

Assignment-4

Note:- There will be one surfforize question.

1. Find the steady state current i flowing through circuit when (a) $f = 60\text{Hz}$ and (b) $f = 400\text{Hz}$, where $V_s = 160 \cos \omega t \text{ V}$.

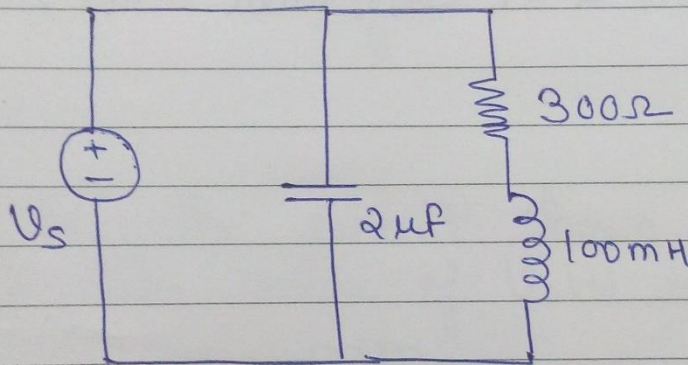


Fig: 1

2. For the circuit shown in fig 2, determine phasor currents I_s , I_C , I_L and I_R if $\omega = 1000 \text{ rad/sec}$.

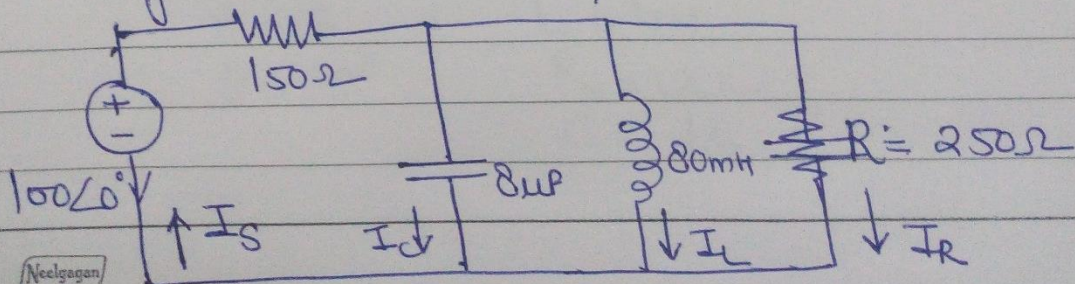


Fig: 2

3. Find the two node voltages $V_a(t)$ and $V_b(t)$ for the circuit shown in fig 3 when $V_s(t) = 1.2 \cos 4000t$.

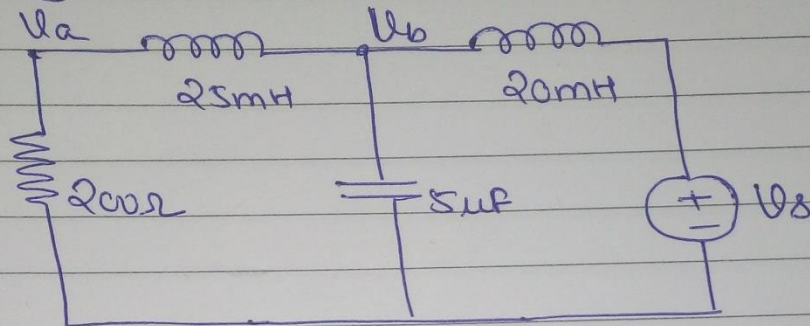
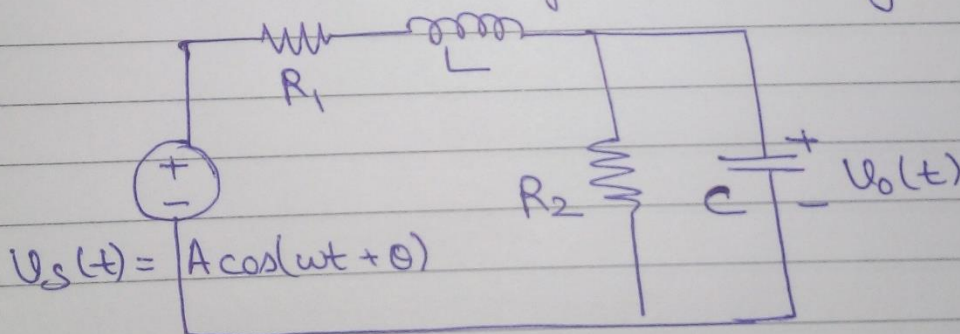


Fig 3.

~~Ans~~

4. For the circuit shown in fig 4, Calculate value of $V_o(t)$ using MATLAB.



where, $\omega = 2$
 $A = 12$
 $\theta = 30^\circ$

$R_1 = 6\Omega$
 $L = 4H$
 $R_2 = 12\Omega$
 $C = 1/24 F$