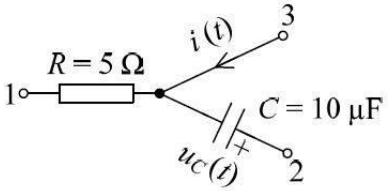
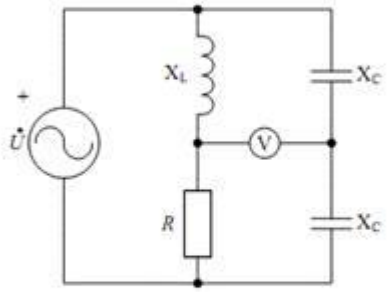
9. *3 boda* Na slici je izdvojeno prikazan jedan čvor neke složenije električne mreže. Ako je poznato: $i(t) = \sqrt{2}\sin(10^4 t + 90°)$ [A] i $u_C(t) = 10\sqrt{2}\sin(10^4 t)$ [V], odredite izraz za napon $u_{12}(t)$.

A) $10\sqrt{2}\sin(10^4 t + 225°)$ [V]
B) $10\sqrt{2}\sin(10^4 t + 45°)$ [V]
C) $10\sin(10^4 t + 225°)$ [V]
D) $20\sin(10^4 t + 45°)$ [V]
E) $20\sin(10^4 t - 135°)$ [V]



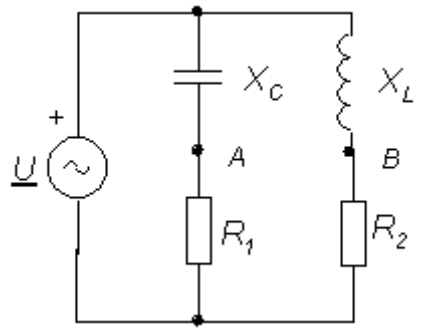
U mreži prema slici zadano je $X_L=X_C=R=10\ \Omega$. Ukoliko voltmetar pokazuje $U_V=10$ V, odredite napon izvora U.



A) $U = 20$ V
B) $U = 15$ V
C) $U = 30$ V
D) $U = 10$ V
E) $U = 25$ V

DEKANSKI ROK 10-11 **15. zadatak** **5.9.2011.**

Napon između točaka A i B u spoju prema slici iznosi 100 V. Koliko će isti napon iznositi ako zamijenimo poziciju kapaciteta i otpora u lijevoj grani? Zadano: $R_1 = R_2 = 200\ \Omega$, $X_L = X_C = 100\ \Omega$.



A) 150 V

B) 125 V

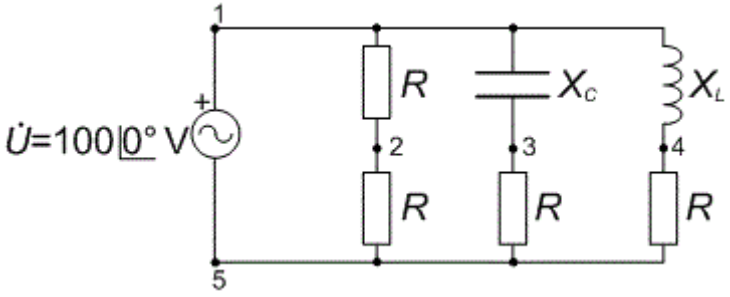
C) 100 V

D) 75 V

E) 50 V

2. MEĐUISPIT 11-12 **1. zadatak** **23.1.2012.**

Ako je $R = X_L = X_C$, fazor napona $\boldsymbol{U}_{53}$ u odnosu na fazor napona $\boldsymbol{U}_{23}$:



A) prethodi 45°

B) zaostaje 45°

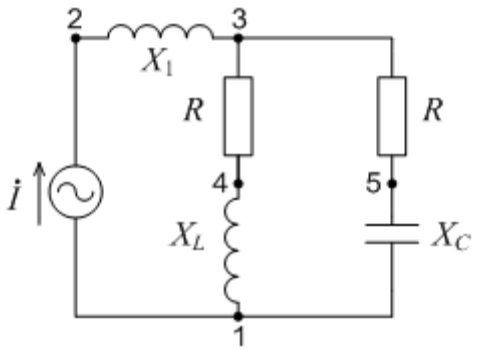
C) prethodi 90°

D) zaostaje 90°

E) u fazi je

J. ROK 13-14 **13. zadatak** **1.9.2014.**

U mreži prema slici odredite napon $\boldsymbol{U}_{12}$ ako je $\boldsymbol{U}_{45} = 20\angle 90°$, a $X_L = X_C = X_1 = R$.



A) $20\sqrt{2}\angle 45°$ V

B) $20\angle 90°$ V

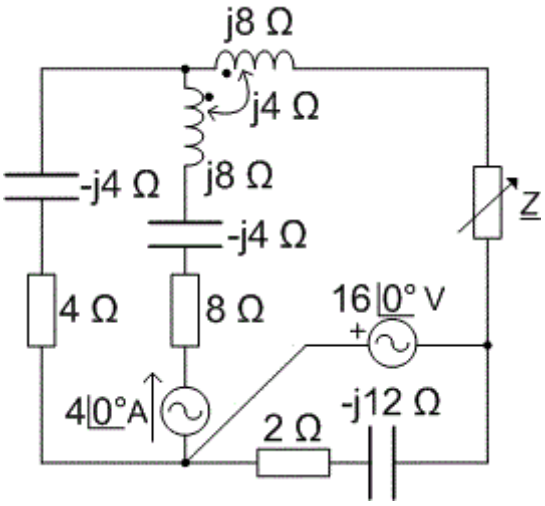
C) $20\sqrt{2}\angle -135°$ V

D) $20\angle 0°$ V

E) $20\angle -45°$ V

2. MEĐUISPIT 11-12 **5. zadatak** **23.1.2012.**

Odredite najveću radnu snagu *P* koja se može razviti na promjenjivoj impedanciji $\underline{Z}$ u spoju prema slici.



A) 32 W

B) 64 W

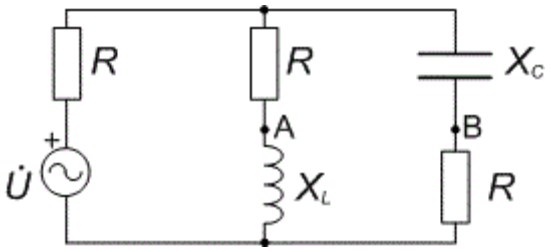
C) 128 W

D) 96 W

E) 16 W

2. MEĐUISPIT 11-12 **6. zadatak** **23.1.2012.**

Ako je zadano $R = X_L = X_C = 10\ \Omega$ i $\boldsymbol{U} = 100$ V, odredite Nortonovu struju $\boldsymbol{I}_N$ i Nortonovu impedanciju $\underline{Z}_N$ između točaka A i B u spoju prema slici.



A) $\boldsymbol{I}_N =$ 0 A, $\underline{Z}_N = 5 + j5\ \Omega$

B) $\boldsymbol{I}_N =$ 10 A, $\underline{Z}_N = 10\ \Omega$

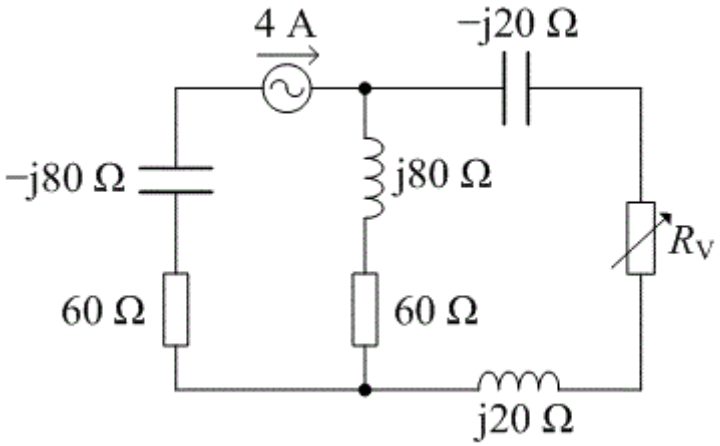
C) $\boldsymbol{I}_N =$ 5 A, $\underline{Z}_N = 10\ \Omega$

D) $\boldsymbol{I}_N =$ 0 A, $\underline{Z}_N = 10\ \Omega$

E) $\boldsymbol{I}_N =$ 0 A, $\underline{Z}_N = 5 - j5\ \Omega$

DEKANSKI ROK 12-13 **13. zadatak** **18.9.2013.**

Odredite maksimalnu snagu koja može disipirati na promjenjivom otporu R_V.



A) 0 W

B) 31,25 W

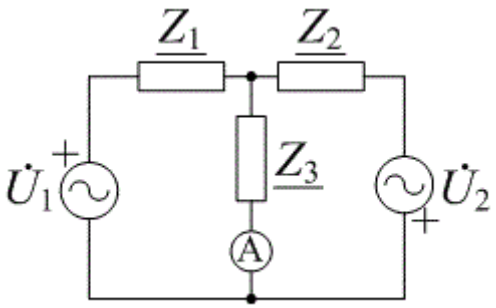
C) 500 W

D) 960 W

E) 1600 W

DEKANSKI ROK 12-13 **15. zadatak** **18.9.2013.**

Odredite pokazivanje ampermetra u mreži prema slici, ako je zadano: $\underline{Z}_1 = 1 + j2\ \Omega$, $\underline{Z}_2 = 1 - j2\ \Omega$, $\underline{Z}_3 = 1 + j2\ \Omega$, $\boldsymbol{U}_1 = 10$ V, $\boldsymbol{U}_2 = 5 - j8{,}66$ V.



A) 0 A

B) 3,05 A

C) 5,33 A

D) 6,83 A

E) 10,35 A