

# ΝΑΥΤΙΚΕΣ ΜΗΧΑΝΕΣ

## ΠΡΟΤΕΙΝΟΜΕΝΕΣ ΑΠΑΝΤΗΣΕΙΣ

19/6/2019

### ΘΕΜΑ Α

A1 a.  $\lambda$  b.  $\Sigma$  γ.  $\Sigma$  δ.  $\lambda$  ε.  $\Sigma$

A2 1.  $\sigma$  2.  $\beta$  3.  $\delta$  4.  $\varepsilon$  5.  $\alpha$

### ΘΕΜΑ Β

B1  $\Sigma$   $\varepsilon$   $\lambda$  79 4 απαντήσεις

B2  $\Sigma$   $\varepsilon$   $\lambda$  437 3 αωω 4 απαντήσεις

### ΘΕΜΑ Γ

Γ1  $\Sigma$   $\varepsilon$   $\lambda$  80 5 αωω 9 απαντήσεις.

12

a)  $\omega = \frac{n}{30} = \frac{3,14 \cdot 1200}{30} = 3,14 \cdot 40 = 125,6$

$N_e = M_d \cdot \omega = 1000 \cdot 125,6 = 125600 \text{ W} = 125,6 \text{ kW}$

b)  $N_r = N_i - N_e = 157 - 125,6 = 31,4 \text{ kW}$

c)  $\eta_m = \frac{N_e}{N_i} = \frac{125,6}{157} = 0,8 = 80\%$

TEMA Δ

Δ1  $\bar{p}_i = \frac{F}{(Kn) \cdot s} = \frac{200}{1 \cdot 1} = 20 \text{ bar}$

$\eta_m = \frac{\bar{p}_e}{\bar{p}_i} \Rightarrow 0,85 = \frac{\bar{p}_e}{20} \Rightarrow \bar{p}_e = 20 \cdot 0,85$

$\Rightarrow \bar{p}_e = 17 \text{ bar}$

$\bar{p}_r = \bar{p}_i - \bar{p}_e = 20 - 17 = 3 \text{ bar}$

19

3. \*

$$N_e = \dot{m}_B \cdot \eta_e \cdot \Theta_u = 1 \cdot 0,4 \cdot 42500 = 17000$$

$$\eta_m = \frac{N_e}{N_i} \Rightarrow 0,85 = \frac{17000}{N_i} \Rightarrow N_i = \frac{17000}{0,85}$$

$$\rightarrow N_i = 20000 \text{ KW}$$

$$M_d = \frac{N_e}{\omega} = \frac{17000 \cdot 10^3}{2\pi} = 1700 \cdot 10^3 \text{ Nm}$$

\*  $\frac{\text{kg}}{\text{s}} \cdot \frac{\text{kJ}}{\text{kg}} = \frac{\text{kJ}}{\text{s}} = \text{KW}$