KLJUČ RJEŠENJA
1. D.
2. B.
3. C.
4. D.
5. D.
6. C.
7. D.
8. B.
9. C.
10. A.
11. A.
12. C.
13. B.
14. B.
15. A.
16. A.
17. C.
18. C.
19. D.
20. D.
21. C.
22. B.
23. A.
24. C

25. (2 boda) $v = 2r\pi f$ 1 bod

$$f = \frac{v}{2r\pi} = 1{,}53 \cdot 10^5 \, Hz$$ 1 bod

26. (2 boda) $g = \dfrac{GM}{(R+h)^2}$ 1 bod

$h = 989$ km   1 bod

27. (2 boda) $l_{600^\circ C} = l_0 (1 + 1{,}7 \cdot 10^{-5} \cdot t)$ 1 bod

$$l_0 = \frac{l_{600^0 C}}{(1 + 1{,}7 \cdot 10^{-5} \cdot t)} = 59{,}39 \, \text{m}$$ 1 bod
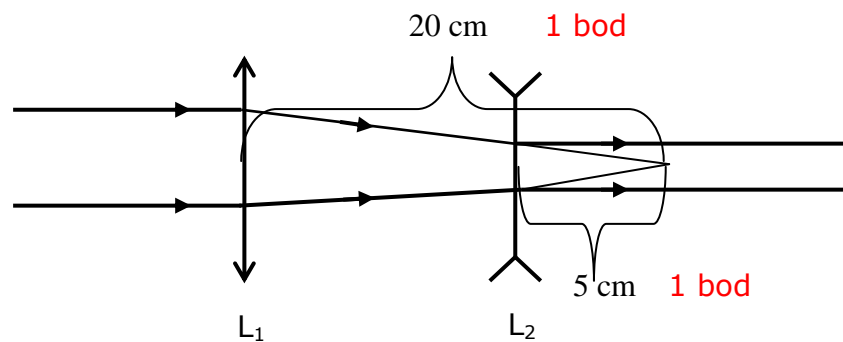
28. (2 boda) $\qquad$ $U_0 = 220\sqrt{2}$ V $\qquad$ 1 bod

$$Z = \frac{U_0}{I_0} = 110 \ \Omega$$ 1 bod

29. (2 boda)

20 cm $\qquad$ 1 bod

5 cm $\qquad$ 1 bod

L₁ $\qquad$ L₂

Odgovor: $\overline{L_1L_2} = 20 - 5 = 15$ cm

30. (2 boda) $\qquad$ $N = \frac{1}{8}N_0$ $\qquad$ 1 bod

$$\frac{1}{8}N_0 = N_0 \cdot 2^{-\frac{t}{T}} \qquad\qquad t = 84 \text{ dana}$$ 1 bod

31. (4 boda) $\qquad$ $V = \dfrac{m}{\rho} = \dfrac{3}{500}\,\text{m}^3$ $\qquad$ 1 bod

$$F_g = mg = 150N$$ 1 bod

$$F_u = \rho g V = 60\,\text{N}$$ 1 bod

$$F_{rez} = F_g - F_u = 90\,\text{N}$$ 1 bod

32. (4 boda)

$R_{A,B} = R/2$ 1 bod

$$U_{A.B} : U_C = \frac{R}{2} : R$$ 1 bod

$U_{A,B} + U_C = 120$ V   1 bod

$U_A = U_B = 40$ V, $U_C = 80$ V   1 bod

33. (4 boda)

$$\Delta V = 4 \cdot 10^{-3} m^3$$ 1 bod

$$W = p \cdot \Delta V = 1200 \text{ J}$$ 1 bod

$$Q = W + \Delta U$$ 1 bod

$$\Delta U = 1800 \text{ J}$$ 1 bod

34. (4 boda)

$$d = \frac{10^{-3}}{400} = 2{,}5 \cdot 10^{-6} \text{ m}$$ 1 bod

$$k = 5$$ 1 bod

$$\sin\theta = \frac{k\lambda}{d} = 1{,}2$$ 1 bod

Svijetlu pruga petog reda ne vidimo   1 bod

35. (4 boda)

$P_r = I \cdot 4 \cdot r^2 \cdot \pi$ 1 bod

$P_R = \sigma \cdot 4 \cdot R^2 \cdot \pi \cdot T^4$ 1 bod

$P_r = P_R$ 1 bod

$R = 6{,}5 \cdot 10^8$ m   1 bod