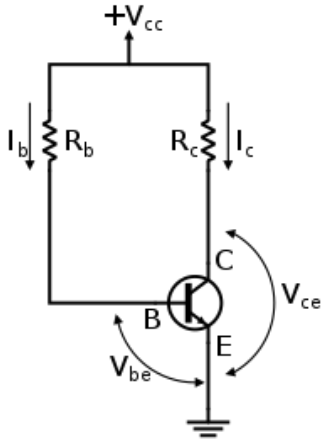
Assignment-02
Basic Electronics

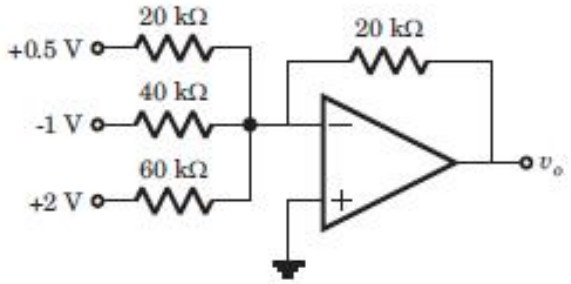
Full marks-05

1. The BJT circuit shown below, given V_{CC}=22V, R_b=2.2MOhm, R_c=10KOhm. If the BJT is a Silicon BJT with α=0.98, then find (I) I_B (II)I_C, (III) V_{CE} (IV) V_{CB}.



2. Design a summing amplifier to get V_0= $-V_1$ $+2V_2$ $-5V_3$. Explain your design strategy in details with diagram. Note that only V_1, V_2 and V_3 are the prime inputs.

3. Estimate the output voltage of the OPAMP circuit shown below:



4. Convert the following codes (with derivation) as instructed. Sub-scripted number indicates base of the number.:

A. $(51.835)_{10} = (?)_2$
B. $(DE.3CA)_{16} = (?)_2$
C. $(743.326)_8 = (?)_{16}$
D. $(87.334)_{10} = (?)_8$