

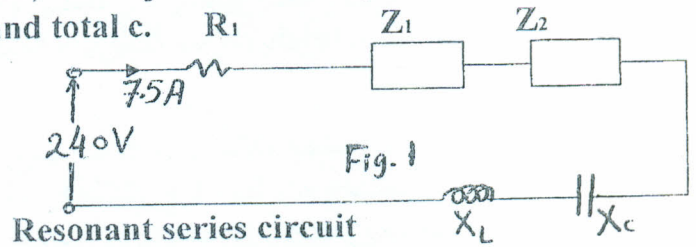
Exam. of Electrical Engg.  
 First year of Civil Engg. Dept.

لن يلتفت إلى أي إجابة بالقلم الرصاص ماعدا الرسومات ويمنع استخدام الألوان ماعدا الأسود والأزرق.

Answer All the Following Questions:-

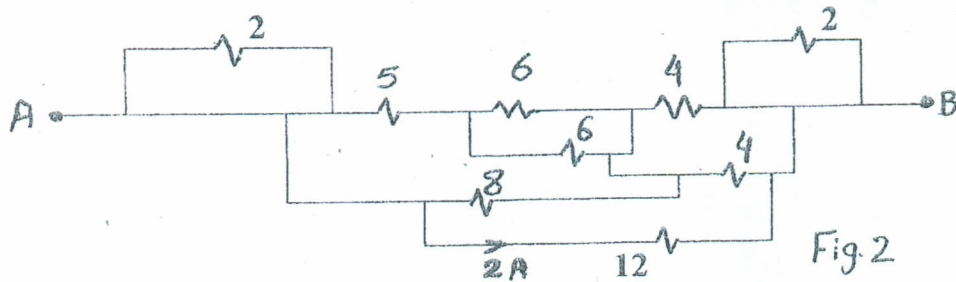
Q1-  $R_1 = 20 \Omega$ ;  $Z_1 = 8 + j21 \Omega$ ;  $Z_2 = |Z| \angle -\theta \Omega$ ;  $X_c = -j 15 \Omega$  &  $X_L = j 19 \Omega$ .  
 Find:  $Z$ ;  $\theta$ ;  $f_r$  (if  $L_{total} = 159.155 \text{ mH}$ ) and total c.

(9)



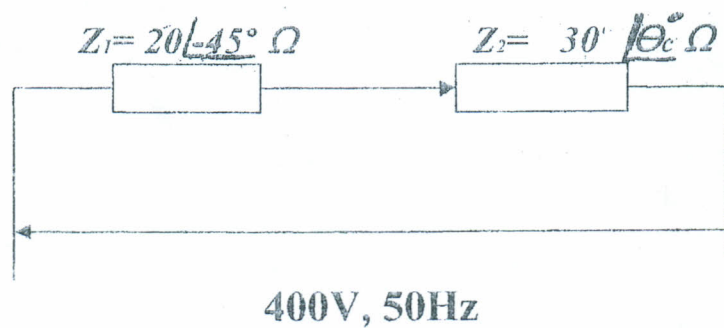
Q2- By using the simplification, Find  $R_{AB}$  (Fig.2) and calculate total current and total voltage.

(8)



Q3: By using phasor diagram, calculate total losses & overall power factor, of the circuit shown in figure.

(8)



مع دعواتي بالتوفيق  
 والنجاح  
 Pr. P. Dr. Eng. I. Mansy

Fig.3