



INDIAN SCHOOL MUSCAT  
CHEMISTRY  
REDOX REACTION  
WORKSHEET

1. Reaction in which there is loss of electron by a species is

a) Reduction b) Oxidation c) Displacement d) Disproportionation reaction

2. Which is the correct representation

a)  $\text{HAu(I)Cl}_4$  b)  $\text{HAu(IV)Cl}_4$  c)  $\text{HAu(III)Cl}_4$  d)  $\text{HAu(V)Cl}_4$

3. In the following disproportionation reaction, which species undergoes simultaneous oxidation and reduction  $2\text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$

a) H b)  $\text{H}_2\text{O}$  c) O d)  $\text{O}_2$

## 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

Ans: C

2 [A]: In the reaction  $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$ , Na is oxidized.

[R]: Na acts as a reducing agent.

Ans: A

Answer the following questions:

1. Find the oxidation number of the element underlined.

a)  $\text{Na}_3 \underline{\text{V}}\text{O}_4$  b)  $\text{K}_2 \underline{\text{Cr}}\text{O}_4$  c)  $\underline{\text{C}}\text{H}_4$  d)  $\underline{\text{S}}\text{O}_2\text{Cl}_2$  e)  $\underline{\text{N}}\text{O}_2$  f)  $\underline{\text{Br}}\text{F}_3$  g)  $\text{Na}_2 \underline{\text{S}}_4 \text{O}_6$   
h)  $\underline{\text{C}}\text{H}_2\text{Cl}_2$  i)  $\underline{\text{Cl}}\text{O}_4$

Answers:

(a) 5 (b) 6 (c) -4 (d) 6 (e) 4 (f) 3 (g) 5/2 (h) 0 (i) 7

2. Differentiate between

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

3. Define a) Oxidation number b) Redox couple. c) Standard electrode potential d) Stock notation e) Disproportionation reactions

Refer the power point

\* 4. Identify the redox reactions and classify them.

\* a)  $\text{CuO} + \text{H}_2 \longrightarrow \text{Cu} + \text{H}_2\text{O}$  ----- Displacement

\* b)  $2\text{Na} + \text{H}_2 \longrightarrow 2\text{NaH}$  -----Combination

\* c)  $\text{AgNO}_3 + \text{NaCl} \longrightarrow \text{AgCl} + \text{NaNO}_3$  -----NOT Redox

\* d)  $\text{CaCO}_3 \longrightarrow \text{CaO} + \text{CO}_2$  -----NOT Redox

\* e)  $2\text{HCHO} + \text{NaOH} \longrightarrow \text{HCOONa} + \text{CH}_3\text{OH}$  -----Disproportionation

5. Name a compound each in which

a) hydrogen exists in i) +1 ii) -1 oxidation states. Any example

b) oxygen exists in i) +1 ----O<sub>2</sub>F<sub>2</sub> ii) -1 (peroxide) iii) +2 -----OF<sub>2</sub> iv) -2  
oxidation states. (Others any example )

c) Chlorine exists in i) +1 -----Cl<sub>2</sub>O ii) -1 oxidation states.

# Balance the following equations:



THE END

THANK YOU