

ΣΤΟΙΧΕΙΑ ΜΗΧΑΝΩΝ
ΠΑΝΕΛΛΗΝΙΕΣ 2017 Γ' ΕΠΑΛ
ΕΝΔΕΙΚΤΙΚΕΣ ΑΠΑΝΤΗΣΕΙΣ

ΘΕΜΑ Α

- A1.** 1 - δ
2 - α
3 - ε
4 - β
5 - στ
- A2.** α - Λ
β - Λ
γ - Σ
δ - Λ
ε - Σ

ΘΕΜΑ Β

- B1.** Σελ. 135 παράγραφος (γ)
- B2.** 1 - β
2 - γ
3 - δ
4 - α
5 - δ

ΘΕΜΑ Γ

Γ1. α) $h_f = 1,17m \Rightarrow 4,68 = 1,17 \cdot m \Rightarrow m = 4mm$

$h_k = m = 4mm$

β) $d_{01} = m \cdot z_1 \Rightarrow z_1 = \frac{d_{01}}{m} = 25$ δό ντια

$$d_{02} = m \cdot z_2 \Rightarrow d_{02} = 4 \cdot 50 = 200mm$$

$$a = \frac{d_{01} + d_{02}}{2} = 150mm$$

$$\Gamma 2. \quad \alpha. \quad v = \frac{\pi \cdot d_1 \cdot n_1}{60 \cdot 1000} = \frac{3,14 \cdot 300 \cdot 300}{60 \cdot 100} = 4,71m/s$$

$$\beta. \quad F \cdot v = 75 \cdot P \Rightarrow \frac{750 \cdot 4,71}{75} = P \Rightarrow P = 47,1HP$$

ΘΕΜΑ Δ

$$\Delta 1. \quad \alpha. \quad d_k = m(z + 2) = 3(52) = 156mm$$

$$\beta. \quad t = m \cdot \pi = 3 \cdot 3,14 = 9,42mm$$

$$\gamma. \quad s = 0,5 \cdot t = 4,71mm$$

$$\Delta 2. \quad \alpha. \quad \Sigma F = 0 \Rightarrow F_A + F_B + F_1 = F_2 \Rightarrow F_A + F_B = 900daN$$

$$\Sigma M_A = 0 \Rightarrow F_1 \cdot 200 - F_2 \cdot 400 + F_B \cdot 600 = 0$$

$$\Rightarrow F_1 - 2F_2 + 3F_B = 0 \Rightarrow 2400 - 300 = 3F_B$$

$$\Rightarrow F_B = \frac{2100}{3} = 700daN$$

$$\text{Άρα } F_A = 200daN$$

$$\beta. \quad \frac{C}{P} = 10 \rightarrow A : C = 10 \cdot F_A = 2000daN = 20000N \text{ (6009)}$$

$$\frac{C}{P} = 10 \rightarrow B : C = 10 \cdot F_B = 7000daN = 70000N \text{ (6409)}$$