Answer on Question 77589 in Physical Chemistry

4OH^-=O_2+2H_2O+ 4e^-

.τ=3 .00 hours=3×3600=10800 seconds

I=8.00 A

.n(O_2)=?

Solution: Find the volume of O_2

According to Faraday's law V=$\frac{V_E \times I \times \tau}{F}$=$\frac{5.6 \times 8 \times 10800}{96500}$=5.01 L

$V_E(O_2)$=$\frac{V_M}{2 \times 2}$=$\frac{22.4}{4}$=5.6 L/mol

Find the amount of substance of O_2

.n =$\frac{V}{V_M}$= $\frac{5.01}{22.4}$=0.224 mol