सेल

प्राथमिक सेल

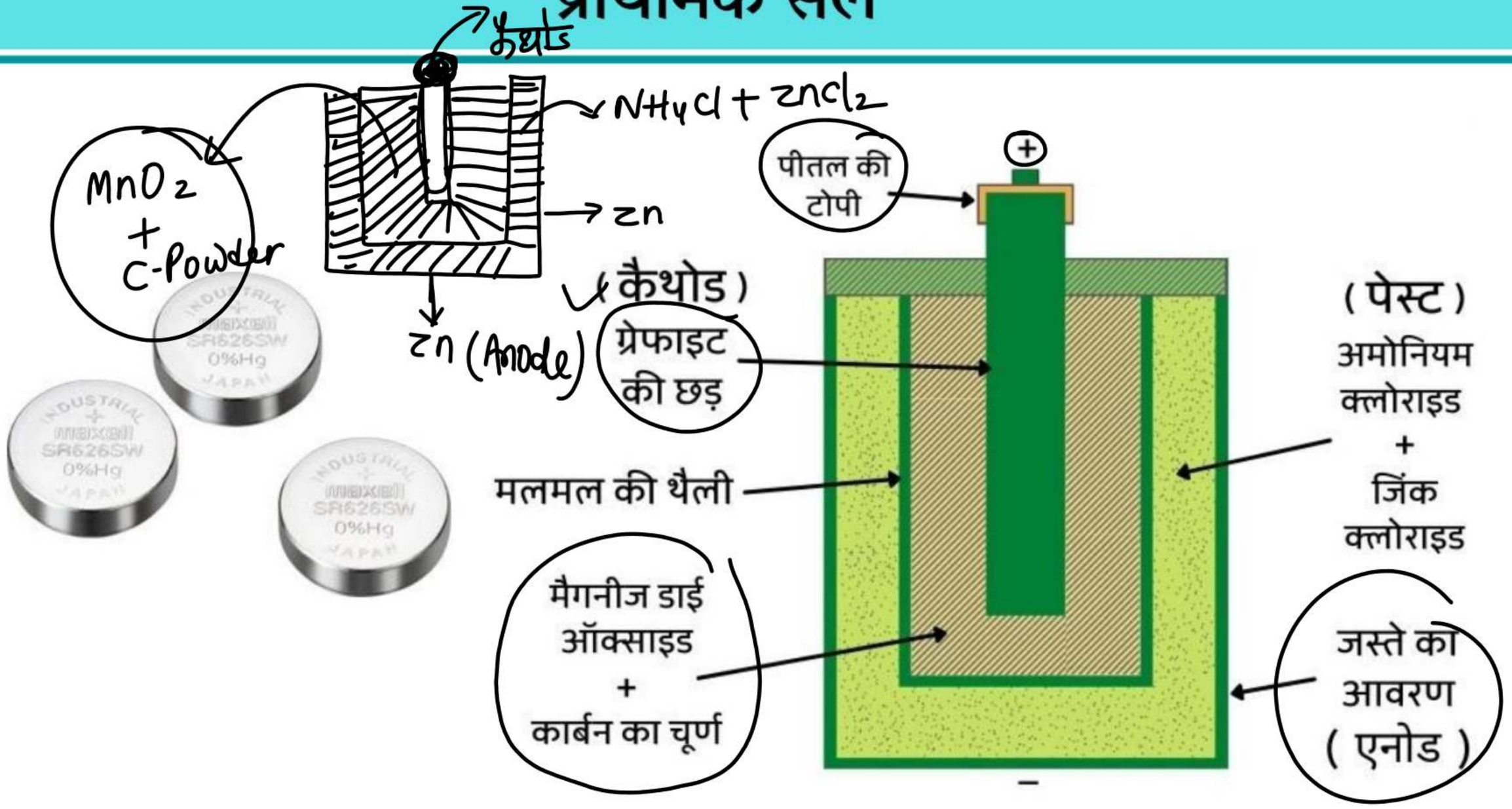
X Recharge

द्वितीयक सेल

रासायनिक ऊर्जा → विद्युत ऊर्जा

Recharge

प्राथमिक सेल

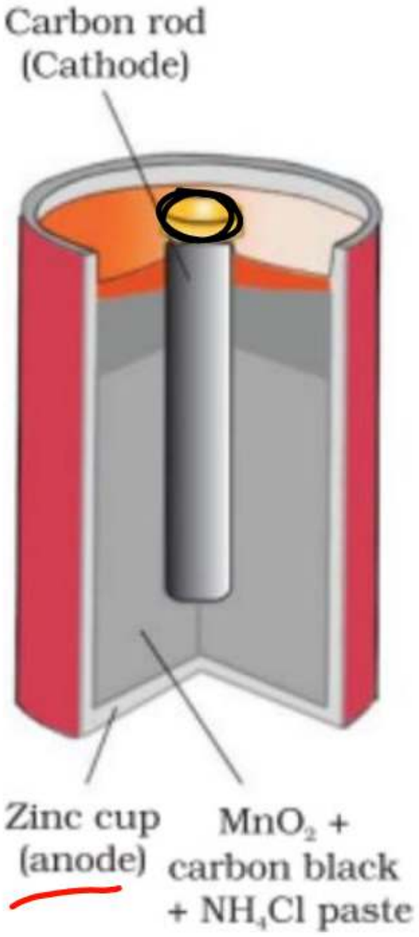

कैथोड
$NH_4Cl + ZnCl_2$
MnO_2 + C-Powder
Zn
Zn (Anode)
(कैथोड)
ग्रेफाइट की छड़
पीतल की टोपी
+
−
(पेस्ट)
अमोनियम क्लोराइड + जिंक क्लोराइड
मलमल की थैली
मैगनीज डाई ऑक्साइड + कार्बन का चूर्ण
जस्ते का आवरण (एनोड)

प्राथमिक सेल

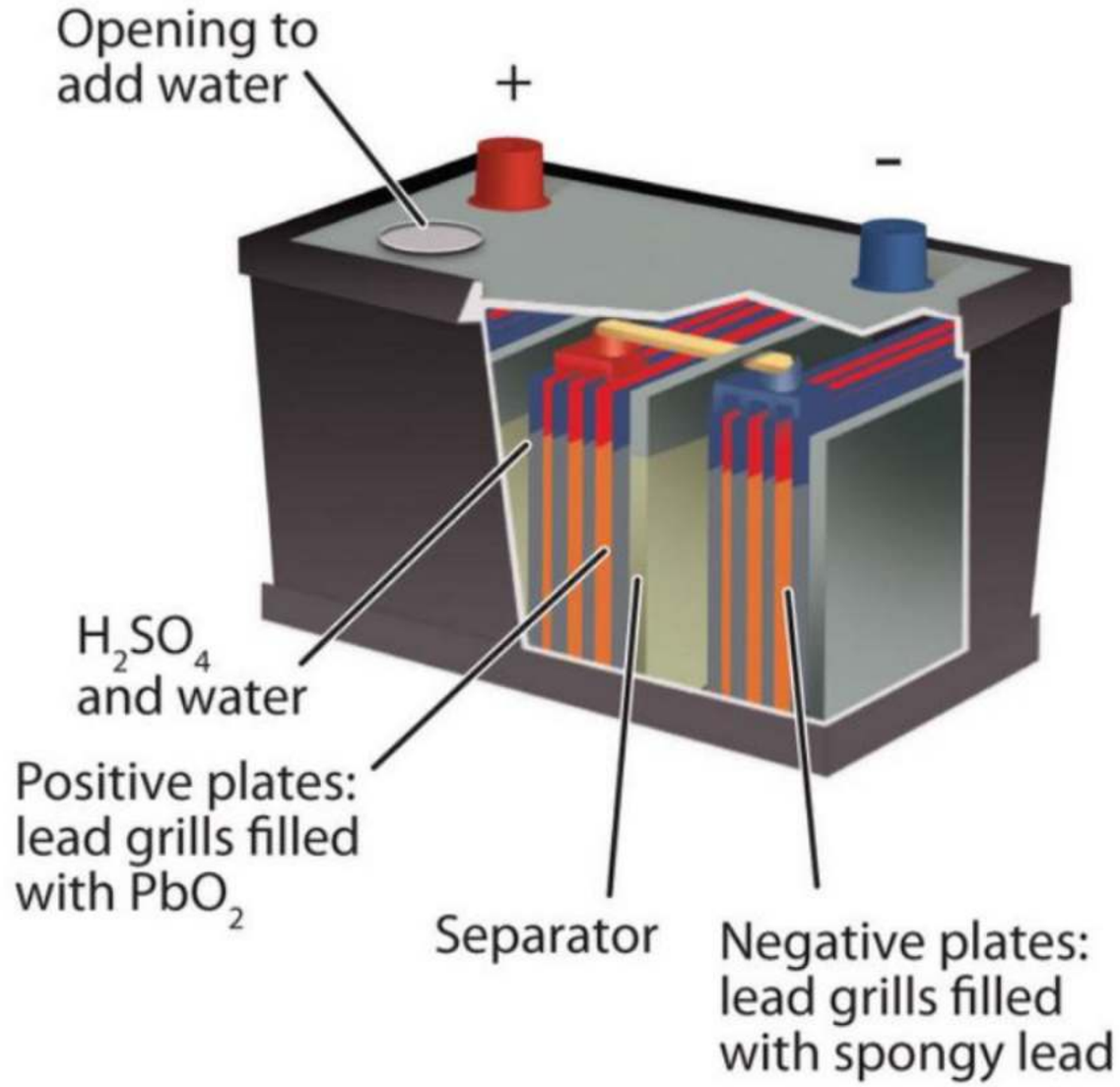
Anode: $Zn(s) \longrightarrow Zn^{2+} + 2e^-$

Cathode: $MnO_2 + NH_4^+ + e^- \longrightarrow MnO(OH) + NH_3$ (gas)

In the reaction at cathode, manganese is reduced from the +4 oxidation state to the +3 state. Ammonia produced in the reaction forms a complex with Zn^{2+} to give $[Zn(NH_3)_4]^{2+}$. The cell has a potential of nearly 1.5 V

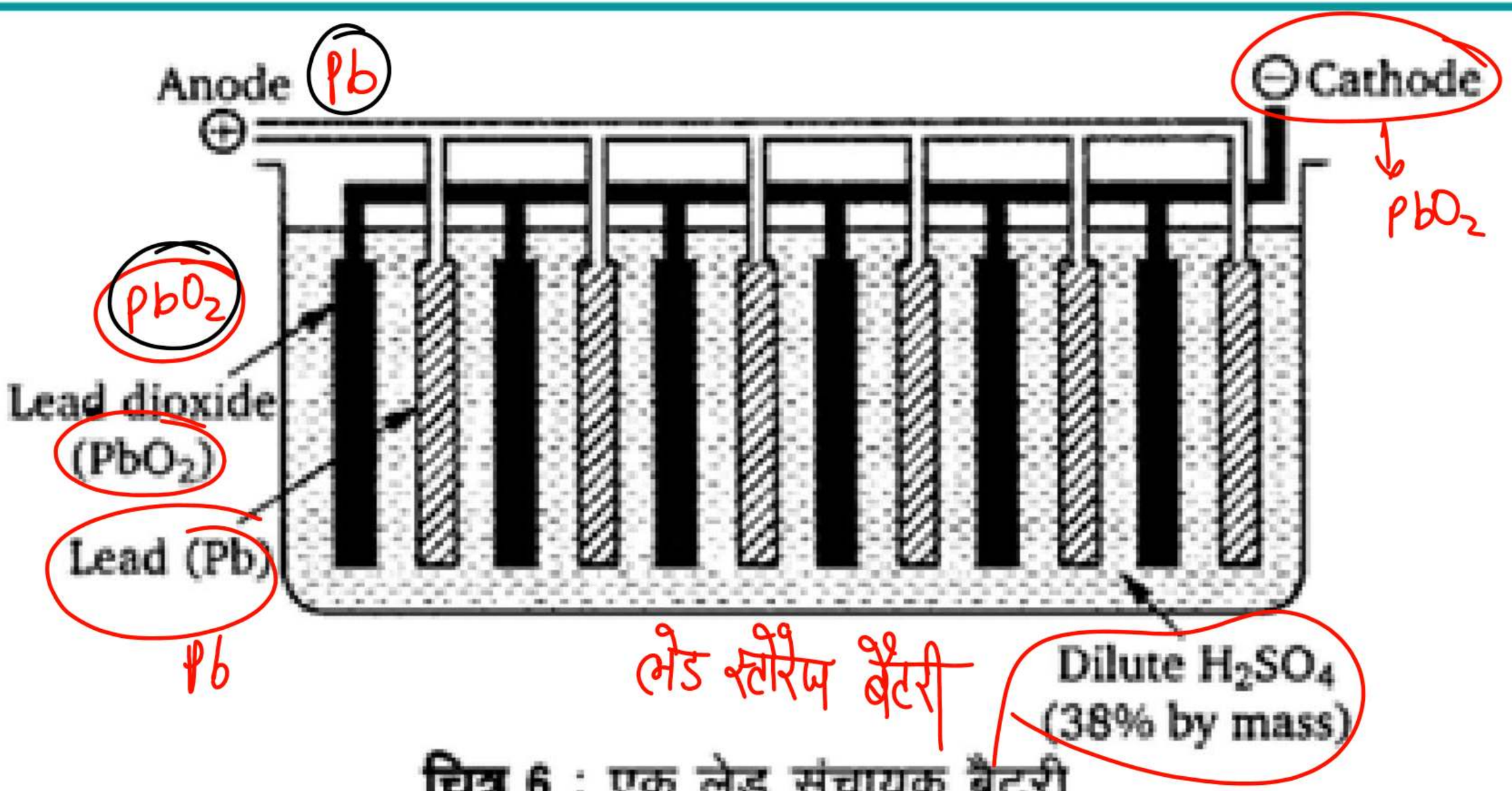


द्वितीयक सेल


Opening to add water
+
-
H_2SO_4 and water
Positive plates: lead grills filled with PbO_2
Separator
Negative plates: lead grills filled with spongy lead


HW
Hi-Watt
6F22 9V BATTERY FOR TRANSISTOR RADIOS
GENERAL PURPOSE

द्वितीयक सेल



चित्र 6 : एक लेड संचायक बैटरी

द्वितीयक सेल

Anode (oxidation) ऑक्सीकरण

$$Pb + H_2SO_4 \longrightarrow PbSO_4 + \cancel{2H^+} + \cancel{2e^-}$$

Cathode (Reduction) अवकरण

$$\cancel{2e^-} + \cancel{2H^+} + PbO_2 + \cancel{H_2SO_4} \longrightarrow PbSO_4 + 2H_2O$$

$$Pb + PbO_2 + 2H_2SO_4 \longrightarrow 2PbSO_4 + 2H_2O + \text{Electricity}$$

ईंधन सेल

80% C.E → E.E

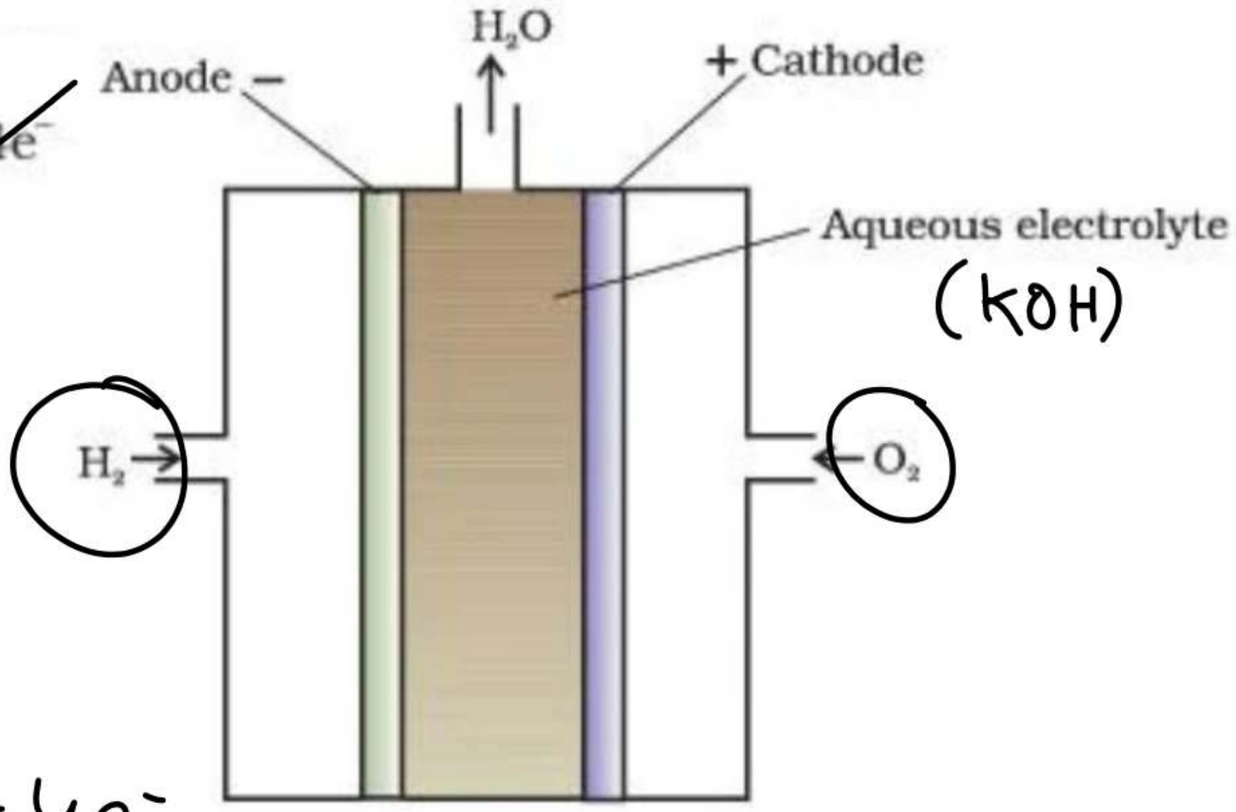
$H_2 - O_2$

Cathode: $O_2(g) + 2H_2O(l) + 4e^- \longrightarrow 4OH^-(aq)$

Anode: $2H_2(g) + 4OH^-(aq) \longrightarrow 4H_2O(l) + 4e^-$

Overall reaction being:

$2H_2(g) + O_2(g) \longrightarrow 2H_2O(l)$



Cathode

$O_2 + H_2O \longrightarrow OH^-$

$+4e^-$

Anode

$H_2 + OH^- \longrightarrow H_2O + 4e^-$