ENEE2360 CH9 Homework Problems

15. For the network of Fig. 9.81:

a. Determine r_e → h_{ie}

b. Find $A_{v_{mid}} = V_o/V_i$.

c. Calculate Z_i.

d. Determine f_{C_S}, f_{C_C}, and f_{C_E} → f_{c1}; f_{c2}, f_{ce} (ω_{c1}, ω_{c2}, ω_{ce})

e. Determine the low cutoff frequency. → f_L (ω_L)

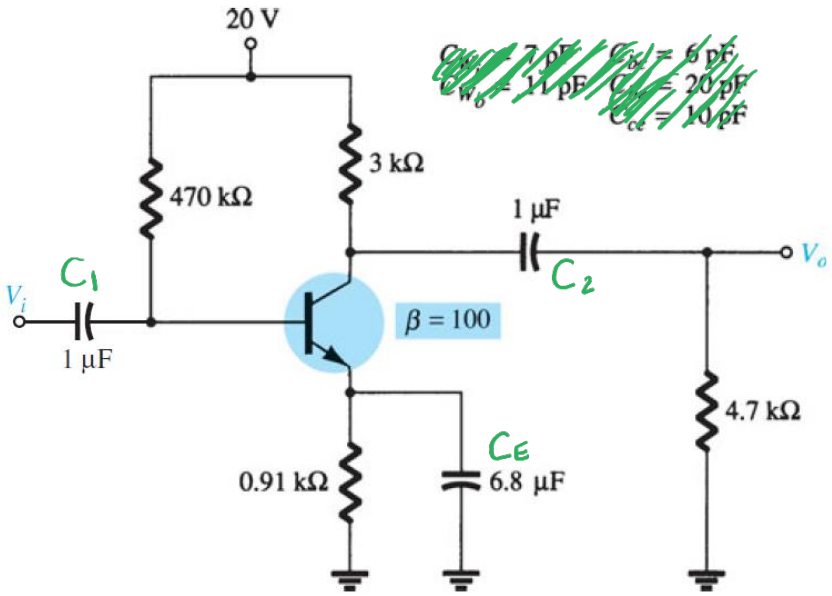

FIG. 9.81

*27. For the network of Fig. 9.81 with R_s and V_s of Fig. 9.84: Determine f_{H_i} and f_{H_o}.

23. For the network of Fig. 9.88:

a. Determine V_{GS_Q} and I_{D_Q}.

b. Find g_{m0} and g_m.

c. Calculate the midband gain of $A_v = V_o/V_i$.

d. Determine Z_i.

e. Calculate $A_{v_s} = V_o/V_s$.

f. Determine f_{L_G}, f_{L_C}, and f_{L_S}.

g. Determine the low-cutoff frequency.

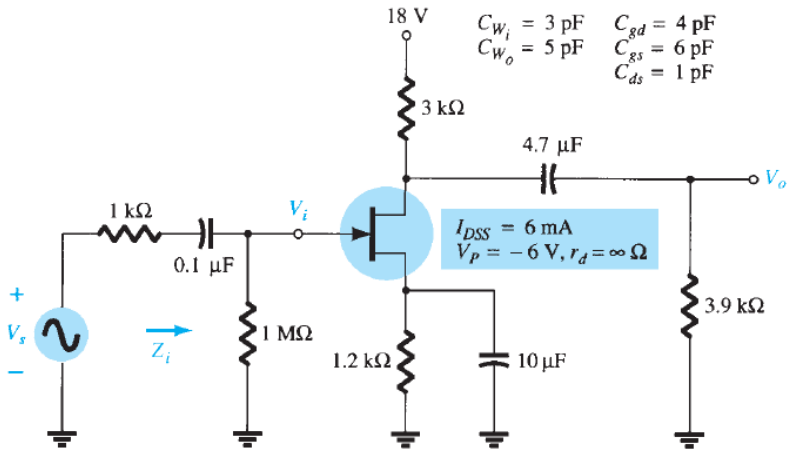

FIG. 9.88

31. For the network of Fig. 9.88:

a. Determine g_{m_0} and g_m.

b. Find A_v and A_{v_s} in the mid-frequency range.

c. Determine f_{H_i} and f_{H_o}.