REDOX REACTIONS

1. Reaction in which there is loss of electron by a species is
a) Reduction b) Oxidation c) Displacement d) Disproportionation reaction

2. The standard hydrogen electrode has zero electrode potential because
a) Hydrogen is easiest to oxidize
b) It is assumed to be zero
c) Hydrogen atom has only one electron
d) Hydrogen is the lightest element

3.Which is the correct representation
a)$HAu(I)Cl_4$ b) $HAu(IV)Cl_4$ c) $HAu(III)Cl_4$ d) $HAu(V)Cl_4$

4.In the following disproportionation reaction, which species undergoes simultaneous oxidation and reduction
$2H_2O_2 \rightarrow 2H_2O + O_2$
a) H b) H_2O c) O d) O_2

5 For feasibility of redox reaction in a cell, the emf should be
a) Zero b) positive c) negative d) fixed
Assertion[A] & Reasoning[R]
(A) Both assertion and reason are correct statements, and the reason is the correct explanation of the assertion
(B) Both assertion and reason are correct statements, but reason is not the correct explanation of the
assertion
(C) Assertion is correct, but reason is wrong statement
(D) Assertion is wrong, but reason is correct statement
(E) Both assertion and reason are wrong statements
1
[A]: In a redox reaction there is simultaneous oxidation and reduction.
[R]: In oxidation there is gain of electrons and in reduction there is loss of electrons
2
[A]: In the reaction $2Na + Cl_2 \rightarrow 2NaCl$, Na is oxidized.
[R]: Na acts as a reducing agent.
3
[A]: $E^0_{Mg^{2+}/Mg} = -2.37V$ and $E^0_{Ag^+/Ag} = 0.80V$
[R]: Mg^{2+}/Mg couple is stronger reducing agent than H^+/H_2 couple
4
[A]: A solution of $FeSO_4$ can be stored in copper vessel
[R]: E^0_{red} of Cu < E^0_{red} of Fe
Answer the following questions:
1.Find the oxidation number of the element underlined.
a) Na_3VO_4 b) K_2CrO_4 c) CH_4 d) SO_2Cl_2 f) NO_2 g) BrF_3 h) $Na_2S_4O_6$

Differentiate between
a) Valency and Oxidation number
b) Activity series and Electrochemical series
c) Oxidizing agent and Reducing agent