

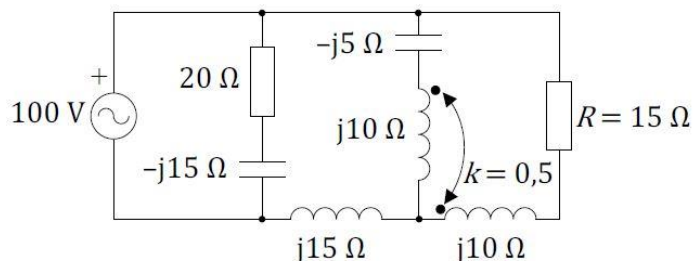
3. MASOVNE INSTRUKCIJE IZ OSNOVA ELEKTROTEHNIKE 2016./17.

1. DIO – SNAGA, TOPOGRAFSKI DIJAGRAMI, KRUGOVI IZMJENIČNE STRUJE

LJR 14-15

13. Izračunajte snagu na otporniku R u spoju prema slici.
3 boda

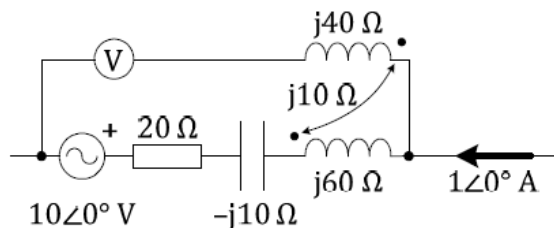
- A) 30 W
B) 60 W
C) 90 W
D) 120 W
E) 150 W



ZR 15-16

12. Koliki napon mjeri idealni voltmetar u dijelu mreže prema slici?
3 boda

- A) 30 V
B) $30\sqrt{2}$ V
C) $30\sqrt{5}$ V
D) 50 V
E) 75 V



ZR 13-14

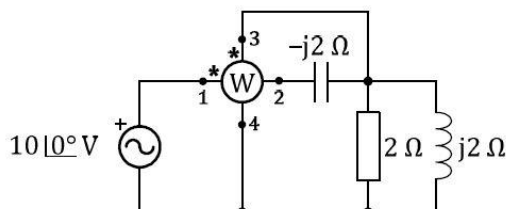
2. (2b) Serijski su spojeni otpornik $R = 5\Omega$ i kapacitet $X_C = 15\Omega$. Ako je napon na otporniku jednak $U_R = 31.623\text{V}$, odredite radnu i jalovu snagu spoja.

- A) $P = 200\text{ W}, Q = -600\text{ VAr}$ B) $P = 200\text{ W}, Q = 600\text{ VAr}$ C) $P = 600\text{ W}, Q = -200\text{ VAr}$
D) $P = 600\text{ W}, Q = 200\text{ VAr}$ E) $P = 0\text{ W}, Q = 0\text{ VAr}$

ZR 14-15

10. Odredite koliku snagu pokazuje vatmetar (strujne stezaljke 1 i 2, naponske stezaljke 3 i 4) u mreži prema slici.
3 boda

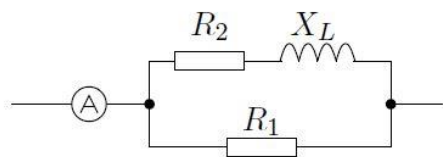
- A) 12,5 W
B) 25 W
C) 32,5 W
D) 45 W
E) 50 W



ZI 14-15

6. (3b) Odredite pokazivanje ampermetra u mreži prema slici ako je ukupna radna snaga u krugu jednaka $P_{uk} = 1100\text{ W}$, te $R_1 = 10\Omega$, $R_2 = 6\Omega$ i $X_L = 8\Omega$.

- A) $I_A = 14.03\text{ A}$
- B) $I_A = 14.83\text{ A}$
- C) $I_A = 19.24\text{ A}$
- D) $I_A = 20.98\text{ A}$
- E) $I_A = 25.69\text{ A}$

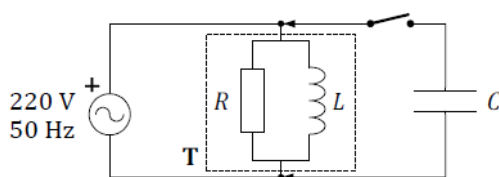


ZI 15-16

1. Induktivno trošilo **T** sa $\cos \varphi = 0,707$ i $R = 22\Omega$ priključeno je na izvor prema slici. Koliki najmanji kapacitet C treba priključiti paralelno trošilu da bi se $\cos \varphi$ cijelog spoja povećao na 0,866?

3 boda

- A) $21,15\ \mu\text{F}$
- B) $33,33\ \mu\text{F}$
- C) $47,15\ \mu\text{F}$
- D) $61,15\ \mu\text{F}$
- E) $87,32\ \mu\text{F}$

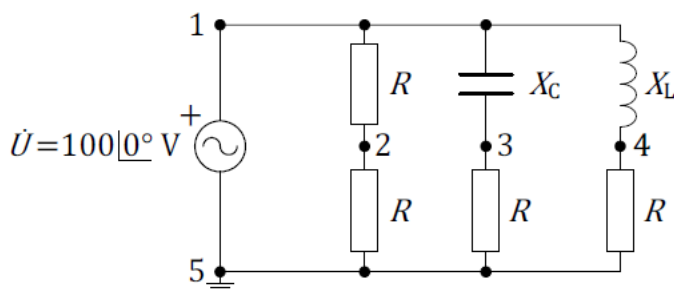


DR 15-16

11. Ako je $R = X_L = X_C$, fazor napona \dot{U}_{54} u odnosu na fazor napona \dot{U}_{24} :

3 boda

- A) prethodi 45°
- B) zaostaje 45°
- C) prethodi 90°
- D) zaostaje 90°
- E) u fazi je

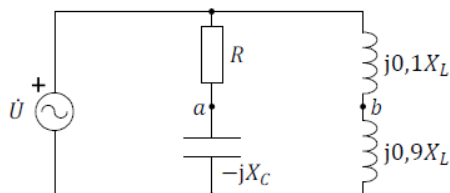


ZI 15-16

2. Napon $U_{ab} = 6,403\text{ V}$. Odredite efektivnu vrijednost struje izvora. Zadano $R = X_C = X_L = 10\Omega$.

3 boda

- A) 2 A
- B) $\sqrt{2}\text{ A}$
- C) 1 A
- D) $\sqrt{2}/2\text{ A}$
- E) $1/2\text{ A}$

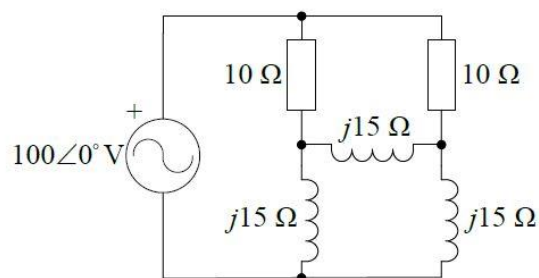


ZI 12-13

5. Odrediti struju izvora u mreži prema slici.

3 boda

- A) $I = 12,5 \text{ A}$
- B) $I = 11,1 \text{ A}$**
- C) $I = 9,7 \text{ A}$
- D) $I = 7,4 \text{ A}$
- E) $I = 6,1 \text{ A}$



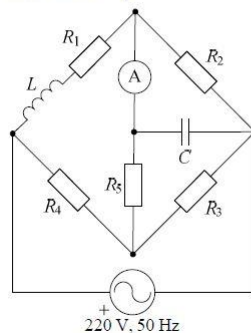
ZI 13-14

9. U spoju prema slici struja kroz ampermetar iznosi $I_A = 0$. Zadano je:

3 boda

$R_2 = 1 \text{ k}\Omega$, $R_3 = R_4 = 2 \text{ k}\Omega$, $R_5 = 200 \Omega$, $C = 1 \mu\text{F}$. Odredite R_1 .

- A) $R_1 = 5 \text{ k}\Omega$
- B) $R_1 = 4 \text{ k}\Omega$
- C) $R_1 = 1 \text{ k}\Omega$**
- D) $R_1 = 3 \text{ k}\Omega$
- E) $R_1 = 2 \text{ k}\Omega$



JR 11-12

17. Koliki iznos napona pokazuje voltmetar u mreži prema slici? Zadano je: $R_1 = 8 \Omega$, $R_2 = 8 \Omega$, $R_3 = 4 \Omega$, $R_4 = 16 \Omega$, $X_C = 8 \Omega$, $U = 24 \text{ V}$.

3 boda

- A) $15,8 \text{ V}$
- B) $17,9 \text{ V}$**
- C) $19,9 \text{ V}$
- D) $22,0 \text{ V}$
- E) $24,0 \text{ V}$

