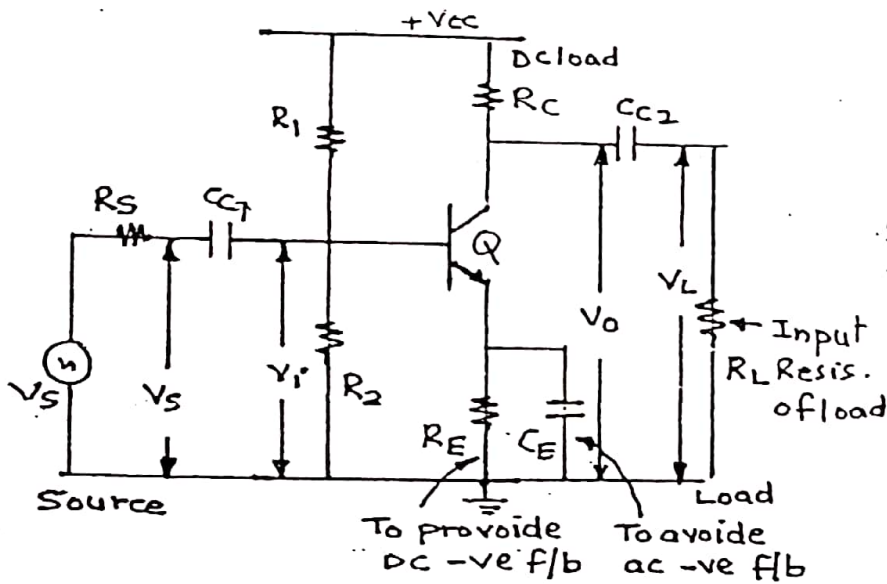


FREQUENCY RESPONSE OF RC COUPLED AMPLIFIERS



$C_{C1}, C_{C2} \rightarrow$ To block DC
 $R_s \rightarrow$ o/p Resis. of source ($\rightarrow 0$)

LF RESPONSE

Q. Why gain of RC coupled amplifier falls in LF range

Ans.

- i) In MF Range X_{CC1} is very small (f is high)
 $\therefore C_{C1}$ is short. Drop across $C_{C1} \approx 0$, $V_i \approx V_s$, V_i is max, V_o is maximum.
 $\therefore A$ is maximum. As we enter in LF Range and start decreasing frequency, X_{CC1} increases, drop across X_{CC1} increases, V_i decreases, V_o decreases, $\therefore A$ decreases.
- ii) At MF, X_{CC2} is very small drop across it is very small ≈ 0 , $\therefore V_L$ is maximum & gain is maximum. As we enter in LF Range X_{CC2} increases, drop across it increases, V_L decreases \therefore gain decreases.

iii)

AT MF (mid-frequencies)	AT LF (low frequencies)
<p>Freq. is high, $X_{CE} = \frac{1}{2\pi f C_E}$ is very low $\approx 0 \therefore C_E$ is short. Impedance between E and ground is zero i.e. $Z_E = 0$.</p>	<p>Freq. is low, X_{CE} is high, C_E cannot be assumed as short, $Z_E \neq 0$. An impedance Z_E is present and there exist ac drop across it. This AC drop provides ac negative</p>

