Chapter No:3 Electrochemistry

Worksheet 1

Concept 1: Commercial cells.

Match the following:

S.No.	Cell		Electrolytes used
1	Dry Cell	A	Aq.KOH
2	Fuel Cell	B	ZnO and Aq.KOH
3	Lead Storage Battery	C	A paste of NH_4Cl and $ZnCl_2$
4	Zn/Hg Cell	D	Dil.H_2SO_4

State True or False

1. Dry cell does not provide a constant voltage throughout life.
2. A Zn/Hg Cell is superior to dry cell.
3. A Fuel Cell has about 70% chemical efficiency.
4. The lead storage battery is an example of primary cell.

VSQ related with dry cell

For the lechlanche cell write the:	(a)The chemical reactions involved at cathode.	Ans:

	(b). Change in oxidation state of Mn	Ans:
	(c). The complex entity formed between Zn^{2+}(aq) and NH_3(g)	Ans:

Concept 2: Units of conductivity,molar conductivity etc.

Match the following:

S.No.	Property	Unit
1	Conductivity	$S^{-1}cm$
2	Conductance	S cm^2mol^{-1}
3	Molar Conductivity	cm^{-1}
4	Cell Constant	Scm^{-1}
5	Resistivity	S

Concept 3: Products of electrolysis

Predict the products of electrolysis for :	1.An aqueous solution of $AgNO_3$ using Ag electrodes	Ans :
	2.An aqueous solution of $CuSO_4$ using Cu electrodes	Ans :
	3.An aqueous solution of $AgNO_3$ using Pt electrodes	Ans:
	4.An aqueous solution of NaCl using Pt electrodes	Ans:

Answer Key (Electrochemistry)

Concept	**Type of questions**	**Answer**	
Commercial cells.	**Match the following**	Dry Cell :: A paste of NH_4Cl and $ZnCl_2$ Fuel Cell :: Aq.KOH Lead Storage Battery :: Dil.H_2SO_4 Zn/Hg Cell :: ZnO and Aq.KOH	
	State True or False	1. Dry cell does not provide a constant voltage throughout life.[T] 2. A Zn/Hg Cell is superior to dry cell.[T] 3. A Fuel Cell has about 70% chemical efficiency.[T] 4. The lead storage battery is an example	

		of primary cell.[F]	
	VSQ related with dry cell	(a)The chemical reactions involved at cathode. Ans : $MnO_2 + NH_4^+ + e^- \rightarrow Mn(OH)O + NH_3$	
		(b). Change in oxidation state of Mn Ans : +4 to +3	
		(c). The complex entity formed between Zn^{2+}(aq) and NH_3(g) Ans : $[Zn(NH_3)_4]^{2+}$	
Units of conductivity,molar conductivity etc.	**Match the following:**	Conductivity :: Scm^{-1} Conductance :: S Molar Conductivity :: $S\ cm^2mol^{-1}$ Cell Constant :: cm^{-1} Resistivity :: $S^{-1}cm$	
Products of electrolysis	Predict the products of electrolysis for :		