



Design an amplifier of the type shown above, which is to drive another amplifier whose input resistance is $10\text{k}\Omega$, i.e. assume the designed amplifier will have a load resistance $R_L = 10\text{k}\Omega$ connected between the output and ground. The requirement is to develop 1V amplitude across the input of the second amplifier when a voltage source with amplitude $V_S^0 = 10\text{mV}$ and frequency 100Hz is connected across the input of the amplifier under design. In the design, use the transistor characteristics displayed in DH Fig. 8.5. For the power supply voltage use $V_{CC} = 12\text{V}$. Specify component values and input and output impedances.