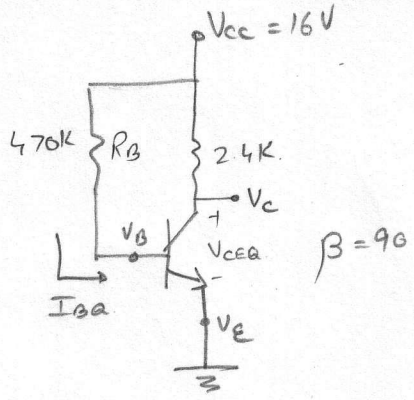
PS#5
SOLUTIONS

1)



a) $V_{CC} = I_B R_B + V_{BE}$

$$I_B = \frac{V_{CC} - V_{BE}}{R_B}$$

$$= \frac{16 - 0.7}{470K}$$

$$\boxed{I_{BQ} = 32.6\mu A}$$

b) $I_{CQ} = \beta I_{BQ}$

$$\boxed{I_{CQ} = 2.93mA}$$

c) $V_{CEQ} = V_{CC} - I_C R_C$

$$\boxed{V_{CEQ} = 8.08V}$$

d) $V_{CE} = V_C - V_E$

Here $V_E = 0$

$\therefore V_{CE} = V_C$

$$\boxed{\therefore V_C = 8.08V}$$

e) $V_{BE} = V_B - V_E$.

$$\therefore \boxed{V_B = 0.7V} \quad \because V_E = 0.$$

f) $\boxed{V_E = 0V}$