ENEE236 CH4 Homework Problems

10. Given the information provided in Fig. 4.123, determine:

a. R_C.

b. R_E.

c. R_B.

d. V_{CE}.

e. V_B.

11. Given the information provided in Fig. 4.124, determine:

a. β.

b. V_{CC}.

c. R_B.

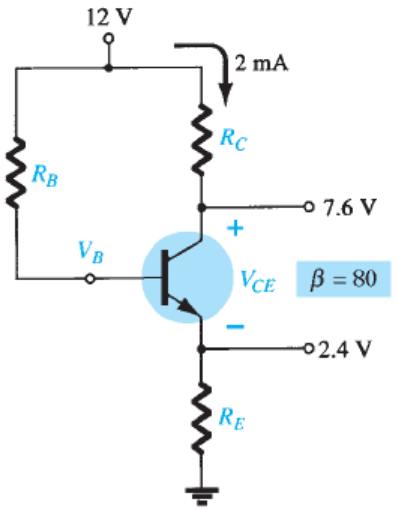

FIG. 4.123

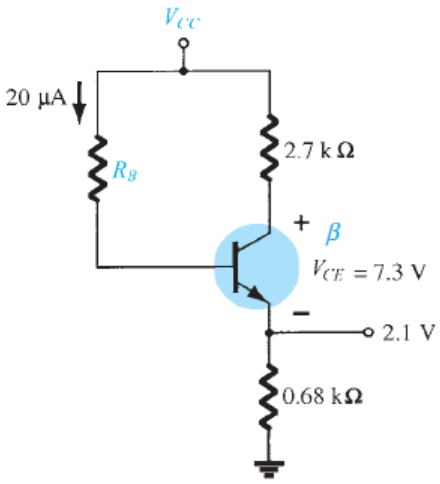

FIG. 4.124

18. Given the information appearing in Fig. 4.127, determine:

a. I_C.
b. V_E.
c. V_{CC}.
d. V_{CE}.
e. V_B.
f. R_1.

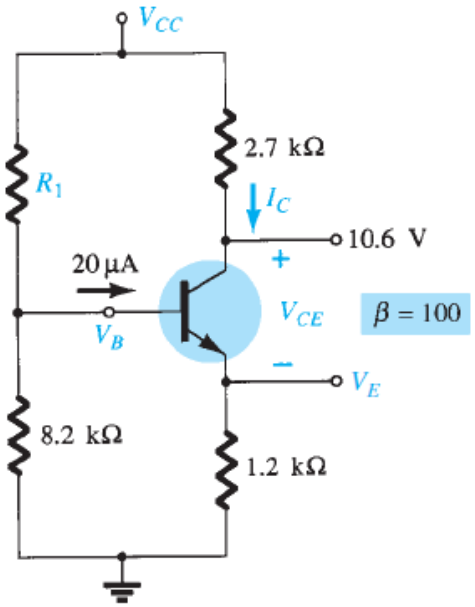

FIG. 4.127

*33. Given $V_B = 4$ V for the network of Fig. 4.133, determine:

a. V_E.
b. I_C.
c. V_C.
d. V_{CE}.
e. I_B.
f. β.

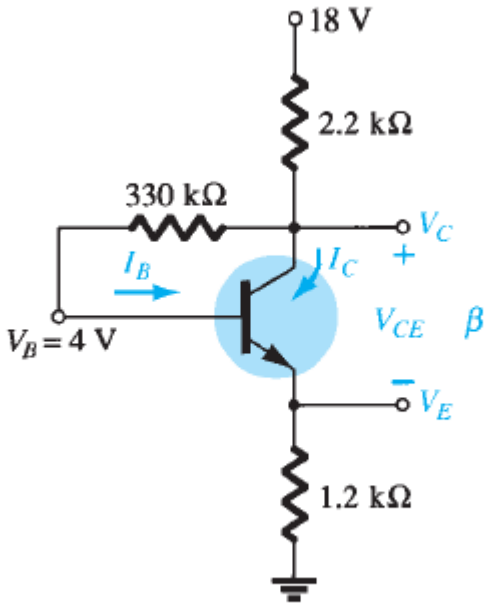

FIG. 4.133

*34. Determine the level of V_E and I_E for the network of Fig. 4.134.

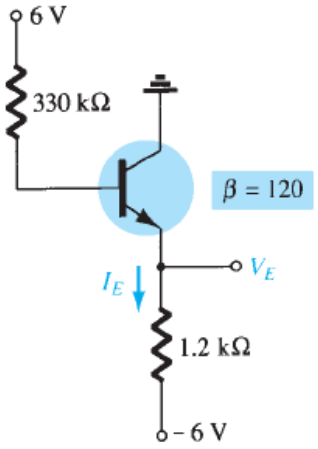

FIG. 4.134

43. Design a voltage-divider bias network using a supply of 24 V, a transistor with a beta of 110, and an operating point of $I_{C_Q} = 4$ mA and $V_{CE_Q} = 8$ V. Choose $V_E = \frac{1}{8}V_{CC}$. Use standard values.

46. For the Darlington amplifier of Fig. 4.142 determine

a. the level of β_D.

b. the base current of each transistor.

c. the collector current of each transistor.

d. the voltages V_{C_1}, V_{C_2}, V_{E_1}, and V_{E_2}.

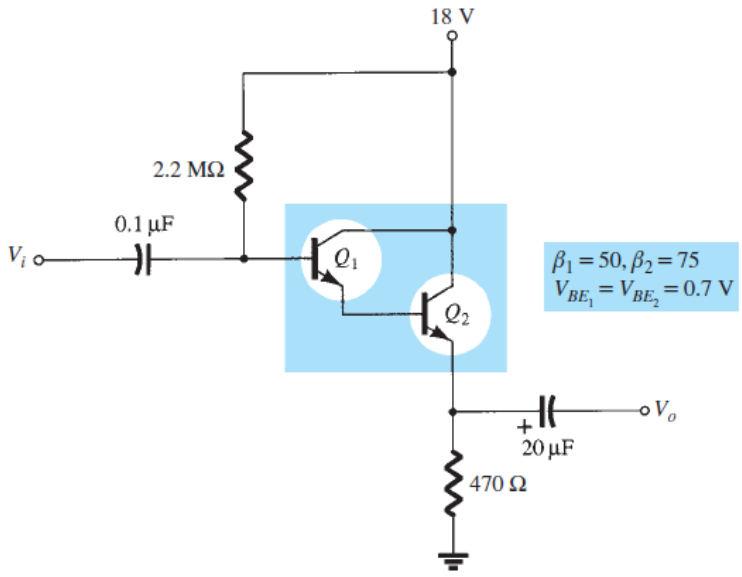

FIG. 4.142

56. Determine I_E and V_C for the network of Fig. 4.152.

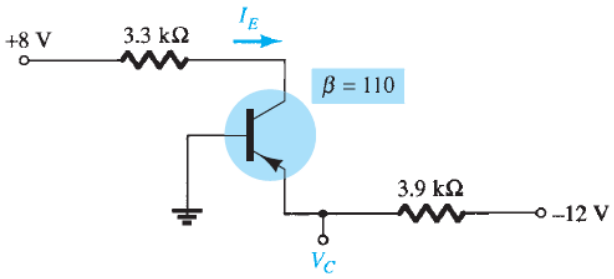

FIG. 4.152