Formulas for Biophysics Final Examination

$T = L \times T_c$ and $f = \frac{1}{L \times T_c}$	$U = D \bullet H$	$Z = \sqrt{\rho \cdot B} = v \cdot \rho$
$A_{circle} = \pi r^2$	1 mm Hg = 133.32 Pa	$v = \frac{f_d \cdot c}{2f_t \cdot \cos\alpha}$
ρ = 1.0595 x 10^3 kg/m^3 (the density of blood)	$P_F = P_H + \rho g h_H$ $P_F = P_B + \rho g h_B$	g = 9.8 m/s^2 (acceleration of gravity)
$Q = \frac{\pi R^4}{8\eta l}\Delta p$	$F = \eta S \frac{\Delta v}{\Delta x}$	$A_1 \cdot v_1 = A_2 \cdot v_2$
$p + \rho g h + \frac{1}{2}\rho v^2 = const$	$N_R = \frac{2\rho \cdot v \cdot R}{\eta}$	$I(dB) = 10 \log_{10}\left[\frac{I}{I_0}\right]$

c = $3 \cdot 10^8$ m/s	h = $6{,}62 \cdot 10^{-34}$ J·s	$E = \frac{h \cdot c}{\lambda}$	$E = h \cdot \nu$
$\frac{\sin\alpha}{\sin\beta} = \frac{v_1}{v_2} = \frac{n_2}{n_1}$	$J = J_0 \cos^2\alpha$	$\frac{1}{x} + \frac{1}{y} = \frac{1}{f}$	$n = \frac{c}{c_1}$

$N_2 = N_1 \cdot e^{-\frac{E_2 - E_1}{kT}}$	$\varphi_1 - \varphi_2 = \frac{RT}{F} \cdot \frac{u_a - u_k}{u_k z_k + u_a \lvert z_a \rvert} \cdot \ln\frac{c_1}{c_2}$	$\Delta U = Q + L$
$F = \frac{q_1 q_2}{4\pi\pi_0 \varepsilon r^2}$	$\Delta V = \frac{RT}{F} \cdot \ln\frac{P_K[K^+]_o + P_{Na}[Na^+]_o + P[Cl^-]_{in}}{P_K[K^+]_{in} + P_{Na}[Na^+]_{in} + P[Cl^-]_o}$	$j = -D\frac{dc}{dx}$ $j = j_m \frac{c_o}{K_m + c_o}$
$S = k \cdot \ln\Omega$	$\Delta V = \varphi_1 - \varphi_2 = -\frac{RT}{zF} \cdot \ln\frac{c_1}{c_2}$	

$D = \frac{\Delta E}{\Delta m}$	$H_{ef} = \sum_t H_t \cdot w_t$	$H_t = D_t \cdot Q$	$I = I_0 \cdot e^{-\mu x}$	
$A = \lambda \cdot N$	$N = N_0 \cdot e^{-\lambda t}$	$\sigma = \sqrt{\bar{n}}$	$A = A_0 \cdot e^{-\lambda t}$	$N = n \cdot N_A$
$A = \lambda \cdot n \cdot N_A$	$n = \frac{m}{Z}$	$\mu = \frac{\ln 2}{d_{1/2}}$	$N_A = 6.023 \cdot 10^{23} mol^{-1}$	
$LET = \frac{\Delta E}{\Delta x}$	$\lambda_{eff} = \lambda_b + \lambda_p$	$\lambda = \frac{\ln 2}{T_{1/2}}$	$I = \frac{N}{t}$	$\sigma_I = \sqrt{\frac{I}{t}}$