Exp no - 5

Date → 27th August 2020

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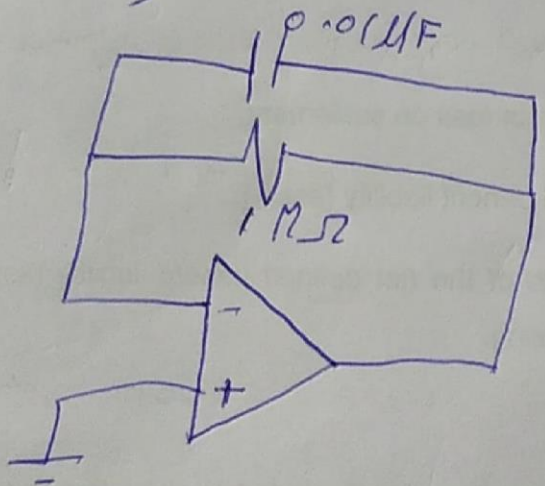
Aim → DC Characteristics of op-amp

Apparatus required →

Name of item	Specification	Quantity
1) Op-amp	LM-741	3
2) Input voltage [VDC]	15V	6
3) Resistor	1MΩ	4
4) Capacitor	0.01μF	4

Circuit diagram →

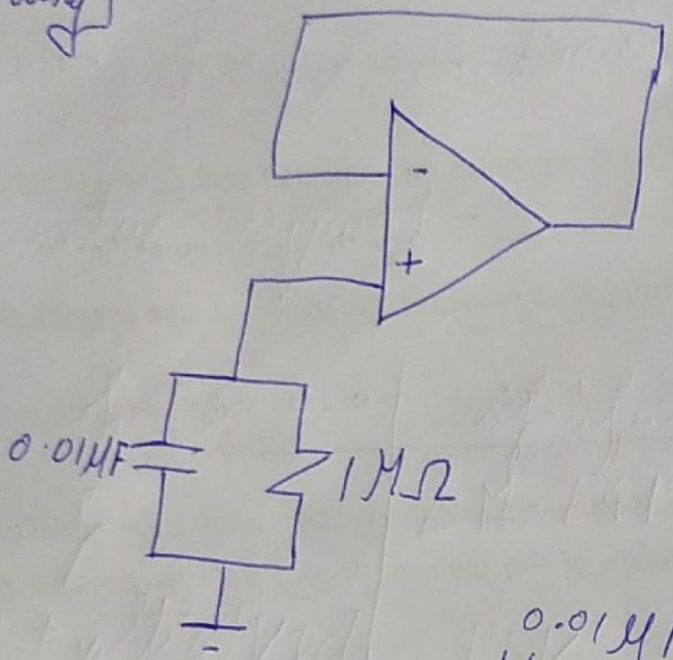
I_B^- [inverting]



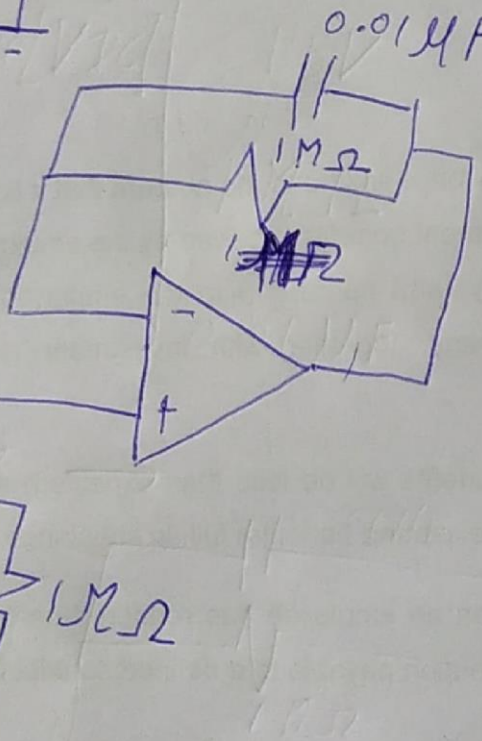
$$I_B^- = \frac{V_o}{R_f}$$

$I_B^+ \rightarrow$

[non-inverting]

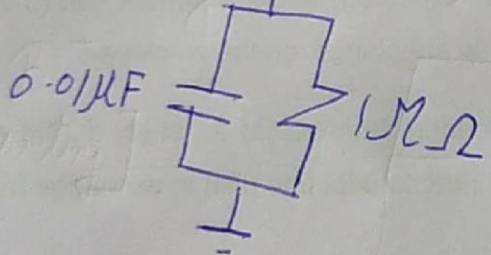


$I_B^+ = \frac{V_o}{R_g}$



$I_{OS} \rightarrow$

[Input offset current]

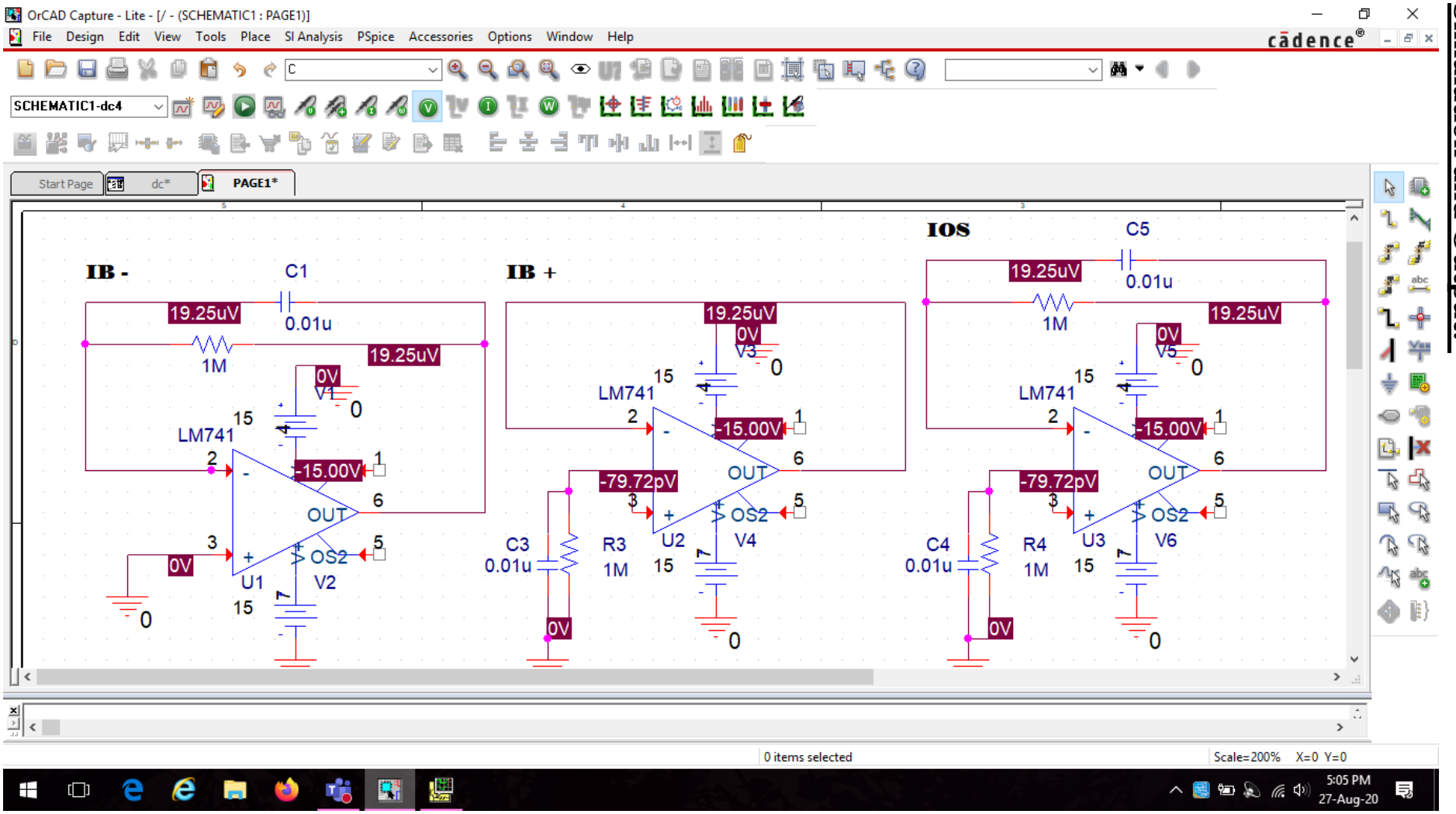


$$I_{OS} = I_B^- - I_B^+$$

$$= \frac{V_o}{R_g}$$

$$I_B = \frac{I_B^- + I_B^+}{2}$$

Simulation and Output:-



Simulation type Analysis → Bias point

Result & inferences → We note that final offset voltage is as same as in I_{B+} & I_{B-}. It is because capacitance & resistance values used are same. In case we change either of values, the final values differs.