DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. : 2

Topic :-REDOX REACTIONS

1 **(b)**

S has +6 ox. no. in SO_3

2 **(c)**

$3 \times a + 1 \times 1 = 0$

$\therefore a = -1/3$

3 **(a)**

Tendency to lose more electron for cation decreases.

4 **(a)**

$\therefore 4Zn + NO_3^- + 10H^+ \longrightarrow 4Zn^{2+} + NH_4^+ + 3H_2O$(Net equation)

$4Zn + NO_3^- + 10HCl \longrightarrow 4Zn^{2+} + NH_4^+ + 5Cl_2 + 3H_2O$

$\because$ 1 mole of NO_3^- (0r $NaNO_3$) is reduced by

=10 moles of HCl

$\therefore \frac{1}{2}$ mole of No_3^- will be reduced by

$= 10 \times \frac{1}{2}$ moles of HCl

= 5 moles of HCl

5 **(a)**

Meq. of $FeSO_4$ = Meq. of $KMnO_4$

$\frac{w}{152/1} \times 1000 = 200 \times 1$

$\therefore w = 30.4$ g

6 **(b)**

$BiO_3^- + 6H^+ + 2e^- \longrightarrow Bi^{3+} + 3H_2O$

$x = 2$

7 **(b)**

$5H_2O_2 + 2ClO_2 + 2OH^- \longrightarrow 2Cl^- + 5O_2 + 6H_2O$

8 **(b)**

Meq.of $Na_2S_2O_3$ = Meq. of $CuSO_4$

$\therefore V \times 0.4 \times 1 = 50 \times 0.2 \times 1$

$\therefore V = 25$ mL

9 **(a)**

$$N = \frac{47.5}{189.7/2 \times 2.25} = 0.222\ N$$

10 **(b)**

$2e + Fe_2^{3+} \longrightarrow 2Fe^{2+}$

11 **(c)**

$Mn^{7+} + 5e \longrightarrow Mn^{2+}$

$C_2^{3+} \longrightarrow 2C^{4+} + 2e$

12 **(b)**

Oxidation no. of N in NO^+ is

$(1 \times x) + 1 \times (-2) = +1$

$\therefore\ x = +3$

Oxidation no. of Cl in ClO_4^- is

$(1 \times x) + 4 \times (-2) = -1$

$x = +7$

13 **(c)**

1. Sulphurous acid H_2SO_3

$2 + x + (-2 \times 3) = 0$

$x - 4 = 0$

$\therefore\ x = 4$

2. Pyrosulphuric acid ($H_2S_2O_7$)

$2 + 2x + (-2 \times 7) = 0$

or $2x = 12$

$\therefore = 6$

3. Thiosulphuric acid ($H_2S_2O_3$)

$2 + 2x + (-2 \times 3) = 0$

or $2x = 4$

$x = 2$

4. Dithionous acid ($H_2S_2O_4$)

$2 + 2x + (-2 \times 4) = 0$

$2x = 6$

$\therefore\ x = 3$

14 **(c)**

$KCN + AgCN \longrightarrow KAg(CN)_2$

(Complex formation)

CN^- also acts as reducing agent.

15 **(a)**

$Mg + 2HCl \longrightarrow MgCl_2 + H_2$.

16 **(a)**

Meq. of oxalic acid = Meq. of $KMnO_4$

$$V \times 0.1 \frac{250 \times 8}{100 \times 31.6} \times 1000 = 6.3 \text{ litre}$$

17 **(d)**

H_3PO_3 is phosphorous acid.

18 **(c)**

$Cr_2^{6+} + 6e \longrightarrow 2Cr^{3+}$

19 **(c)**

$H_4P_2O_5 : 4 \times 1 + 2 \times a - 5 \times 2 = 0$

$a = +3$

$H_4P_2O_6 : 4 \times 1 + 2 \times a - 6 \times 2 = 0$

$a = +4$

$H_4P_2O_7 : 4 \times 1 + 2 \times a - 7 \times 2 = 0$

$a = +5$

20 **(c)**

$2S_2O_3^{2-} + I_2 \longrightarrow S_4O_6^{2-} + 2I^-$.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	B	C	A	A	A	B	B	B	A	B
Q.	11	12	13	14	15	16	17	18	19	20
A.	C	B	C	C	A	A	D	C	C	C