

FORMULARI - TECNOLOGIA INDUSTRIAL - SELECTIVITAT

CINEMÀTICA

MRU	$x = x_0 + vt$	MRUA	$v = v_0 + at$	$x = x_0 + v_0t + \frac{1}{2}at^2$
MCU	$\varphi = \varphi_0 + \omega t$ $s = s_0 + vt$	MCUA	$\omega = \omega_0 + \alpha t$ $v = v_0 + a_T t$	$\varphi = \varphi_0 + \omega_0 t + \frac{1}{2}\alpha t^2$ $s = s_0 + v_0 t + \frac{1}{2}a_T t^2$
$s = r\varphi$ $v = r\omega$			$a_T = r\alpha$	
$a_N = \omega^2 r = \frac{v^2}{r}$			$\omega = 2\pi f$ $f = 1/T$	

ESTÀTICA

$$\begin{aligned} \Sigma F_x &= 0 & P &= mg \\ \Sigma F_y &= 0 & F_f &= \mu N \\ \Sigma M_o &= 0 \end{aligned}$$

DINÀMICA

$$\begin{aligned} F &= ma & E_p &= mgh \\ \Gamma &= I\alpha & E_c &= \frac{1}{2}mv^2 \\ P &= Fv = \Gamma\omega & E_{pe} &= \frac{1}{2}kx^2 \end{aligned}$$

CIRCUITS

$$\begin{aligned} U &= IR & R_s &= R_1 + R_2 + \dots \\ P &= IU \cos \varphi & R &= \rho \frac{L}{S} & \eta &= \frac{P_{util}}{P_{cons}} & \frac{1}{R_p} &= \frac{1}{R_1} + \frac{1}{R_2} + \dots \\ E &= Pt \end{aligned}$$

TRANSMISSIONS

$$\omega z = \omega' z' \quad i = \frac{\omega'}{\omega} = \frac{z}{z'}$$

TÈRMIIQUES

$$Q = mc_e \Delta T$$

MATERIALS

$$E = \frac{\sigma}{\epsilon}$$

METROLOGIA

$$\begin{aligned} E_a &= |Errori - Real| \\ E_r &= \frac{E_a}{Real} \end{aligned}$$

HIDRÀULICA

$$\begin{aligned} \rho &= \frac{m}{V} \\ P &= q\rho gh \quad > \text{i.e.: Energia (potencial) / temps} \end{aligned}$$

ÀLGEBRA BOOLEANA

$$\begin{aligned} a + a &= a \\ a \cdot a &= a \\ a + 1 &= 1 & \overline{a + b} &= \bar{a} \cdot \bar{b} \\ a + \bar{a} &= 1 & \overline{a \cdot b} &= \bar{a} + \bar{b} \\ a \cdot \bar{a} &= 0 \\ a + ab &= a \\ a + \bar{a}b &= a + b \end{aligned}$$

