

DPP

DAILY PRACTICE PROBLEMS

CLASS : XIIth
DATE :

SOLUTION

SUBJECT : CHEMISTRY
DPP NO. : 3

Topic :-REDOX REACTIONS

1 (b)

Meq. of oxalate = Meq. of KMnO₄

$$\frac{w}{88/2} \times 1000 = 90 \times \frac{1}{20}$$

$$\therefore w \text{ oxalate ion} = 0.198 \text{ g}$$

$$\therefore \% \text{ of oxalate ion} = \frac{0.198}{0.3} \times 100 = 66\%$$

2 (a)

Meq. of Cl₂ = Meq. of KMnO₄

$$\frac{w}{71/2} \times 1000 = \frac{10}{31.6} \times 1000$$

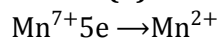
$$\therefore w_{\text{Cl}_2} = 11.23 \text{ g}$$

$$\therefore V_{\text{Cl}_2} = \frac{22.4 \times 11.23}{71} = 3.54 \text{ litre}$$

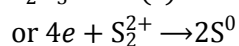
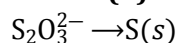
3 (d)

$$N = \frac{15.8 \times 1000}{158/5 \times 100} = 5$$

4 (b)

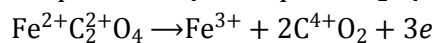


5 (d)



6 (a)

Meq. of KMnO₄ = Meq. of FeC₂O₄



$$0.1 \times 5 \times V = \frac{100 \times 10^{-3}}{144/3} \times 1000$$

$$\therefore V = 4.1 \text{ mL}$$

7 (d)

It is precipitation reaction.

8 (a)

Meq. of lime stone = Meq. of CaC₂O₄ = Meq. of KMnO₄

= Meq. Of CaO

$$\therefore 40 \times 0.250 = \frac{w}{56/2} \times 1000$$

$$\therefore w_{CaO} = 0.28$$

$$\therefore \text{per cent of CaO} = \frac{0.28 \times 100}{0.518} = 54\%$$

9 (a)

Equate charge on both side, $2 \times 3 + 2 = 2 \times 2 + a$

$\therefore a = +4$; Thus, Sn^{4+} is choice.

10 (c)

Br_2 is disproportionated in basic medium as



11 (b)

Carbon has negative oxidation no. in Mg_3C_2 and positive oxidation number in C_3O_2 ; O is more electronegative than C. Mg is more electropositive than C.

12 (d)

It is a complexation reaction involving reduction of I_2 and oxidation of KI.

13 (a)

Oxidation state of Cr in Cr_2O_3 is



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

$$2x - 6 = 0$$

$$2x = 6$$

$$x = +3$$

254 (a)

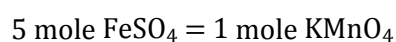
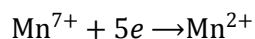
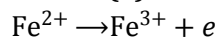
$$2 \times a + 2 \times (-1) = 0$$

$$\therefore a = +1$$

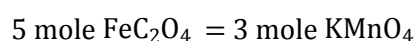
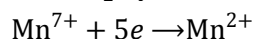
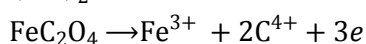
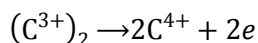
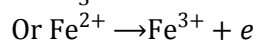
15 (c)

N has +1 ox.no.

16 (a)

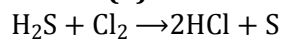


$$'X' = \frac{2}{3} \text{ mole}$$



$$\therefore 'Y' = \frac{3 \times 2}{5}$$

17 (b)



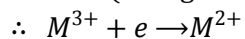
18 (c)

PE

Meq. of salt = Meq. Of Na_2SO_3

$$50 \times 0.1 \times n = 25 \times 0.1 \times 2$$

$\therefore n = 1$ (change in ox.no.)



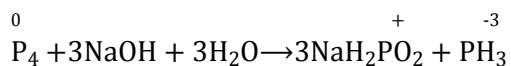
19 (a)

Cu^{2+} is more stable than Cu^+ although later, has $3d^{10}$ configuration. In Cu^+ 18 electron core is not held properly by nuclear charge and thus, Cu^+ is readily converted to Cu^{2+} .

20 (c)

\therefore In this reaction phosphorus is simultaneously oxidised and reduced.

\therefore It is disproportionation reaction.



PE

ANSWER-KEY

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

PE