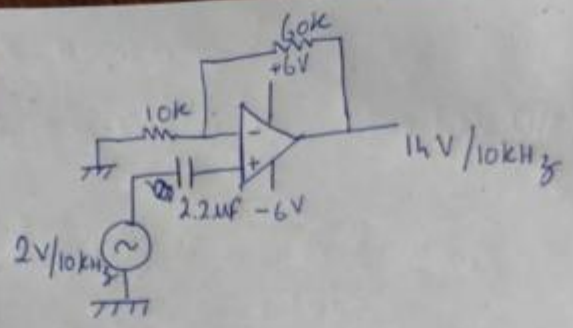
Q2 PARTA



Gain

$$A_v = 1 + \frac{R_f}{R_1} = 7$$

$$\frac{R_f}{R_1} = 6$$ Lets assume $R_1 = 10k$ and $R_2 = 60k$

→ Since the input signal is an AC sine wave, use a coupling Capacitor Cin to block DC component

$$f_c = \frac{1}{2\pi R_1 C_{in}} \Rightarrow C_{in} = \frac{1}{2\pi R_1 f_c} = \frac{1}{2\pi \times 10^3 \times 10^1}$$

Considering $f_c = 10Hz$ $= 1.59 \mu F$

or $1.6 \mu F$

A Standard $2.2 \mu f$ capacitor can be used