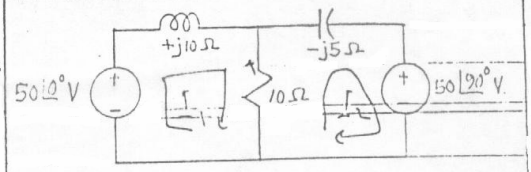
EE 214 , JUST , 1st Semester 2004/2005 , 1st Midterm Exam

Q1 (B problem)

The average power absorbed by the 10Ω resistor, in W, is:

a) 321.5 , c) 521.3 , e) 312.5

b) 32 , d) 3215

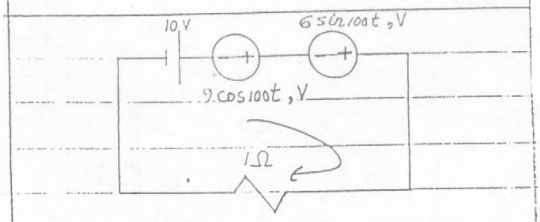


(2 (C problem)

The real power dissipated by the 1Ω resistor, in W, is:

a) 185.5 , c) 18.55 , e) 18

b) 158.7 , d) 55

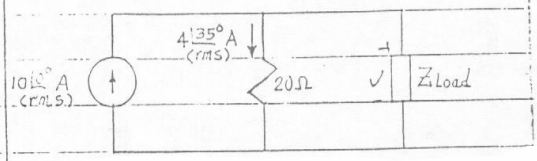


Q3 (C problem)

The reactive power absorbed by the load, in VAR, is:

a) 335.5 , c) 45.8 , e) 12.8

b) 54.89 , d) 158.9



Q4 (C problem)

The apparent power absorbed by the load, in VA, is:

a) 568.3 , c) 458.9 , e) 200

b) 33.5 , d) 586

Q5 (C problem)

The power factor of the load is:

a) 0.95 lagging , c) 0.59 lagging , e) 0.9 leading

b) 0.5 leading , d) $1/\sqrt{2}$ lagging

Q6 (E problem)

Given a 3phase, balanced, Y connected load has a phase impedance of 10+j10 Ω. The line voltage magnitude is 380 V (rms). The complex power absorbed by the load equals:

a) 220 +j 220 , b) 7220 + j 7220 , c) 720 +j 720 , d) 220+j 720 , e) 722 +j 220

Q7 (E problem)

Given a 3phase, balanced, Δ-connected load has a phase impedance of 6+j8 Ω. The line current magnitude is 20 A (rms). The complex power absorbed by the load equals:

a) 2400 +j 3200 , b) 3200 +j 2400 , c) 320 +j 240 , d) 200 +j 400 , e) 600 +j 800

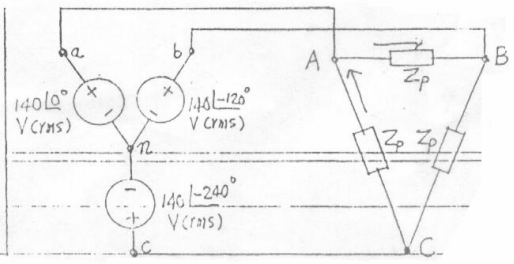
Q8 (A problem)

Given the load draws 15 KW and 9 KVAR.

$\bar{I}_{AB}$, in A (rms), equals:

a) $42 \angle 30^\circ$, c) $240 \angle +0.964^\circ$, (e) $24.05 \angle -0.964^\circ$

b) $25.04 \angle -9.645^\circ$, d) $41.06 \angle -30.964^\circ$



Q9 (C problem)

Given the load draws 15 KW and 9 KVAR

$\bar{I}_{aA}$, in A (rms), equals:

a) $35.7 \angle -0.964^\circ$, (c) $41.65 \angle -30.964^\circ$, e) $24.06 \angle -40.964^\circ$

b) $21.43 \angle +0.964^\circ$, d) $65.41 \angle +30.964^\circ$

Q10 (C problem)

Given the load draws 15 KW and 9 KVAR

Z_p, in Ω, equals:

a) $0.65 + j\,9.5$, c) $5.68 + j\,1.95$, e) $8.5 + j\,5.9$

b) $6.58 + j\,9.51$, (d) $8.65 + j\,5.19$

Question #	1	2	3	4	5	6	7	8	9	10
Answer	e ✓	~~a~~ b ✓	~~b~~ d ✓	a ✓	c ✓	b ✓	a ✓	e ✓	~~e~~ c ✓	d ✓

(10/10)