DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth **SUBJECT : CHEMISTRY**
DATE : **DPP NO. : 3**

Topic :-REDOX REACTIONS

1. 0.3 g of an oxalate salt was dissolved in 100 mL solution. The solution required 90 mL of $N/20$ $KMnO_4$ for complete oxidation. The % of oxalate ion in salt is:
a) 33% b) 66% c) 70% d) 40%

2. How many litre of Cl_2 at STP will be liberated by the oxidation of NaCl with 10 g $KMnO_4$?
a) 3.54 litre b) 7.08 litre c) 1.77 litre d) None of these

3. What is the normality of a $KMnO_4$ solution to be used as an oxidant in acid medium, which contain 15.8 g of the compound in 100 mL of solution? Mol. wt. of $KMnO_4$ is 158 :
a) 2 N b) 3 N c) 4 N d) 5 N

4. $KMnO_4$ in acid medium is always reduced to :
a) Mn^{4+} b) Mn^{2+} c) Mn^{6+} d) Mn

5. In balancing the half reaction, $S_2O_3^{2-} \longrightarrow S(s)$, the number of electrons that must be added is :
a) 2 on the right b) 2 on the left c) 3 on the right d) 4 on the left

6. What volume of 0.1 M $KMnO_4$ is needed to oxidise 100 mg of FeC_2O_4 in acidic solution?
a) 4.1 mL b) 8.2 mL c) 10.2 mL d) 4.6 mL

7. Which one is not a redox titration?
a) $FeSO_4$ $vs.$ $K_2Cr_2O_7$ b) $CuSO_4$ $vs.$ hypo c) I_2 $vs.$ hypo d) $AgNO_3$ $vs.$ KCl

8. A 0.518 g sample of lime stone is dissolved in HCl and then the calcium is precipitated as CaC_2O_4. After filtering and washing the precipitate, it requires 40.0 mL of 0.250 N $KMnO_4$, solution acidified with H_2SO_4 to titrate is as, $MnO_4^- + H^+ + C_2O_4^{2-} \longrightarrow Mn^{2+} + CO_2 + 2H_2O$. The percentage of CaO in the sample is :
a) 54.0 % b) 27.1 % c) 42% d) 84%

9. The missing term in following equation is : $2Fe^{3+}(aq) + Sn^{2+}(aq) \longrightarrow 2Fe^{2+}(aq) + ?$
a) Sn^{4+} b) Sn^{2+} c) Sn d) None of these

10. Reaction of Br_2 with Na_2CO_3 in aqueous solution gives sodium bromide and sodium bromate with evolution of CO_2 gas. The number of sodium bromide molecules involved in the balanced chemical equation is
a) 1 b) 3 c) 5 d) 7

11. Oxidation number of carbon in C_3O_2, Mg_2C_3 are respectively :
a) $-4/3, +4/3$ b) $+4/3, -4/3$ c) $-2/3, +2/3$ d) $-2/3, +4/3$

12. The reaction; $KI + I_2 \longrightarrow KI_3$ shows :

a) Oxidation b) Reduction c) Complex formation d) All of these

13. The oxidation state of Cr in chromium trioxide is
a) $+3$ b) $+4$ c) $+5$ d) $+6$

14. Oxidation number of S in S_2Cl_2 is :
a) $+1$ b) $+6$ c) Zero d) -1

15. In which of the following N has lowest oxidation number?
a) NO b) NO_2 c) N_2O d) N_2O_5

16. 2 mole of $FeSO_4$ are oxidized by $'X'$ mole of $KMnO_4$ whereas 2 mole of FeC_2O_4 are oxidized by $'Y'$mole of $KMnO_4$. The ration f $'X'$ and $'Y'$ is :
a) 1 : 3 b) 1 : 2 c) 1 : 4 d) 1 : 5

17. H_2S reacts with halogens, the halogens :
a) Are oxidised b) Are reduced c) Form sulphur halides d) None of these

18. In an experiment 50 mL of 0.1 M solution of a salt reacted with 25 mL of 0.1 M solution of sodium sulphite. The half equation for the oxidation of sulphite ion is :

$$SO_3^{2-}(aq) + H_2O(l) \longrightarrow SO_4^{2-}(aq) + 2H^+(aq) + 2e^-$$

If the oxidation number of metal in the salt was 3, what would be the new oxidation number of metal?
a) Zero b) 1 c) 2 d) 4

19. The most stable oxidation state of copper is :
a) $+2$ b) $+1$ c) $+3$ d) $+4$

20. White phosphorus reacts with caustic soda, the products are PH_3 and NaH_2PO_2. This reaction is an example of
a) Oxidation b) Reduction c) Disproportionation d) Neutralisation