Problem 1 (20 points)

Bias the JFET at $I_D = 5\text{mA}$ and $V_{DS} = 6\text{V}$.
Problem 2
(80 points)

q) Find the mid band gain \( V_o/V_s \). (28 points)

d) Find the frequency of the poles due to \( C_s, C_r, C_1, C_E \) and \( C_x \). (49 points)

c) Find \( \omega_L \). (3 points)
Problem 3

\[ V_{dd} = 15 \]
\[ V_{bb} = 15 \]
\[ R_1 \]
\[ R_2 \]
\[ R_0 \]
\[ R_5 \]
\[ K = 1000 \mu A \, V^2 \]
\[ V_T = 3V \]

Assume that the MOSFET operates in the SAT Region.

\[ I_D = K (V_{gs} - V_T)^2 \]

Bias the MOSFET at \( I_D = 4mA \) and \( V_{ds} = 6V \).