

20 ta test

1-test.

Induktivligi $L = 0,30 \text{ H}$, qarshiligi $R = 6 \Omega$ bo'lgan RL-zanjir $\varepsilon = 12 \text{ V}$ manbaga ulanadi. Zanjirdagi stasionar tok I_0 nechaga teng?

- A) 1 A
- B) 2 A
- C) 3 A
- D) 4 A

2-test.

1-testdagi zanjir uchun vaqt doimiysi τ qancha bo'ladi?

- A) 0,02 s
- B) 0,05 s
- C) 0,10 s
- D) 0,50 s

3-test.

2-testdagi RL-zanjirda kalit yopilganidan keyin $t = 0,10 \text{ s}$ o'tgach tok $I \approx 2,6 \text{ A}$ bo'ldi.

Bu natijaga kelishda qaysi ifoda ishlatilgan?

- A) $I = I^0 e^{\left(-\frac{t}{\tau}\right)}$
- B) $I = I^0 \left(1 - e^{\left(-\frac{t}{\tau}\right)}\right)$
- C) $I = \varepsilon L / R$
- D) $I = \varepsilon R / L$

4-test.

$R = 5 \text{ k}\Omega$, $C = 200 \mu\text{F}$ bo'lgan RC-zanjir $\varepsilon = 10 \text{ V}$ manbaga ulanadi. Vaqt doimiysi τ nechaga teng?

- A) 0,5 s
- B) 1,0 s
- C) 2,0 s
- D) 5,0 s

5-test.

4-testdagi zanjirda $t = \tau$ bo'lganda kondensator kuchlanishi U taxminan nechaga teng bo'ladi?

- A) 3,7 V atrofida
- B) 5,0 V atrofida
- C) 6,3 V atrofida
- D) 10 V ga juda yaqin

6-test.

RC-razryadlanishda $U(t) = U_0 e\left(-\frac{t}{\tau}\right)$.

Kondensator kuchlanishi dastlabki qiymatining yarmiga tushishi uchun t ning τ ga nisbati taxminan qanday bo'ladi?

- A) $t \approx 0,5 \tau$
- B) $t \approx 0,69 \tau$
- C) $t \approx 1,0 \tau$
- D) $t \approx 2,0 \tau$

7-test.

O'zgaruvchan tok zanjirida kuchlanish amplitudasi $U_0 = 325 V$.

Kuchlanishning o'rtacha kvadratik qiymati U^{ok} nechaga yaqin?

- A) 110 V
- B) 220 V
- C) 230 V
- D) 325 V

8-test.

O'zgaruvchan tok zanjirida $U^{ok} = 100 V, I^{ok} = 5,0 A$, o'rtacha quvvat $P = 300 W$. Quvvat koeffitsienti $\cos\varphi$ nechaga teng?

- A) 0,40
- B) 0,50
- C) 0,60
- D) 0,75

9-test.

Faqat rezistorli zanjirda $U^{ok} = 120 V$ va $I^{ok} = 3,0 A$. Rezistor qarshiligi R nechaga teng?

- A) 20 Ω
- B) 30 Ω
- C) 40 Ω
- D) 60 Ω

10-test.

Ideal transformator uchun $U_1 = 220 \text{ V}$, $N_1 = 1100$, $N_2 = 110$. Ikkilamchi kuchlanish U_2 nechaga teng?

- A) 11 V
- B) 22 V
- C) 44 V
- D) 110 V

11-test.

10-testdagi transformator uchun ikkilamchi zanjirda $I_2 = 5 \text{ A}$ tok o'tsa, ideal deb olganda birlamchi tok I_1 nechaga teng bo'ladi?

- A) 0,25 A
- B) 0,5 A
- C) 1,0 A
- D) 2,0 A

12-test.

Transformatorning foydali ish koeffitsienti $\eta = 0,95$, birlamchi quvvat $P_1 = 2,0 \text{ kW}$. Ikkilamchi quvvat P_2 nechaga teng?

- A) 1,8 kW
- B) 1,9 kW
- C) 2,0 kW
- D) 2,1 kW

13-test.

Elektr energiyasi uzoq masofaga uzatilayotganda kuchlanishni oshirishning asosiy fizik sababi nimada?

- A) Zanjirdagi tokni kamaytirib, I^2R yo'qotilishini kamaytirish
- B) Kuchlanish ortsa, manba ichki qarshiligi kamayadi
- C) Kuchlanishni oshirish bilan chastota oshadi
- D) Tok kuchini oshirib, iste'molchiga ko'proq quvvat berish

14-test.

RL-zanjirda tok stasionar holatga yetgan. Shu paytda kalit birdaniga ochiladi. Qaysi hodisa eng to'g'ri tasvirlaydi?

- A) Tok bir zumda 0 ga tushadi
- B) G'altak katta EYuK hosil qilib, uchqun paydo bo'lishi mumkin
- C) Rezistordagi kuchlanish birdaniga 0 bo'ladi, tok o'zgarmaydi
- D) G'altak o'zini kondensator kabi tutadi

15-test.

RL-zanjirda $L = 0,20 \text{ H}$, $R = 4 \Omega$, tok stasionar bo'lib $I_0 = 2 \text{ A}$.
G'altakdagi magnit energiya W nechaga teng?

- A) 0,20 J
- B) 0,40 J
- C) 0,80 J
- D) 1,60 J

16-test.

Sig'imi $C = 50 \mu\text{F}$ bo'lgan kondensator $U = 400 \text{ V}$ gacha zaryadlangan.
Undagi energiya W nechaga teng?

- A) 0,5 J atrofida
- B) 2 J atrofida
- C) 4 J atrofida
- D) 8 J atrofida

17-test.

RC-zanjirda $\tau = 0,40 \text{ s}$. $t = 0,80 \text{ s}$ da kondensator kuchlanishi $U \approx 0,86 \varepsilon$ bo'ldi.
Bu natijani quyidagilardan qaysi biri ifodalaydi?

- A) $U = \varepsilon e^{\left(-\frac{t}{\tau}\right)}$
- B) $U = \varepsilon \left(1 - e^{\left(-\frac{t}{\tau}\right)}\right)$
- C) $U = \varepsilon t / \tau$
- D) $U = \varepsilon \left(1 + e^{\left(-\frac{t}{\tau}\right)}\right)$

18-test.

O'zgaruvchan tok zanjirida $U^{\text{ok}} = 220 \text{ V}$, $I^{\text{ok}} = 10 \text{ A}$ va $\cos\varphi = 0,8$. O'rtacha quvvat P nechaga teng?

- A) 1760 W
- B) 2000 W
- C) 2200 W
- D) 2750 W

19-test.

Transformatorning birlamchi kuchlanishi $U_1 = 1000 \text{ V}$, ikkilamchi kuchlanishi $U_2 = 250 \text{ V}$. Agar ikkilamchi tomonda $I_2 = 40 \text{ A}$ tok o'tsa (ideal hol), birlamchi tok I_1 nechaga teng?

- A) 5 A
- B) 8 A
- C) 10 A
- D) 16 A

20-test.

Quyidagilardan qaysi biri kondensatorli RC-zanjir uchun to'g'ri xulosa?

- A) Zaryadlangan kondensatordan to'g'ridan-to'g'ri doimiy tok o'tadi
- B) Zaryadlashda tok ortib borib, so'ngra doimiy bo'lib qoladi
- C) Zaryadlashda tok maksimaldan boshlanib, vaqt o'tishi bilan eksponensial kamayadi
- D) Zaryadlanish jarayonida kuchlanish doimiy, tok esa ortib boradi

Javoblar

- 1. B
- 2. B
- 3. B
- 4. B
- 5. C
- 6. B
- 7. B
- 8. C
- 9. C
- 10. B
- 11. C
- 12. B
- 13. A
- 14. B
- 15. C
- 16. A
- 17. B
- 18. A
- 19. C
- 20. C