Tutorial 2

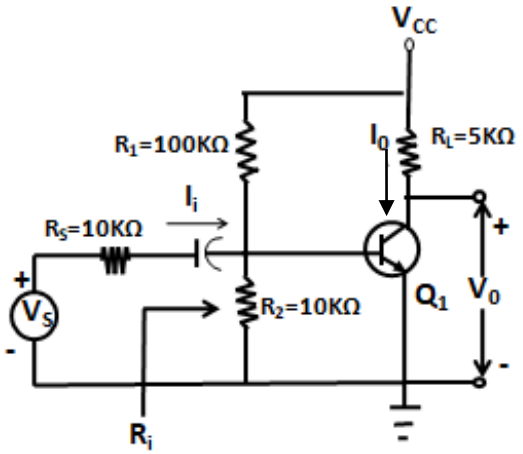
(1) Find the $CC\ h$ parameters in terms of the $CE\ \ h$ parameters.

(2) (a) For a CE configuration, what is the maximum value of R_L (load resistance) for which R_i (input impedance) differs by no more than 10 percent of its value at R_L= 0? Transistor parameters are given in table at the end.

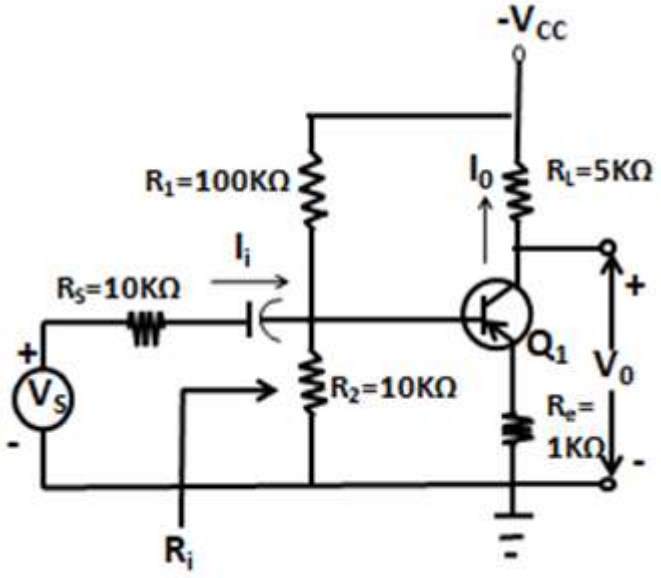
(b)What is the maximum value of R_s for which R_o(output resistance) differs by no more than 10 percent of its value for $R_S = 0$?

(3) a) The transistor amplifier shown uses a transistor whose h parameter are given by Transistor parameters are given in table at the end.

. Calculate $A_I = {}^{I_O}/_{I_i}$, A_V, A_{Vs}, R_O, and R_i

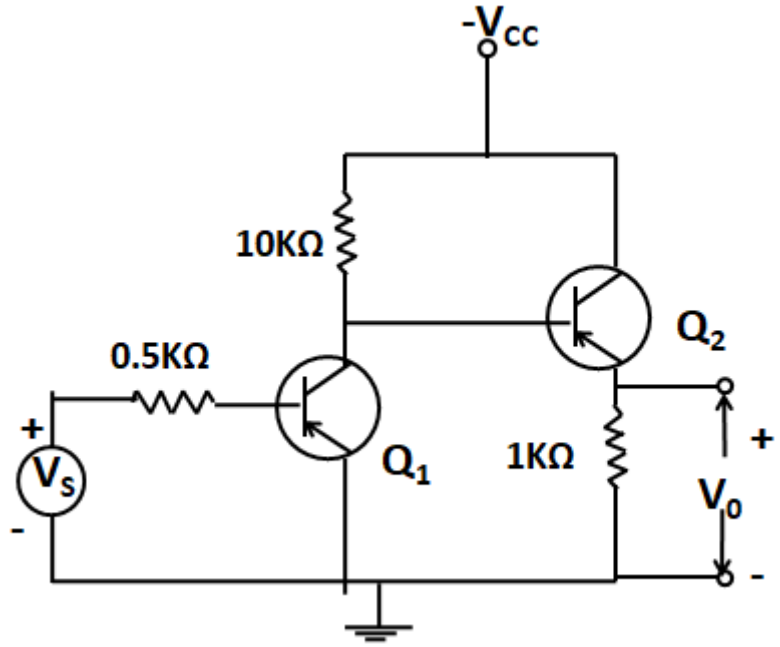


(4) For the amplifier shown, using a transistor parameters as given in the table below, compute $A_I = {}^{I_O}/_{I_i}$, A_V, A_{Vs}, R_O, and R_i

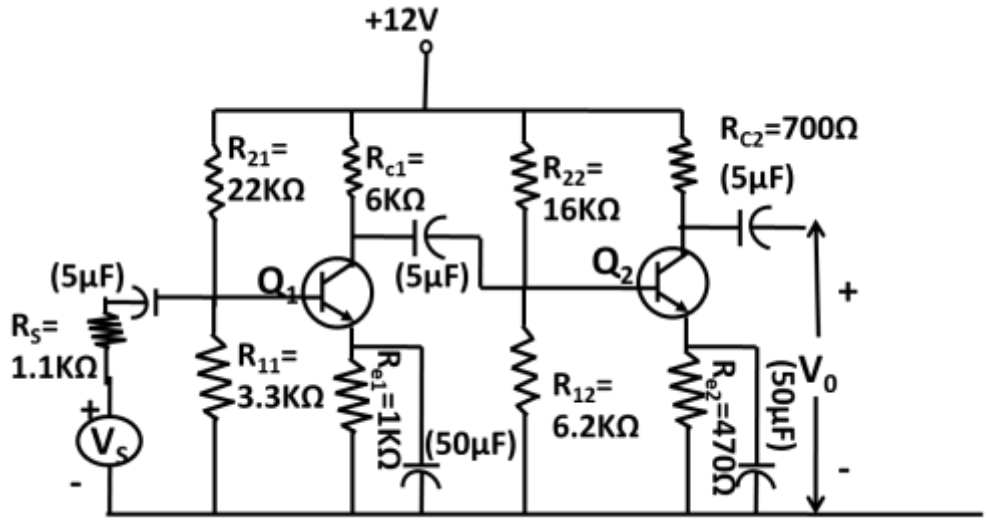


(6) (a) Find the voltage gain A_{Vs} of the amplifier shown. Take the transistor parameter from the given table.

(b) Find R'_O, where effective output impedance of the complete system.



(7) For the two-stage amplifier shown calculate, A_V, A_{VS}, R_i, and R'_O . Neglect the effect of all capacitances. Transistor parameters are same as the table below.



Parameter	CE	CC	CB
$h_{11} = h_i$	1,100 Ω	1,100 Ω	21.6 Ω
$h_{12} = h_r$	2.5×10^{-4}	~1	2.9×10^{-4}
$h_{21} = h_f$	50	−51	−0.98
$h_{22} = h_o$	24 μA/V	25 μA/V	0.49 μA/V
$1/h_o$	40 K	40 K	2.04 M