Name:

ID :

PRINCIPLES OF EE1

Homework #5

IMPORTANT: You should write on **A4 paper** that contains a full and detailed description of all the work done on the homework. Then you must submit the test hand-written by scanning and uploading the file in **pdf** form on Blackboard (Assignment Session). Marks will be deducted if there are sign of violation of regulation and late submission (20% for each day).

Tip: You draw a bounding box or highlight for your final answer. Ex: Y = ABC + AC = $\boxed{ABC}$

Problem 1: (25 marks)

Determine the phasor voltage $\boldsymbol{V}_g$ by using the node-voltage method in the circuit below.

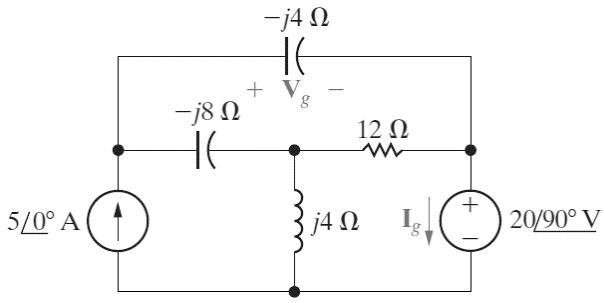

Figure 1

Problem 2: **(25 marks)**

Using superposition to find the current I_L in circuit below.

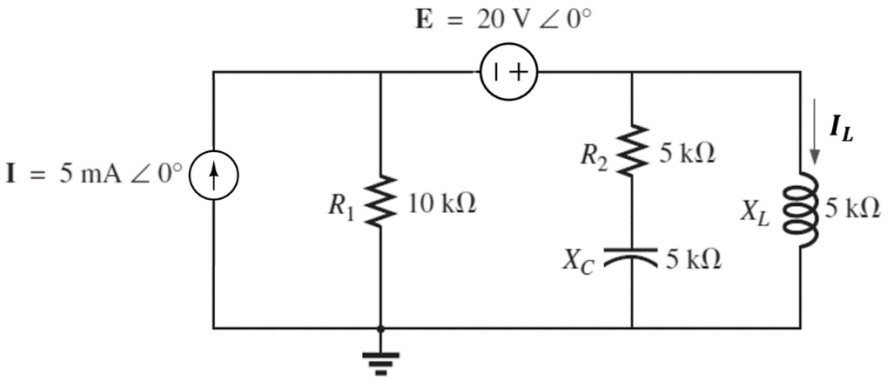

Figure 2

Problem 3: **(25 marks)**

Determine the current $i_x(t)$ I steady state of the following circuit when $v_0(t) = 2\sin(2t)$

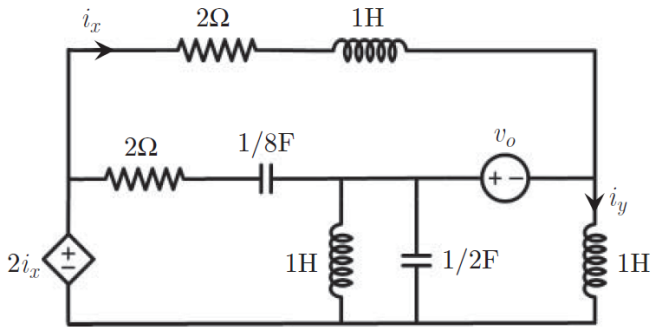

Figure 3

Problem 4: **(25 marks)**

Find the Norton equivalent circuit at terminal a-b where $\boldsymbol{V} = 2\angle 0^o$ and $\mu = 20$

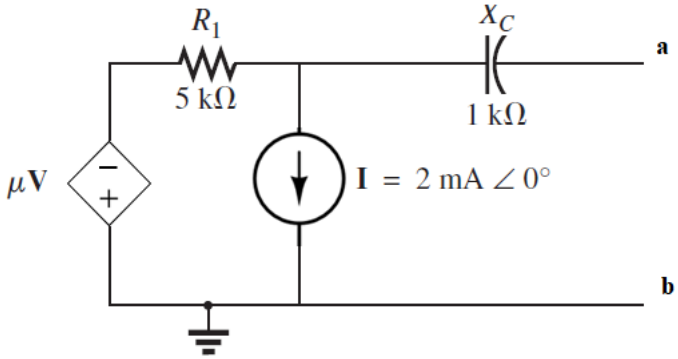

Figure 4