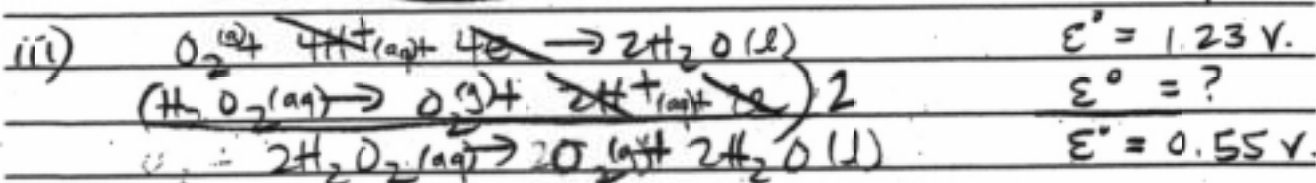


## ADDITIONAL PAGE FOR ANSWERING QUESTION 2.

$$i) \Delta G^\circ = -RT \ln K_{eq}$$

$$-1.1 \times 10^5 \text{ J} = - (8.31 \frac{\text{J}}{\text{mol} \cdot \text{K}}) (25 + 273) \text{ K} (\ln K_{eq})$$

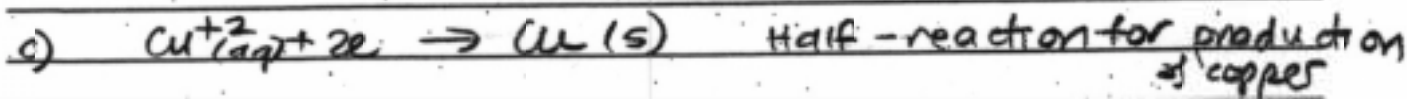
$$K_{eq} = 4.13 \times 10^{18}$$



$$1.23 \text{ V} + E^\circ = 0.55 \text{ V}$$

$$E^\circ = -0.68 \text{ V}$$

But sign of  $E^\circ$  reversed when direction is reversed.  
Therefore since  $E^\circ = -0.68 \text{ V}$  for the reaction  
 $\text{H}_2\text{O}_2(\text{aq}) \rightarrow \text{O}_2(\text{g}) + 2\text{H}^+(\text{aq}) + 2\text{e}^-$ ,  $E^\circ$  for the  
given reaction  $\text{O}_2(\text{g}) + 2\text{H}^+(\text{aq}) + 2\text{e}^- \rightarrow \text{H}_2\text{O}_2(\text{aq})$  is  $0.68$ .



$$100 \frac{\text{C}}{\text{s}} \times \frac{60 \text{ s}}{\text{min}} \times \frac{60 \text{ min}}{\text{hr}} \times 1.00 \text{ hr} \times \frac{\text{mole electrons}}{96,500 \text{ C}} \times \frac{1 \text{ mole}}{2 \text{ mole}}$$

$$\times \frac{63.55 \text{ g}}{\text{mole Cu}} = 119 \text{ g}$$