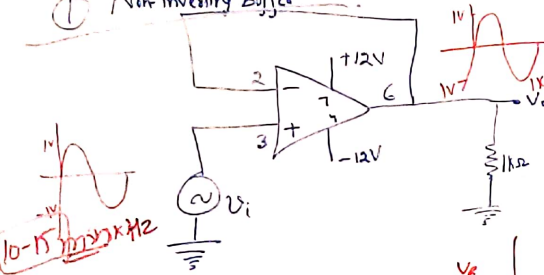
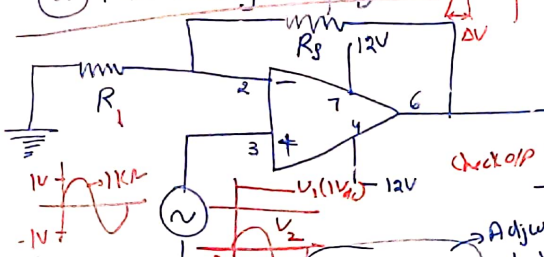


Aim: Design Non-Inverting buffer, Non-inverting Amp, Inverting Amp, Non-inverting Summer Amp & Inverting Amplifier.

① Non-inverting buffer



② Non-inverting Amplifier

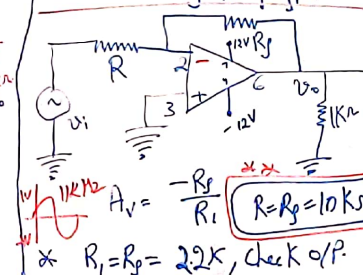


④ $R_1 = R_2 = 2.2K$

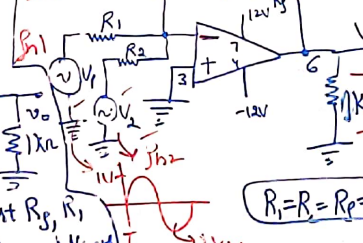
⑥ $R_1 = 2.2K$
 $R_2 = 4.7K$

$$\frac{V_o}{V_i} = 1 + \frac{R_f}{R_1}$$

③ Inverting Amplifier



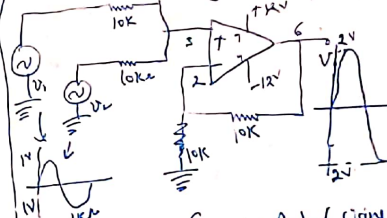
④ Inverting Summer Amplifier



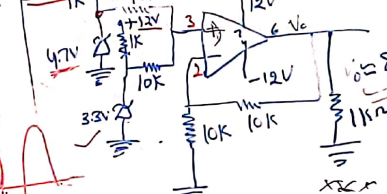
Adjust R_1, R_2 to have diff. gain
* Apply two sin wave inputs of 1KHz & check O/P. & diff. gain
* For smaller gain, apply 1KHz & 10KHz of different amp. gain two diff. gain
* Gen. Generator.
* $V_i \rightarrow DC \rightarrow 1V_{dc}$
* $V_i \rightarrow AC \rightarrow 2V_{pp}, 1KHz$

⑤ Non-inverting Summer Amp.

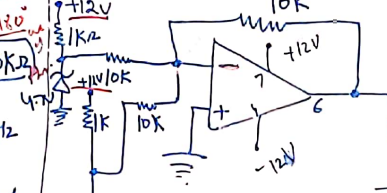
$$R = \frac{12 - 4.7}{50mA} = \frac{7.3}{50mA} = 146\Omega$$



⑥ Non-Inverting Summer Amp. (Using Zener diode)



⑦ Inverting Summer Amp. (Using Zener diode)



$$V.I. = \frac{0.5W}{0.5 = 4.7I} \Rightarrow I = \frac{500 \times 10^{-3}}{4.7}$$