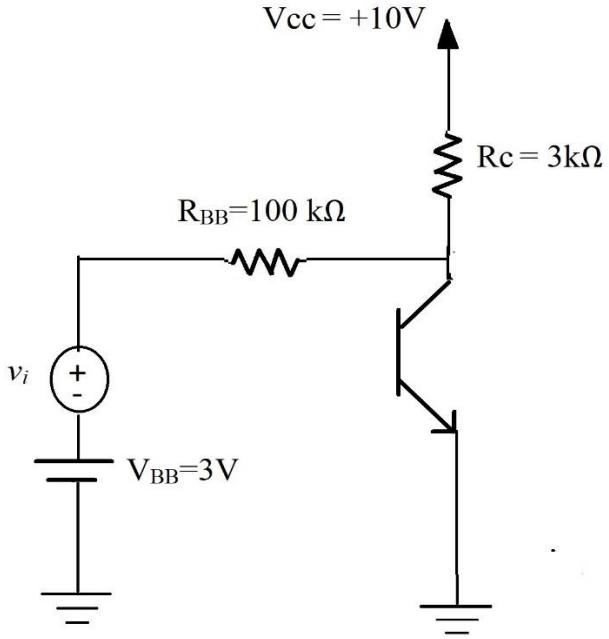
Thapar Institute of Engineering & Technology, Patiala

Department of Electronics and Communication Engineering

Course Code: UEC-301; **Course Name:** Analog Electronic Circuits

B.E. (ENC) (III-Sem),

"Tutorial Sheet No. 06"

1.	A BJT having $\beta = 100$ is biased at a dc collector current of 1 mA. Find the value of $g_m, r_e \; and \; r_\pi$ at the bias point.
2.	Draw the low frequency small signal equivalent circuit of the transistor amplifier as shown in Fig.1 and determine its voltage gain. Assume $\beta = 100$ and $V_A = 0$.  Fig.1
3.	Draw the low frequency small signal equivalent circuit (T equivalent model) of the pnp based circuit as shown in Fig.2 and determine its voltage gain. Assume $\beta = 100, \alpha = 0.99$ and $V_A = 0$.

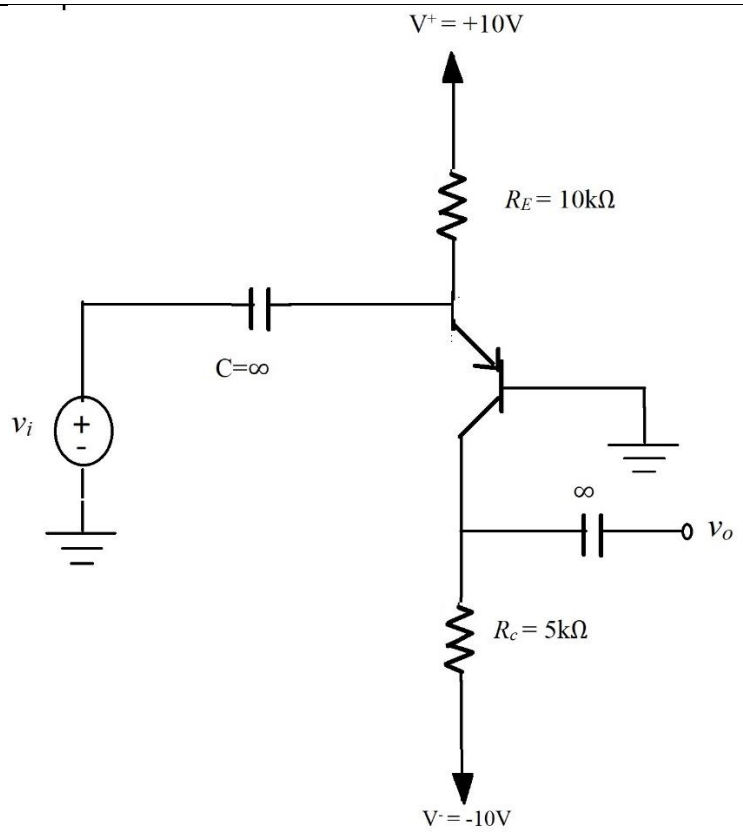


Fig.2