Date Planned : __ / __ / __	Daily Tutorial Sheet-3	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-1	Exact Duration :_____

31. Select correct statement about the reaction : $NH_4NO_3 \longrightarrow N_2 + 2H_2O$

(A) Oxidation number of N has changed from -2 to $+0$

(B) Oxidation number of N in NH_4^+ changed from –3 to 0 and that in NO_3^-, changed from $+5$ to 0.

(C) Oxidation number of N in NH_4^+ changed from $+1$ to 0 and that in NO_3^- changed from $+5$ to 0.

(D) No change

32. Which is not a disproportionation reaction ?

(A) $3H_3PO_2 \longrightarrow 2H_3PO_3 + PH_3$ **(B)** $2HCHO + OH^- \longrightarrow HCOO^- + CH_3OH$

(C) $NH_4NO_3 \longrightarrow N_2O + 2H_2O$ **(D)** $2Cl_2 + 6OH^- \longrightarrow 5Cl^- + ClO_3^- + 3H_2O$

33. Equation $H_2S + H_2O_2 \longrightarrow S + 2H_2O$ represents :

(A) Neutralization reaction and acidic nature of H_2O_2

(B) Neutralization reaction and basic nature of H_2O_2

(C) Redox reaction and oxidising nature of H_2O_2

(D) Redox reaction and reducing nature of H_2O_2

34. In which of the following transformations, oxygen is not the reducing agent?

(A) $Ag_2O \longrightarrow 2Ag + \frac{1}{2}O_2$ **(B)** $4NH_3 + 3O_2 \longrightarrow 2N_2 + 6H_2O$

(C) $2F_2 + 2H_2O \longrightarrow 4HF + O_2$ **(D)** $2AgNO_3 + H_2O_2 \longrightarrow 2Ag + 2HNO_3 + O_2$

35. In the given redox reaction :

$$Cr_2O_7^{2-} + Fe^{2+} \longrightarrow Fe^{3+} + Cr^{3+}$$

1 mol of $Cr_2O_7^{2-}$ oxidises :

(A) 1 mol of Fe^{2+} **(B)** 3 mol of Fe^{2+}

(C) 4 mol of Fe^{2+} **(D)** 6 mol of Fe^{2+}

36. The value of p, q, r, s, and t in the following redox reaction are :

$$pBr_2 + qOH^- \longrightarrow rBr^- + sBrO_3^- + tH_2O$$

	p	q	r	s	t		p	q	r	s	t
(A)	3	6	1	5	3	**(B)**	3	6	5	3	1
(C)	3	6	5	1	3	**(D)**	3	5	1	6	3

37. I^- reduces IO_3^- to I_2 and itself gets oxidised to I_2 in acidic medium. Final reaction is :

(A) $I^- + IO_3^- + 6H^+ \longrightarrow I_2 + 3H_2O$ **(B)** $I^- + IO_3^- \longrightarrow I_2 + O_3$

(C) $5I^- + IO_3^- + 6H^+ \longrightarrow 3I_2 + 3H_2O$ **(D)** None of the above

38. $SnCl_2$ gives a precipitate with a solution of $HgCl_2$. In this process $HgCl_2$ is :

(A) Reduced

(B) Oxidised

(C) Converted into a complex compound containing both Sn and Hg

(D) Converted into a chloro complex of Hg

39. One gas bleaches the colour of flowers by reduction while the other by oxidation :

(A) CO and Cl_2 **(B)** SO_2 and Cl_2

(C) H_2S and Br_2 **(D)** NH_3 and SO_2

40. Which of the following changes require a reducing agent ?

(A) $CrO_4^{2-} \longrightarrow Cr_2O_7^{2-}$ **(B)** $BrO_3^- \longrightarrow BrO^-$

(C) $H_3AsO_3 \longrightarrow HAsO_3^{2-}$ **(D)** $Al(OH)_3 \longrightarrow Al(OH)_4^-$

41. $N_2 + 3H_2 \longrightarrow 2NH_3$. In this reaction, equivalent weight of N_2 is :

(A) 4.67 **(B)** 28 **(C)** 14 **(D)** 2.33

42. $NaHC_2O_4$ is neutralised by NaOH. It can also be oxidised by $KMnO_4$ (in acidic medium). Equivalent weight is related to molecular weight (M) of $NaHC_2O_4$ in these two reaction as :

(A) M, M **(B)** 2M, 2M **(C)** $\frac{M}{2}$, M **(D)** M, $\frac{M}{2}$

43. Cl_2 changes to Cl^- and ClO^- in cold NaOH. The equivalent weight of Cl_2 will be :

(A) M **(B)** $\frac{M}{2}$ **(C)** $\frac{M}{3}$ **(D)** $\frac{2M}{3}$

44. Equivalent weights of $KMnO_4$ in acidic medium, alkaline medium and neutral (dilute alkaline) medium respectively are $\frac{M}{5}, \frac{M}{1}, \frac{M}{3}$. Reduced products can be :

(A) $MnO_2, MnO_4^{2-}, Mn^{2+}$ **(B)** $MnO_2, Mn^{2+}, MnO_4^{2-}$

(C) $Mn^{2+}, MnO_4^{2-}, MnO_2$ **(D)** $Mn^{2+}, MnO_2, MnO_4^{2-}$

45. 1 mol of ferric oxalate is oxidised by x mol of MnO_4^- in acidic medium, x is :

(A) $\frac{5}{6}$ **(B)** $\frac{6}{5}$ **(C)** 5 **(D)** 6