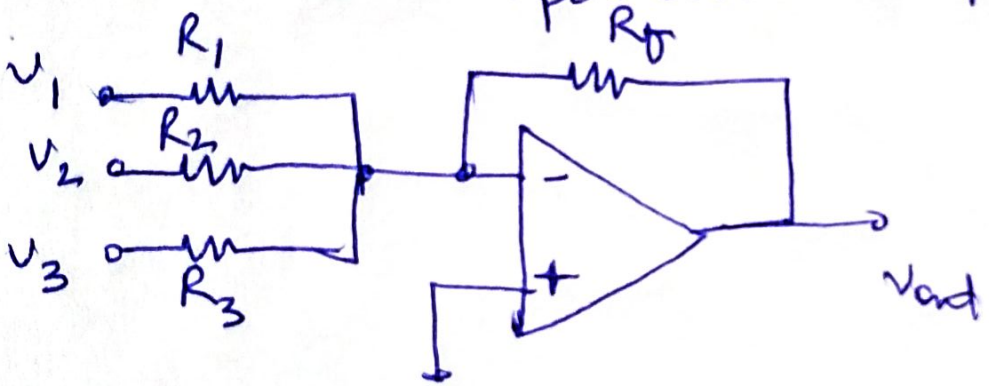
HA - II

Last date of submission → 20/11/19.

Q. Derive the o/p voltage expression for 2-input non-inverting summing amplifier.

Q.2 Calculate the output voltage for $R_1 = 33k\Omega$, $R_2 = 22k\Omega$, $R_3 = 12k\Omega$, $R_f = 68k\Omega$, $V_1 = 0.2V$, $V_2 = -0.5V$ and $V_3 = 0.8V$. Assume Ideal operational amplifier.



Q.3 Design a weighted summer using opamps and Resistors that implements the following function:

$$V_0 = -3V_1 - 4V_2$$

51. Calculate the current through the 2.2-kΩ load in the circuit of Fig. 4.147.

52. For the circuit of Fig. 4.148, calculate the current I.

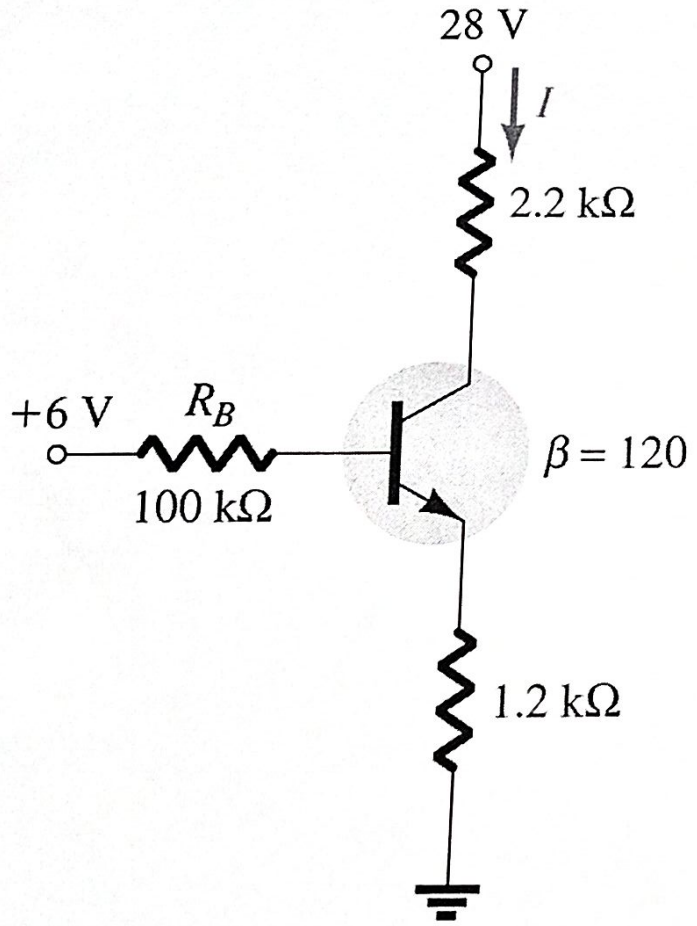


FIG. 4.147
Problem 51.

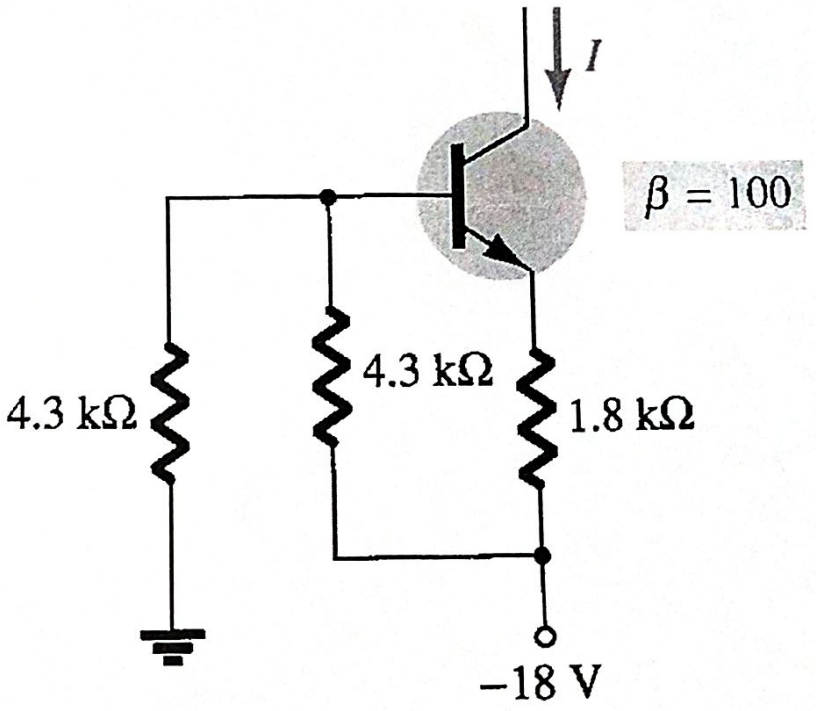


FIG. 4.148
Problem 52.

Assignment – ELA 1110

*43. **a.** Design the network of Fig. 2.187 to maintain V_L at 12 V for a load variation (I_L) from 0 mA to 200 mA. That is, determine R_S and V_Z.

b. Determine $P_{Z\,max}$ for the Zener diode of part (a).

*44. For the network of Fig. 2.188, determine the range of V_i that will maintain V_L at 8 V and not exceed the maximum power rating of the Zener diode.

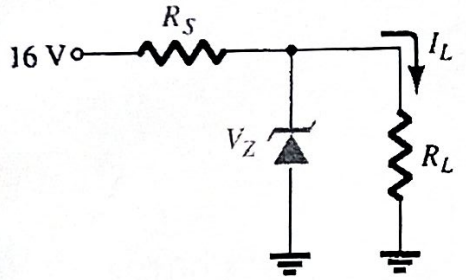


FIG. 2.187

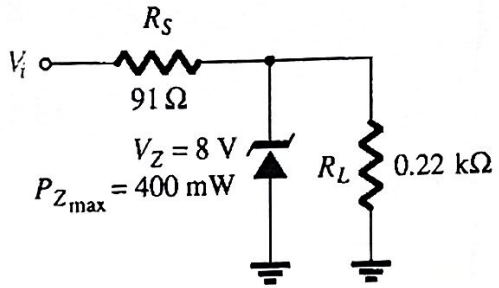


FIG. 2.188

38. Sketch v_o for each network of Fig. 2.182 for the input shown.

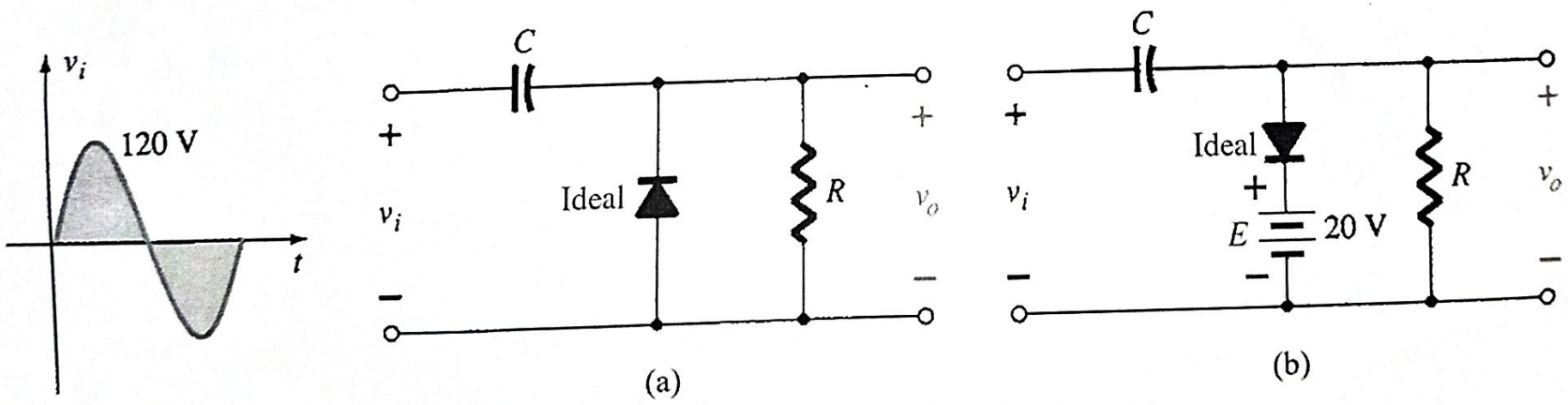


FIG. 2.182
Problem 38.