Yakeen NEET 2.0 (2026)

Physical Chemistry By Amit Mahajan Sir

Redox Reaction

DPP: 4

Q1 During the preparation of standard Mohr's salt solution for the titration against potassium permanganate, dilute sulphuric acid is added to
(A) To prevent the hydrolysis of ferrous ions
(B) To prevent the hydrolysis of ferric ions
(C) To prevent the hydrolysis of ammonium ions.
(D) To prevent the hydrolysis of sulphate ions.

Q2 The appearance of Mohr's salt crystals is
(A) White
(B) Pale yellow
(C) Light green
(D) Light blue

Q3 Standard reduction potentials of the half reactions are given below:

$$\mathrm{F_2(g) + 2e^- \rightarrow 2\,F^-(aq); E^\circ = +2.85\ V}$$
$$\mathrm{Cl_2(g) + 2e^- \rightarrow 2Cl^-(aq); E^\circ = +1.36\ V}$$
$$\mathrm{Br_2(l) + 2e^- \rightarrow 2Br^-(aq); E^\circ = +1.06\ V}$$
$$\mathrm{I_2(s) + 2e^- \rightarrow 2I^-(aq); E^\circ = +0.53\ V}$$

The strongest oxidizing and reducing agents respectively are
(A) $\mathrm{F_2}$ and $\mathrm{I^-}$
(B) $\mathrm{Br_2}$ and $\mathrm{Cl^-}$
(C) $\mathrm{Cl_2}$ and $\mathrm{Br^-}$
(D) $\mathrm{Cl_2}$ and $\mathrm{I_2}$

Q4 Electrode potential depends upon
(A) Size of electrode
(B) Surface area of electrode
(C) Temperature
(D) Shape of electrode

Q5 Standard reduction electrode potential of three metals X, Y and Z are $-1.2\ \mathrm{V}$, $+0.5\ \mathrm{V}$ and $-3.0\ \mathrm{V}$ respectively. The reducing power of these metals will be
(A) $\mathrm{X < Y > Z}$
(B) $\mathrm{Y > Z > X}$
(C) $Y > X > Z$
(D) $Z > X > Y$

Q6 In alkaline medium $\mathrm{ClO_2}$ oxidises $\mathrm{H_2O_2}$ to $\mathrm{O_2}$ and reduced itself to $\mathrm{Cl^-}$, then how many moles of $\mathrm{H_2O_2}$ will be oxidised by one mole of $\mathrm{ClO_2}$?
(A) 1.0 (B) 1.5
(C) 2.5 (D) 3.5

Q7 Equivalent weight of $\mathrm{FeC_2O_4}$ in the change: $\mathrm{FeC_2O_4 \rightarrow Fe^{3+} + CO_2}$ is:
(A) M/3 (B) M/6
(C) M/2 (D) M/1

Q8 How many moles of $\mathrm{FeSO_4}$ reacts with one mole of $\mathrm{KMnO_4}$ in acidic medium?
(A) 2/5 (B) 5
(C) 1/2 (D) 1/5

Q9 The coefficients of $\mathrm{I^-}$, $\mathrm{IO_3^-}$ and $\mathrm{H^+}$ in the redox reaction,
$\mathrm{I^- + IO_3^- + H^+ \rightarrow I_2 + H_2O}$

In the balanced form respectively are:

(A) 5,1,6 (B) 1, 5, 6

(C) 6,1,5 (D) 5,6,1

Q10 In the redox reaction,

$x\,\mathrm{KMnO_4} + \mathrm{NH_3} \rightarrow y\,\mathrm{KNO_3} + \mathrm{MnO_2} + \mathrm{KOH} + \mathrm{H_2O}$

x and y are:

(A) x=4, y=6 (B) x=3, y=8

(C) x=8, y=6 (D) x=8, y=3

Q11 In ionic equation, $\mathrm{BiO_3^-} + 6\mathrm{H^+} + xe^- \rightarrow \mathrm{Bi^{3+}} + 3\mathrm{H_2O}$ the value of x is:

(A) 6 (B) 2

(C) 4 (D) 3

Answer Key

Q1	(A)
Q2	(C)
Q3	(A)
Q4	(C)
Q5	(D)
Q6	(C)
Q7	(A)
Q8	(B)
Q9	(A)
Q10	(D)
Q11	(B)