

PHYS II Lab Final Exam Equation Sheet

$V = IR$	$P = I^2R$	$E = Pt$	$F = ma$
$1/R_{eq} = 1/R_1 + 1/R_2$	$R_{eq} = R_1 + R_2$	$Q = mc\Delta T$	
$c/\lambda = f$	$E = hf$	$E_n = -\frac{13.6}{n^2}eV$	$n\lambda = d\sin\theta$
$s = \frac{L\lambda}{b}m \quad m = 0, \pm 1, \pm 2, \dots$	$s = \frac{L\lambda}{d}$	$r_n = \frac{L\lambda}{d}K_n$	
$R = R_{20}[1 + \alpha(T - 20^\circ C)]$	$\Delta = \frac{WH}{NR} - d$	$\tau = L/R$	
$I(t) = \frac{V}{R}e^{-\frac{t}{RC}}$	$V(t) = V_0[1 - e^{-\frac{t}{RC}}]$	$\tau = RC$	
$I(t) = \frac{V}{R}[1 - e^{-\frac{t}{\tau}}]$	$V(t) = V_0[1 - e^{-\frac{t}{\tau}}]$		
$1/d_o + 1/d_i = 1/f$	$m = -d_i/d_o$	$m = h_i/h_o$	
$\mu = \frac{1}{n} \sum_n x_i$	$\sigma^2 = \frac{1}{n-1} \sum_n (x_i - \mu)^2$	$\sigma_m = \frac{\sigma}{\sqrt{n}}$	
$X_L = 2\pi fL$			
$V = IR$	$I_m Z = V_m I_m X_C = V_C$	$I_m X_L = V_L$	
$CV = Q$	$X_C = 1/2\pi fC$		
$m_e = 9.11 \times 10^{-31} \text{ kg}$	$Z = \sqrt{R^2 + (X_L - X_C)^2}$		
$c = 3 \times 10^8 \text{ m/s}$	$h = 6.63 \times 10^{-34} \text{ J}\cdot\text{s}$	$h = 4.14 \times 10^{-15} \text{ eV}\cdot\text{s}$	
$1 \text{ eV} = 1.602 \times 10^{-19} \text{ J}$		$e = 1.602 \times 10^{-19} \text{ C}$	
$F = k \frac{q_1 q_2}{r^2}$	$\tan \phi = \frac{X_L - X_C}{R}$	$f_o = (2\pi\sqrt{LC})^{-1}$	