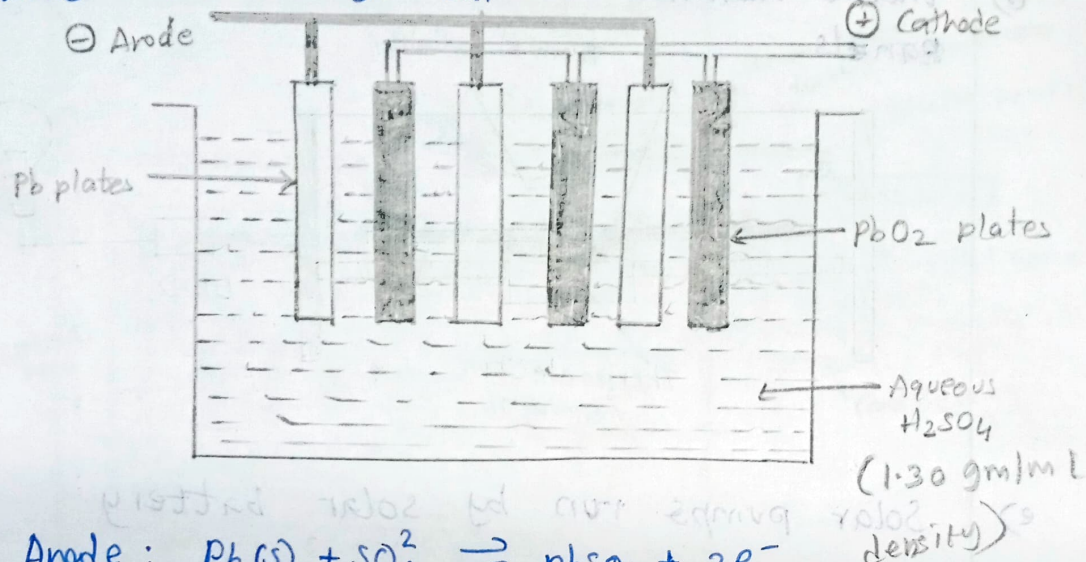
01-12-23

Day 58-

a) Lead - Acid Storage Cell



* Anode: $Pb(s) + SO_4^{2-} \rightleftharpoons PbSO_4 + 2e^-$ (oxidation)

* Cathode: $PbO_2 + 4H^+ + SO_4^{2-} + 2e^- \underset{\text{charge}}{\overset{\text{discharge}}{\rightleftharpoons}} PbSO_4 + 2H_2O$

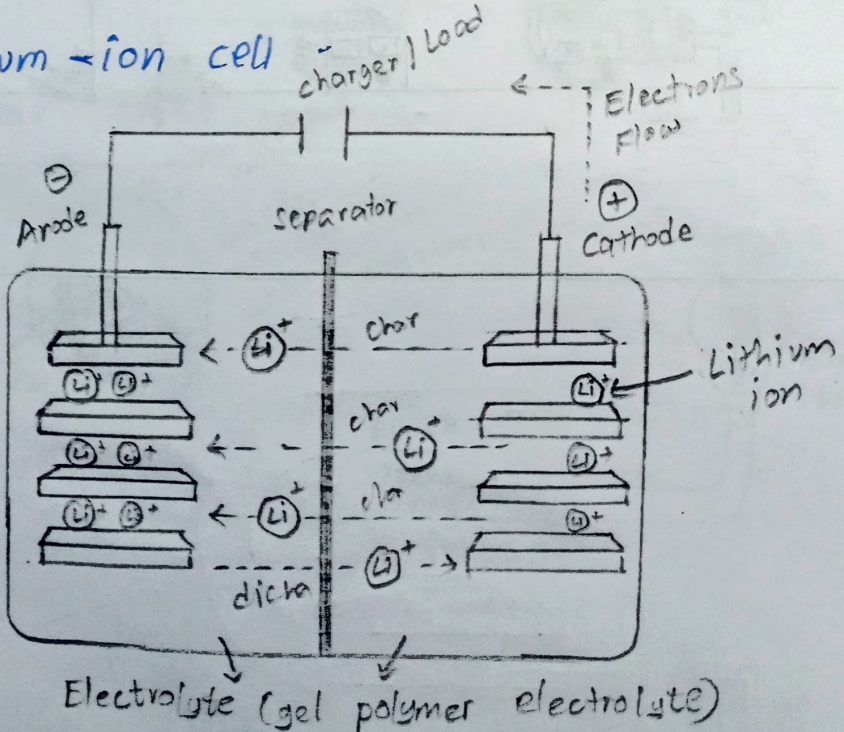
* Recharging:

$2PbSO_4 + 2H_2O + \text{Energy} \underset{\text{discharging}}{\overset{\text{charging}}{\rightleftharpoons}} Pb + PbO_2 + 2H_2SO_4$

* discharge: (overall)

$Pb + PbO_2 + 2H_2SO_4 \underset{\text{charging}}{\overset{\text{discharging}}{\rightleftharpoons}} 2PbSO_4 + 2H_2O + \text{Energy}$

b) Lithium - ion cell



Charging :

$$LiCoO_2 + C \rightarrow Li_{1-x}CoO_2 + CLi_x$$

Discharging :

$$Li_{1-x}CoO_2 + CLi_x \rightarrow LiCoO_2 + C$$