Formula Sheet.

This formula sheet will be provided to candidates in the Advanced Theory examination and may be used to answer any question.

$Rt = R1 + R2 + R3..n$	$I = \frac{E}{R}$	$f_r = \frac{1}{2\pi\sqrt{LC}}$	$Z = \sqrt{R^2 + X^2}$
$\frac{1}{Rt} = \frac{1}{R1} + \frac{1}{R2} + \frac{1}{R3}..n$	$\lambda = \frac{c}{f}$	$Peroid = \frac{1}{frequency}$	$P = EI = \frac{E^2}{R} = I^2R$
$Ct = C1 + C2 + C3..n$	$ERP = power\ x\ gain\ (linear)$	$E_{rms} = \frac{V_{peak}}{\sqrt{2}}$	$E_{int} = E_{Peak}Sin\theta$
$\frac{1}{Ct} = \frac{1}{C1} + \frac{1}{C2} + \frac{1}{C3}..n$	$X_c = \frac{1}{2\pi fC}$	$X_L = 2\pi fL$	$Z_o{}^2 = Z_{sc} \times Z_{oc}$
$Lt = L1 + L2 + L3..n$	$c = 3\ x\ 10^8 m/s$	$T = CR = \frac{L}{R}$	$Q = \frac{2\pi fL}{R} = \frac{1}{2\pi fCR}$
$\frac{1}{Lt} = \frac{1}{L1} + \frac{1}{L2} + \frac{1}{L3}..n$	$I_p = I_s\frac{N_s}{N_p}$	$\frac{Np}{Ns} = \sqrt{\frac{Z_p}{Z_s}}$	$\mu = \frac{\Delta_f}{f_s}$
$SWR = \frac{\sqrt{P_f} + \sqrt{P_r}}{\sqrt{P_f} - \sqrt{P_r}}$	$Voltage\ gain = 20Log_{10}\frac{E_1}{E_2}dB$	$Power\ gain = 10Log_{10}\frac{P_1}{P_2}$	$BW = 2(AF_{max} - \Delta f)$
$Image = signal + (2\ x\ IF)$	$E_n = \sqrt{4(K)(T)(R)BW}$	$\beta = \frac{\Delta I_c}{\Delta I_b}$	$BW = \frac{f}{Q}$