

ΘΕΜΑ Α

A1. α. Σ, β. Σ, γ. Λ, δ. Σ, ε. Λ

A2. 1. α, 2. ε, 3. στ, 4. β, 5. δ

ΘΕΜΑ Β

B1. ΣΧ. Β ΣΕΛ. 119 α) και β)

B2. ΣΧ. Β ΣΕΛ. 228 α), β), γ), δ) και ε)

B3. ΣΧ. Β ΣΕΛ. 297 α), β) και γ)

ΘΕΜΑ Γ

$$\Gamma 1. \eta = P/P_1 \rightarrow 0,8 = 8000/P_1 \rightarrow P_1 = 8000/0,8 = 10000W$$

$$\Gamma 2. P_1 = U \cdot I_T \rightarrow 10000 = 500 \cdot I_T \rightarrow I_T = 10000/500 = 20A$$

$$\Gamma 3. E_d = U - I_T \cdot R_T \rightarrow 460 = 500 - 20 \cdot R_T \rightarrow 20 \cdot R_T = 500 - 460 \\ \rightarrow 20 \cdot R_T = 40 \rightarrow R_T = 40/20 = 2\Omega$$

$$\Gamma 4. I_\epsilon = U/R_T = 500/2 = 250A$$

$$\Gamma 5. I_\epsilon' = 5 \cdot I_T = 5 \cdot 20 = 100A$$

$$I_\epsilon' = U/(R_T + R_\epsilon) \rightarrow 100 = 500/(2 + R_\epsilon) \rightarrow 2 + R_\epsilon = 500/100 \\ \rightarrow 2 + R_\epsilon = 5 \rightarrow R_\epsilon = 5 - 2 = 3\Omega$$

ΘΕΜΑ Δ

$$\Delta 1. n_s = (60 \cdot f)/p = (60 \cdot 50)/2 = 3000/2 = 1500rpm$$

$$s = (n_s - n)/n_s \rightarrow 0,02 = (1500 - n)/1500 \rightarrow 1500 - n = 1500 \cdot 0,02 \\ \rightarrow 1500 - n = 30 \rightarrow n = 1500 - 30 = 1470rpm$$

$$\Delta 2. P = (T \cdot n)/9,55 = (19,1 \cdot 1470)/9,55 = 2 \cdot 1470 = 2940W$$

$$\Delta 3. P_1 = P + P_{αν} = 2940 + 372 = 3312W$$

$$P_1 = \sqrt{3} \cdot U_n \cdot I_{yp} \cdot \cos \varphi \rightarrow 3312 = \sqrt{3} \cdot 230 \sqrt{3} \cdot I_{yp} \cdot 0,8$$

$$\rightarrow 3312 = 3 \cdot 230 \cdot 0,8 \cdot I_{yp} \rightarrow 3312 = 552 \cdot I_{yp} \rightarrow I_{yp} = 3312 / 552 = 6A$$

Δ4. ΣΥΝΔΕΣΜΟΛΟΓΙΑ ΤΡΙΓΩΝΟΥ

$$I_{yp} = \sqrt{3} \cdot I_{\varphi} \rightarrow 6 = \sqrt{3} \cdot I_{\varphi} \rightarrow I_{\varphi} = 6 / \sqrt{3} = 2\sqrt{3}A$$

ΧΙΩΤΗΣ
ΦΡΟΝΤΙΣΤΗΡΙΑ