SAINIK SCHOOL GOPALGANJ

ASSIGNMENTS

CHAPTER-REDOX

1. One mole of ferrous oxalate requires____ moles of MnO_4^- to get oxidised completely in an acidic medium

(a) 0.6 moles

(b) 0.4 moles

(c) 0.2 moles

(d) 7.5 moles

2.**H_2SO_4 acts as a strong oxidising agent. In which of the reaction, is it not acting as an oxidising agent?**

(a) $C + 2H_2SO_4 \rightarrow CO_2 + 2SO_2 + 2H_2O$

(b) $CaF_2 + 2H_2SO_4 \rightarrow CaSO_4 + 2HF$

(c) $S + 2H_2SO_4 \rightarrow 3SO_2 + H_2O$

(d) $Cu + 2H_2SO_4 \rightarrow CuSO_4 + SO_2 + 2H_2O$

.3. **Find the oxidation state of I in $H_4IO_6^-$**

(a) +7

(b) +5

(c) +1

(d) -1

4. **In which of the following complex, the oxidation number of Fe is +1?**

(a) $Fe_4[Fe(CN)_6]_3$

(b) $[Fe(H_2O)_5NO]SO_4$

(c) $[FeBr_4]^-$

(d) $[Fe(H_2O)_6]^{2-}$

5. **Which among the following compounds is the most reducing compound?**

(a) H_2S

(b) HNO_2

(c) $SnCl_2$

(d) H_2SO_3

6. **Which of the following represents a redox reaction?**

(a) $NaOH + HCl \rightarrow NaCl + H_2O$

(b) $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + 2HCl$

(c) $CuSO_4 + 2H_2O \rightarrow Cu(OH)_2 + H_2SO_3$

(d) $Zn + 2HCl \rightarrow ZnCl_2 + H_2$

7. Which reaction involves neither oxidation nor reduction?

a) $CrO_4^{2-} \dashrightarrow Cr_2O_7^{2-}$

b) $Cr \rightarrow CrCl_3$

c) $Na \rightarrow Na^+$

d) $2S_2O_3^{2-} \rightarrow S_4O_6^{2-}$

8. A compound of Xe and F is found to have 53.5% of Xe. What is the oxidation number of Xe in this compound?

a. -4
b. 0
c. +4
d. +6

9. **In the reaction**

$3Br_2 + 6CO_3^{2-} + 3H_2O \rightarrow 5Br^- + BrO_3^- + 6HCO_3^-$

a. bromine is oxidised and carbonate is reduced
b. bromine is reduced and water is oxidised
c. bromine is neither reduced nor oxidized
d. bromine is both reduced and oxidized

10. Which of the following cannot function as an oxidising agent?

a. I^-
b. Si(s)
c. NO_3^-(aq)
d. $Cr_2O_7^2$
e.
f. -
g. **VSA type**
h. 11. Define oxidation and reduction reaction in terms of oxidation number.
i. 12. What is meant by disproportionation reaction? Give one example.
j. 13. What is meant by EMF of a cell ?
k. 14. Write Nernst reaction for the reaction,
l. Sn^{4+} (aq) + $2e^- \rightarrow Sn^{2+}$ (aq)
m. 15. A cell is set up by the two electrodes $Cu^/Cu^{2+}$ and Al/Al^{3+}. What is the net cell reaction?
n. **SA type**
o. 16. Draw the electronic configuration of HNO_3 and justify the oxidation number of +5 of nitrogen.

p. 17. Give the construction of NHE.. What is its standard reduction potential? How does it help to determine the the value of standard reduction potentials of other electrodes ?
q. 18. Differentiate between the term EMF and potential difference.
r. 19. What do you understand by electrochemical series? Give its utility.
s. 20. Can we store the solution of aqueous copper Sulphate in an iron vessel? Justify your answer.