6) $R_{vst} = \frac{1}{h_{11b}} \parallel R_4$

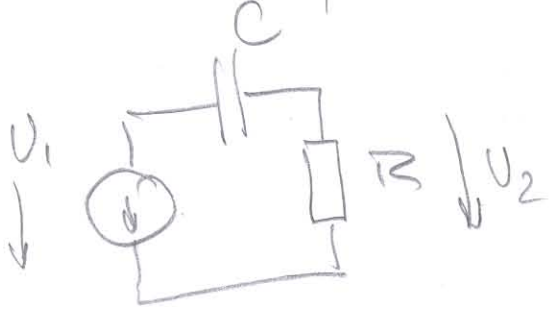
$R_{výst} = R_3 \parallel \frac{1}{h_{22}} \approx R_3$

7) Výpočet hodnôt kondenzátorov

pre pokles o 3dB

V bode kde nastane pokles o 3dB

vráti me pre obvod



$$\frac{U_2}{U_1} = \frac{R}{R + \frac{1}{j\omega C}} \; ; \left|\frac{U_2}{U_1}\right| = \frac{\omega RC}{\sqrt{(\omega RC)^2 + 1}} =$$

$$u_{dB} = 20 \log_{10} \left|\frac{U_2}{U_1}\right| = \begin{cases} \omega \to \infty \Rightarrow \left|\frac{U_2}{U_1}\right| = 1 \Rightarrow u' = 20 \log 1 = 0 \\ \omega = ? \quad u' = -3\,dB = 20 \log \frac{1}{\sqrt{2}} = 20 \log 0{,}707 \end{cases}$$

Ak v menovateli $\sqrt{2} \Rightarrow (\omega RC)^2 = 1$

$$\Rightarrow \omega = \frac{1}{RC}$$

$$C_1 = \frac{1}{\omega R_{vst}} \; ; \; C_3 = \frac{1}{\omega (R_3 + R_L)} \; ; C_2 = \frac{1}{\omega (R_4 \parallel r_e)}$$