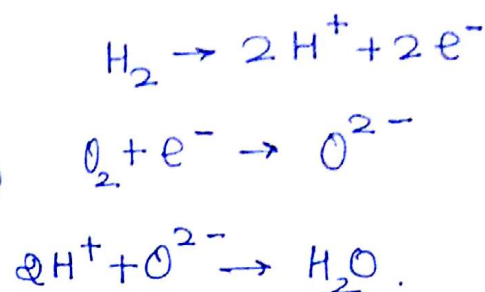
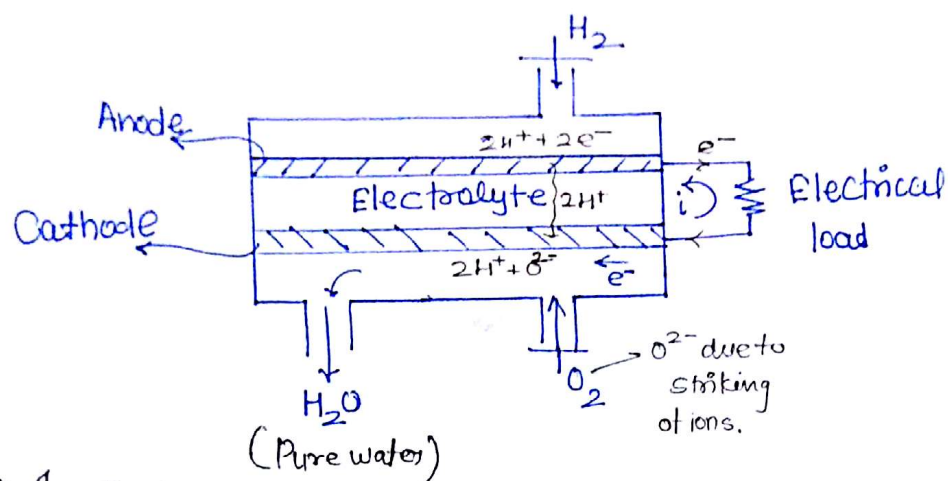


Fuel-Cell:- A fuel cell is an electrochemical device which converts chemical energy of fuel directly into electrical energy without undergoing combustion cycle (Fuel $\rightarrow$ Comb. $\rightarrow$ Heat $\rightarrow$ W.D. $\rightarrow$ E.P.)



Imp

Hence the efficiency of fuel cell is not limited by the Carnot cycle efficiency. Theoretically a fuel cell may be 100% efficient.

$$\left\{ \eta_{\text{fuel cell}} \approx 60\% \right\} \gg \left\{ \eta_{\text{engine}} \approx 30\% \right\}$$

Desirable properties:- (i) Electrolyte:- it should be

conductive to ions and it should not be conductive to electricity $\approx$ e^- .
 $\rightarrow$ it should not get charged during operation

(ii) Electrode:- It should be highly conductive to electricity
 $\rightarrow$ It should withstand very high temp.