UNIVERSIDAD CENTROAMERICANA, “JOSÉ SIMEÓN CAÑAS”
DEPTO. CIENCIAS ENERGÉTICAS Y FLUÍDICAS
FÍSICA II
FORMULARIO PARA PARCIALES

Mecánica de fluidos	Oscilaciones	Ondas	Termodinámica	
$p_2 - p_1 = -\rho g(y_2 - y_1)$	$x(t) = A\cos(\omega t + \phi)$	$y = A\cos\left(kx \pm \omega t + \phi\right)$	$\Delta L = \alpha L_0 \Delta T$	$\lvert W\rvert = \lvert Q_{\text{ent}}\rvert - \lvert Q_{\text{sale}}\rvert$
$\frac{F_1}{A_1} = \frac{F_2}{A_2}$	$\omega^2 = \frac{k}{m}$	$v = \lambda f$	$Q = mc\Delta T$	$e = 1 - \frac{\lvert Q_C\rvert}{\lvert Q_H\rvert}$
$B = \rho_f V_f g$	$A = \sqrt{x_0^2 + \frac{v_0^2}{\omega^2}}$	$v = \sqrt{\frac{F}{\mu}}$	$H = kA\frac{T_H - T_C}{L}$	$K = \frac{\lvert Q_C\rvert}{\lvert W\rvert}$
$A_1 v_1 = A_2 v_2$	$\phi = \mp\cos^{-1}\left(\frac{x_0}{A}\right)$ con $\pm v$	$P_{med} = \frac{1}{2}\sqrt{\mu F}\,\omega^2 A^2$	$H_{net} = Ae\sigma\left(T^4 - T_S^4\right)$	$e_{carnot} = 1 - \frac{T_C}{T_H}$
$p_1 - p_2 = \frac{1}{2}\rho(v_2^2 - v_1^2) + \rho g(y_2 - y_1)$	$E = \frac{1}{2}kA^2$	$\frac{I_1}{I_2} = \left(\frac{r_2}{r_1}\right)^2$	$\Delta U = Q - W$ $\Delta U = nC_V\Delta T$	$K_{carnot} = \frac{T_C}{T_H - T_C}$
$\frac{dp}{dy} = -\rho g$	$\gamma = \frac{b}{2m}$	$y_{\max} = 2A\cos\left[\frac{1}{2}(\phi_2 - \phi_1)\right]$	$W = \int_i^f p\,dV$	$\Delta S = \int_i^f \frac{dQ}{T}$
$\frac{V_f}{V_{ob}} = \frac{\rho_{ob}}{\rho_f}$	$x(t) = Ae^{-\gamma t}\cos(\omega' t + \phi)$	$I = \frac{1}{2}\sqrt{\rho B}\,\omega^2 A^2$	$W = \frac{1}{\gamma - 1}\left(p_i V_i - p_f V_f\right)$	$\Delta S = mc\ln\left(\frac{T_f}{T_i}\right)$
$p = p_0 + \rho g h$	$\omega' = \sqrt{\omega_0^2 - \gamma^2}$	$\beta = (10\ \text{dB})\log\left(\frac{I}{I_0}\right)$	$W = nRT\ln\left(\frac{V_f}{V_i}\right)$	$TV^{\gamma-1} =$ constante
$Q = \frac{dV}{dt}$	$A_p = \frac{F_0/m}{\sqrt{\left(\omega_0^2 - \omega_F^2\right)^2 + 4\gamma^2\omega_F^2}}$	$f_L = \frac{v + v_L}{v + v_S} f_s$	$Q = nC_V\Delta T$	$\Delta S_{sistema} + \Delta S_{entorno} \geq 0$

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