Tutorial Sheet -3

1. The adjustable resistor of Fig. 1 can be varied from 0 to 100 kΩ. Calculate the minimum and maximum closed-loop voltage gain. (Ans. : -1, -101)

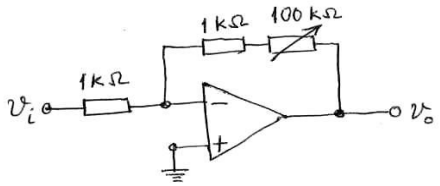

Fig 1

2. Three signals drive the summing amplifier as shown below. What is the output voltage? (**Ans.** - 3.1 V)

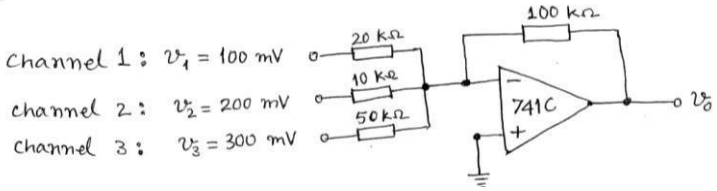

Fig. 2

3. Determined the output voltage V_{out} shown below Fig 3 (**Ans. :** -3.049 V**)**

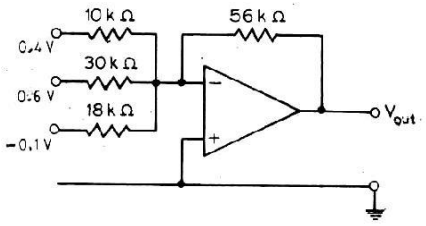

Fig. 3

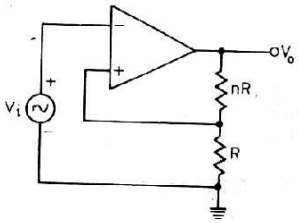

Fig. 4

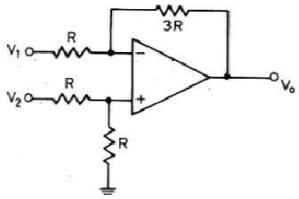

Fig. 5

4. Show that the gain of the op-amp circuit shown in Fig 4, is $n + 1$.

5. Determine the value of V_o in the circuit of Fig.5, in terms of inputs V_1 and V_2.

(**Ans. :** $2V_2 - 3V_1$)

6. Find out the output voltage V_o in Fig. 6 and Fig. 7.

(Ans: $V_o = 4V, -6V$)

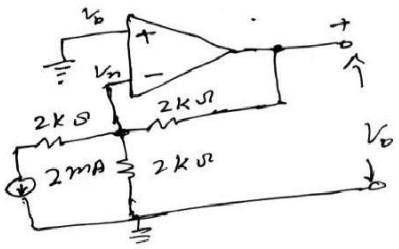

Fig. 6.

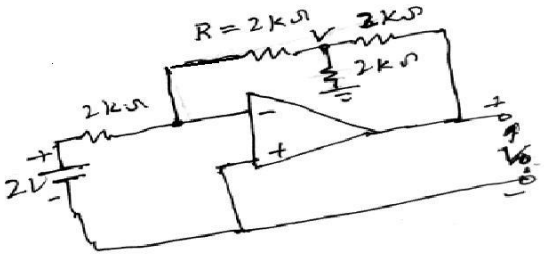

Fig. 7.