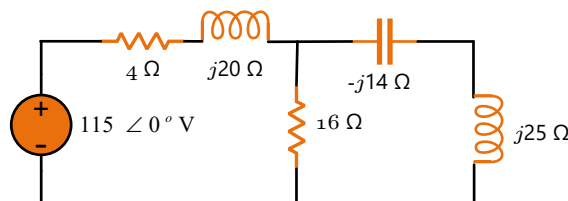
Faculty of Engineering

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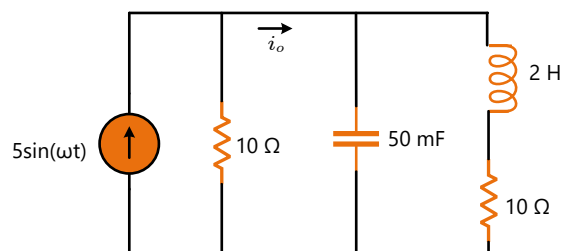
1. Using phasors, calculate the following expressions:

1. $3 \cos(20t + 10^\circ) - 5 \cos(20t - 30^\circ)$
2. $40 \sin 50t + 30 \cos(50t - 45^\circ)$
3. $20 \sin 400t + 10 \cos(400t + 60^\circ) - 5 \sin(400t - 20^\circ)$

2. In the following circuit, calculate Z_{eq} and use it to find the current \mathbf{I} of the source.



3. Find i_o in the following circuit.



4. At $\omega = 10^3$ rad/s, find the impedance and admittance of the following circuits:

