Rešitve nalog iz kolokvijev in izpitov:

- 1. KOLOKVIJ 2011
  - 1. naloga:
    - a) $t = 100s$
    - b) $a_S = 3\frac{km}{s^2} = 300g$
  - 2. naloga:
    - a) $\alpha = 16.7°$
    - b) $d = -880km$, ne uspe
  - 3. naloga:
    - a) $v = 8\frac{m}{s}$
    - b) $l = 8.3m$
  - 4. naloga:
    - a) $F_{vz} = 1N$
    - b) $h = 52m$
  - bonus naloga:
    - a) $v = 0.998c$
- 2. KOLOKVIJ 2011
  - 1. naloga:
    - a) $J = 0.000545kgm^2$
    - b) $a = 6.23\frac{m}{s^2}$
    - c) $\alpha = 208\frac{}{s^2}$
  - 2. naloga:
    - a) $R = 24\omega$
    - b) $C = 1.2\mu F$
    - c) $t = 66\mu s$
    - d) $I_0 = 0.12A$
  - 3. naloga:
    - a) $\beta = 13.69°$
    - b) $h = 4.35cm$
    - c) $\beta' = 13.45°$
    - d) $h' = 4,21cm$
    - e) $d = 1.1m$
  - 4. naloga:
    - a) $f(x) = \frac{1}{3}(\delta(x-0.5) + \delta(x-1) + \delta(x-2))$
    - b) $\bar{x} = \frac{7}{6}$, $\sigma^2 = \frac{7}{18}$
    - c) $P = \frac{2}{3}$
    - d) $f(x) = \frac{1}{9}(\delta(x-1) + 2\delta(x-1.5) + \delta(x-2) + 2\delta(x-2.5) + \delta(x-3) + \delta(x-3.5) + \delta(x-4))$
    - e) $P = \frac{1}{3}$
    - f) $P = 0.09$
- 1. IZPIT 2011
  - 1. naloga:
    - a) $v_1 = 1\frac{m}{s}$, $v_2 = 2\frac{m}{s}$, $v_3 = 4\frac{m}{s}$

    * b) $v_1 = 10\frac{m}{s}$, $v_2 = 20\frac{m}{s}$, $v_3 = 40\frac{m}{s}$
    * c) $d_1 = 10\frac{m}{s}$, $d_2 = 34,6\frac{m}{s}$, $d_3 = 54,7\frac{m}{s}$
  - 2. naloga:
    * a) $y_z^* = 0.05m$, $y_1^* = 0.15m$, $y_2^* = 0.33m$
    * b) $A_1 = 15J$, $A_2 = 42J$
    * c) $v_1 = 2.8\frac{m}{s}$, $v_2 = 4,5\frac{m}{s}$
    * d) $s_1 = 0.7m$, $s_2 = 1.1m$
  - 3. naloga:
    * a) $I_1 = 1.28A$, $I_2 = 1.04A$, $I_3 = 0.24A$
    * b) $I_0 = 0.91A$
  - 4. naloga:
    * a) $\beta = 16.26°$

- 2. IZPIT 2011
  - 1. naloga:
    * a) $v = 50\frac{m}{s}$
    * b) $t = 20s$
    * c) $\alpha = 5.8°$
    * d) $t = 19.9s$
  - 2. naloga:
    * a) $\rho_L = 500\frac{kg}{m^3}$
    * b) $m = 19625kg$
    * c) $N = 246$
    * d) $W_k = 176873J$
    * e) $t = 177s$
  - 3. naloga:
    * a) $I_1 = 0.87A$, $I_2 = 0.68A$, $I_3 = 0.19A$
    * b) $C = 6.7\mu F$
    * c) $I_0 = 147828A$
  - 4. naloga:
    * a) $l' = 0.8m$

- 3. IZPIT 2011
  - 1. naloga:
    * a) $v = 30.3\frac{m}{s}$
    * b) $d = 79.5m$
  - 2. naloga:
    * a) $F_{vz} = 600N$
    * b) $m = 47.75kg$
    * c) $a = 39\frac{m}{s^2}$
    * d) $t = 27.7s$
    * e) $h = 12711m$
  - 3. naloga:
    * a) $I_1 = 0.92A$, $I_2 = 0.12A$, $I_3 = 1.04A$
  - 4. naloga:

    * a) $l = 8.19m$
    * b) $l' = 5.82m$
    * c) $x = 0.78m$

- 4. IZPIT 2011
  - 1. naloga:
    * a) $v = 3.4\frac{m}{s}$
  - 2. naloga:
    * a) $A = 0.1445J$
    * b) $h = 0.58m$
    * c) $h' = 0.14m$
    * d) $F = 1.4N$
    * e) $a = 56\frac{m}{s^2}$
  - 3. naloga:
    * a) $T = 0.46ns$
  - 4. naloga:
    * a) $x = 20m$

- 1. kolokvij 2012
  - 1. naloga:
    * a) $t = 1.54s$
    * b) $d = 11.8m$
    * c) na isto mesto
    * d) veliko prej
  - 2. naloga:
    * a) $v_{zk} = -0.4c$, $v_{zr} = -0.73c$
    * b) $v'_{zk} = -1.3c$, $v'_{zr} = -0.98c$
    * c) $t = 41ns$
    * d) ne
  - 3. naloga:
    * a) $m_1 = 84kg$, $m_2 = 56kg$
    * b) $F_1 = 140N$, $F_2 = 110N$
    * c) ne, če se gostota vode ne spreminja z globino
  - 4. naloga:
    * a) $a = 3.5\frac{m}{s^2}$
    * b) $F = 480N$
    * c) $t = 7.56s$
    * d) $v = 26.46\frac{m}{s}$
    * e) $A_1 = 28000J$, $A_2 = 17500J$
    * f) $h = 3.5m$