كلية التقنية الالكترونية ..... أسئلة الامتحان النصلي
لمادة : دوائر كهربائية 2
التاريخ......08-8-2024م
الفصل الدراسي : / ربيع -2024
أستاذ المادة / د. محمد ناجي الرقيعي
الزمن...ساعة ونصف
المجموعة :
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Q1- (A) If the current through a capacitor c =50 µF is given by i(t) = 5 cos(2000t) A the voltage then is equal to.................... [1.0 marks]

(handwritten: E/2)

(handwritten: $pf = \frac{z}{z} = 1$) **(B)** If cos θ = z/z then the circuit is totally ....R......and pf is ....1.......and the phase angle between v and i is in.pase.and average power is....I^2 v....and θz is.0.. [2.0 marks]

As Pf reaches zero level, the load reaches.......... ملف أو مكثف *(handwritten: θz=80, θz=-90)* [1.0 marks]

(handwritten: pf=0)

(C) If v leads i by 90 degree in series single element cct, the Impedance Z is equal [1.0 marks] *(handwritten: Z=xL)*

(handwritten: pf=1) **(D)** If the Load power factor is 1, this means cct is ...R...., Cos.θ.z, ..θz= 0 [2.0 marks]

(E) XL =0 at frequency = ...0... & when Xc > XL in series cct means It Lead Vt [1.0 marks]

(handwritten: ic)

(F) At what angle is PT = VI, The angle between iL and ic in parallel cct is 180... [1.0 marks]

(handwritten: IL)

(g) Phasor diagram shown is representing Parallel Circuit and the value of θL is ..180-45 = 135... [1.0 marks]

(handwritten: $I^2 R = VL$)

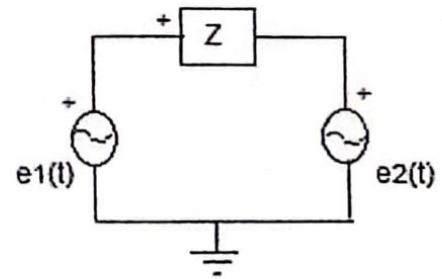**Q2.**
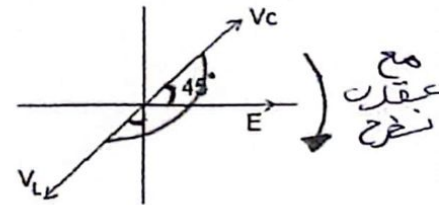
e1(t) = 8 sin (1000t+15) v and e2(t) has RMS value of 5.66 v and leads e1(t) by 60 degree, if the current in the circuit is given by i(t) = 2 cos (1000t-135) find

A) Nature and value of the single element load Z [6.0 marks]

b) Power dissipated in the circuit and pf [2.0 marks]
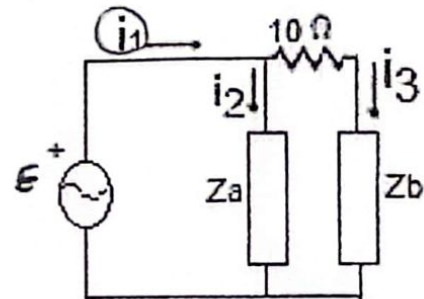
[C) Draw phasors diagrams [2.0 marks]

Q3.

(handwritten: بت)

In the cct shown E=1000 v and the current i1 lead E where E is reference signal *(handwritten: 0)*

i1 (t) = 158.1 cos (1000t+26.2) A [2.0 marks]

i3 (t) = 100 sin (1000t +135) A find

A) The phase between E and i2 [4.0 marks]

b) The nature and values of Za and Zb [6.0 marks]

(handwritten right: معامل, Xc>Xl, θz= -, θys+)

Za Zb are single elements