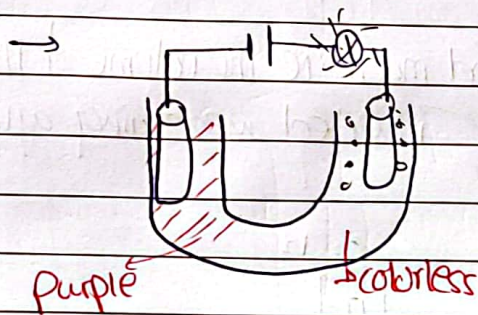
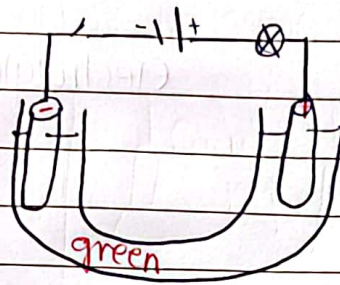


Q.3 Brine with universal indicator:-



observations:-

- 1- the bulb lights up.
- 2- bubbles of green-yellow gas on the anode (oxidation of  $\text{Cl}^-$ )
- 3- bubbles of colorless gas on the cathode (reduction of  $\text{H}^+$ )
- 4- Around the cathode, the sol. becomes purple, because  $\text{NaOH}$  is an alkali.
- 5- Around the anode, the sol. becomes colorless, since chlorine bleach the color.

\* the chlorine not immediately appears as  $\text{H}_2$  produce?

→  $\text{SnCl}_2$  ( $\text{Cl}_2$  dissolve in sol.)