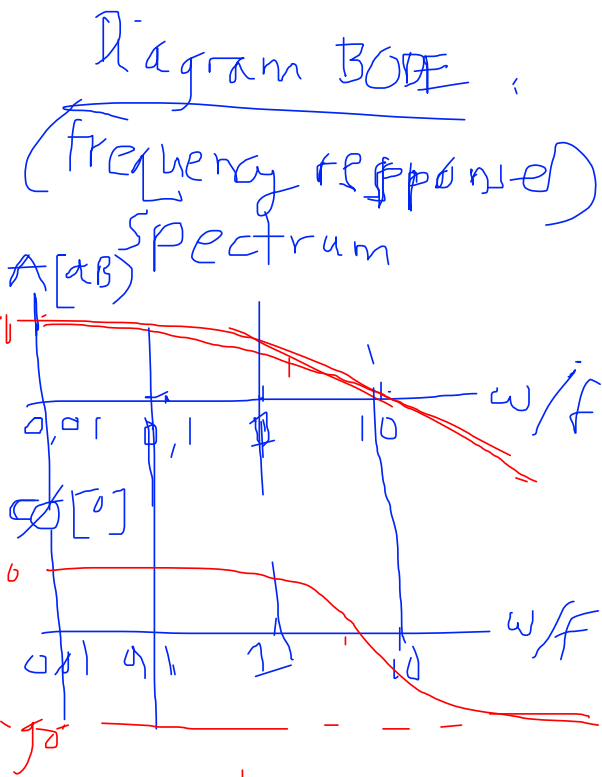
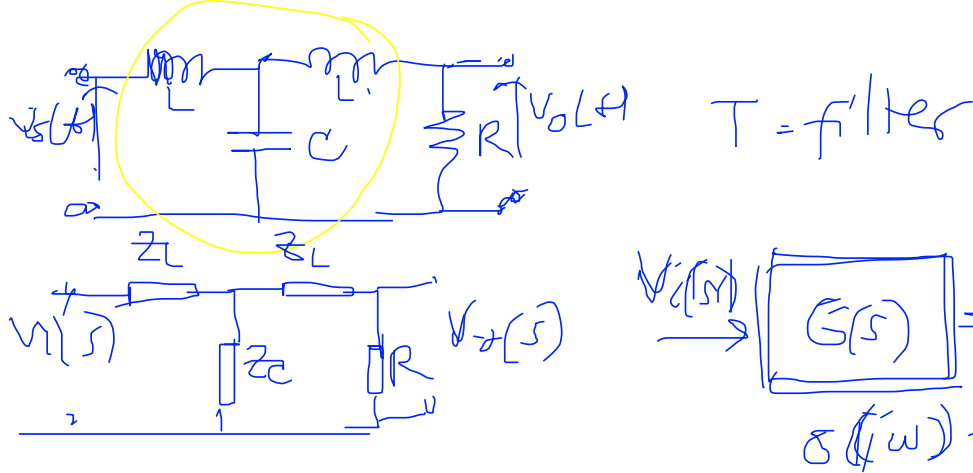
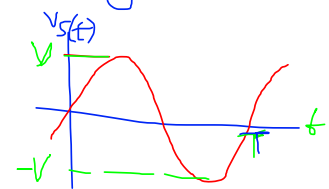




↑
diamati dengan
Spectrum Analyzer

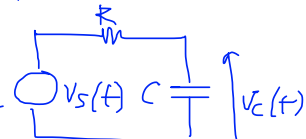
* Analisis keadaan TUNAK (steady state)

analisis diterapkan untuk isyarat-
isyarat yang berubah secara berkala
(periodik), misalnya



$V_S(t) = V \sin(\omega t)$
 $\omega = \text{omega} = 2\pi f$
 $f = \text{frekuensi [Hz]}$
 $= \frac{1}{T}, T [\text{sec}]$

Model Nisbah Alih:



$G(s) = \frac{1}{RCs + 1}$

komponen imajiner

Untuk Sistem Linier
(yang menghasilkan harmonik), maka

TIDAK

$s = j\omega = j 2\pi f, j = \sqrt{-1}$

$G(j\omega) = \frac{1}{j\omega RC + 1}$ ← bilangan KOMPLEKS

$|G(j\omega)| = \frac{1}{\sqrt{\omega^2 R^2 C^2 + 1}} = A$

$\angle G(j\omega) = -\tan^{-1} \omega RC = \phi$

Low Pass Filter

$\omega \rightarrow 0$ (frekuensi rendah)

$A \rightarrow 1, \phi \rightarrow 0$

$\omega \rightarrow \infty$ (frekuensi tinggi)

$A \rightarrow 0, \phi \rightarrow -90^\circ$

$V_C(t) = A V \sin(\omega t + \phi)$
 $A = |G(j\omega)|$
 $\phi = \angle G(j\omega)$