DPP
DAILY PRACTICE PROBLEMS

**CLASS : XIIth** **SUBJECT : CHEMISTRY**
**DATE :** **DPP NO. : 8**

# Topic :-REDOX REACTIONS

1. Which of the following oxidation state is the most common among the lanthanoides :
   a) 4 b) 2 c) 5 d) 3

2. 13.5 g aluminium changes to $Al^{3+}$ in solution by losing :
   a) $18 \times 10^{23}$ electrons
   b) $6.023 \times 10^{23}$ electrons
   c) $3.01 \times 10^{23}$ electrons
   d) $9 \times 10^{23}$ electrons

3. In $CH_2Cl_2$, the oxidation number of C is :
   a) $-4$ b) $+2$ c) Zero d) $+4$

4. In the compounds $KMnO_4$ and $K_2Cr_2O_7$, the highest oxidation state is of the element
   a) Mn b) K c) O d) Cr

5. The oxidation state of nitrogen varies from :
   a) $-3$ to $+5$ b) 0 to $+5$ c) $-3$ to 1 d) $+3$ to $+5$

6. The oxidation state of hydrogen in $CaH_2$ is :
   a) $+1$ b) $-1$ c) Zero d) $+2$

7. The most common oxidation state of an element is —2. The number of electrons present in its outermost shell is :
   a) 2 b) 4 c) 6 d) 8

8. A good indicator must possess the following characteristics :
   a) The colour change should be sharp
   b) The colour change should be clear
   c) It must be sensitive to the equivalent point
   d) All of the above

9. The oxidation number of Xe in $XeF_4$ and $XeO_2$ is
   a) $+6$ b) $+4$ c) $+1$ d) $+3$

10. The oxidation number of arsenic in arsenate is :

a) +5 b) +4 c) +6 d) +2

11. The reaction,
$Ag^{+2}(aq) + Ag(s) \rightleftharpoons 2Ag^{+}(aq)$
is an example of
a) Reduction b) Oxidation c) Disproportionation d) None of these

12. During the presence of $SO_3^{2-}$ and $S^{2-}$ in a mixture, on addition of dil. $H_2SO_4$, one notice that:
a) $SO_2$ and $H_2S$ are not formed
b) $SO_2$ and $H_2S$ formed during change undergoes a redox change forming colloidal sulphur and thus, no smell
c) A smell of burning sulphur
d) A smell of rotten egg

13. Which is not an oxidising agent?
a) $KClO_3$ b) $O_2$ c) $C_6H_{12}O_6$ d) $K_2Cr_2O_7$

14. The charge on cobalt in $[Co(CN)_6]^{3-}$ is :
a) $-6$ b) $+3$ c) $-3$ d) $+6$

15. The most stable oxidation state of chromium is :
a) + 5 b) + 3 c) + 2 d) + 4

16. Arrange the following as increase in oxidation number
(i) $Mn^{2+}$ (ii) $MnO_2$
(iii) $KMnO_4$ (iv) $K_2MnO_4$
a) (i)>(ii)>(iii)>(iv) b) (i)<(ii)<(iv)<(iii) c) (ii)<(iii)<(i)<(iv) d) (iii)>(i)>(iv)>(ii)

17. What mass of $MnO_2$ is reduced by 35 mL of 0.16 *N* oxalic acid in acidic solution? The skeleton equation is, $MnO_2 + H^+ + H_2C_2O_4 \longrightarrow CO_2 + H_2O + Mn^{2+}$ :
a) 8.7 g b) 0.24 g c) 0.84 g d) 43.5 g

18. Stronger is oxidising agent, more is;
a) Standard reduction potential of that species
b) The tendency to get itself oxidised
c) The tendency to lose electrons by that species
d) Standard oxidation potential of that species

19. How many g of $KMnO_4$ are needed to prepare 3.75 litre of 0.850 *N* solution if $KMnO_4$ is reduced as, $MnO_4^- + 8H^+ + 5e \longrightarrow Mn^{2+} + 4H_2O$ ?
a) 101 g b) 202 g c) 50.5 g d) 303.0 g $KMnO_4$

20. When $KMnO_4$ is reduced with oxalic acid in acid medium, the oxidation number of Mn changes from:
a) +7 to +4 b) +6 to +4 c) +7 to +2 d) +4 to +2