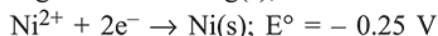
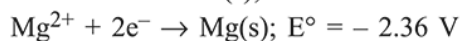
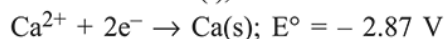
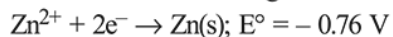


JEE Mains 2019 Chapter wise Question Bank

Redox Reactions - Questions

Q1

Consider the following reduction processes:



The reducing power of the metals increases in the order:

- (1) $\text{Ca} < \text{Zn} < \text{Mg} < \text{Ni}$
- (2) $\text{Ni} < \text{Zn} < \text{Mg} < \text{Ca}$
- (3) $\text{Zn} < \text{Mg} < \text{Ni} < \text{Ca}$
- (4) $\text{Ca} < \text{Mg} < \text{Zn} < \text{Ni}$

10 Jan Morning

Q2

In the reaction of oxalate with permanganate in acidic medium, the number of electrons involved in producing one molecule of CO_2 is:

- (1) 1
- (2) 10
- (3) 2
- (4) 5

10 Jan Evening

Q3

In order to oxidise a mixture of one mole of each of FeC_2O_4 , $\text{Fe}_2(\text{C}_2\text{O}_4)_3$, FeSO_4 and $\text{Fe}_2(\text{SO}_4)_3$ in acidic medium, the number of moles of KMnO_4 required is :

- (1) 2
- (2) 1
- (3) 3
- (4) 1.5

8 April Morning

Q4

An example of a disproportionation reaction is:

- (1) $2\text{MnO}_4^- + 10\text{I}^- + 16\text{H}^+ \rightarrow 2\text{Mn}^{2+} + 5\text{I}_2 + 8\text{H}_2\text{O}$
- (2) $2\text{NaBr} + \text{Cl}_2 \rightarrow 2\text{NaCl} + \text{Br}_2$
- (3) $2\text{KMnO}_4 \rightarrow \text{K}_2\text{MnO}_4 + \text{MnO}_2 + \text{O}_2$
- (4) $2\text{CuBr} \rightarrow \text{CuBr}_2 + \text{Cu}$

12 April Morning

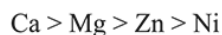
JEE Mains 2019 Chapter wise Question Bank

Redox Reactions – Answers

Q1

12 April Morning

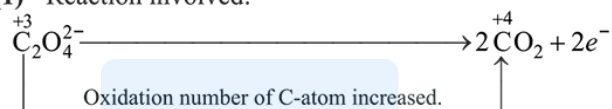
- (2) Higher the oxidation potential, higher will be the reducing power. So, the order of reducing behaviour is:



10 Jan Morning

Q2

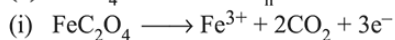
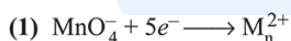
- (1) Reaction involved:



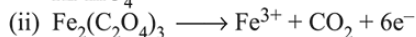
∴ The number of electrons involved in producing one mole of CO_2 is 1.

10 Jan Evening

Q3



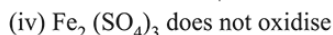
1 mole of FeC_2O_4 reacts with $\frac{3}{5}$ mole of acidified KMnO_4



1 mole of $\text{Fe}_2(\text{C}_2\text{O}_4)_3$ reacts with $\frac{6}{5}$ moles of KMnO_4



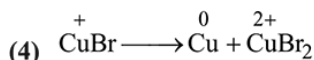
1 mole of FeSO_4 react with $\frac{1}{5}$ moles of KMnO_4



$$\therefore \text{Total moles required} = \frac{3}{5} + \frac{6}{5} + \frac{1}{5} = 2$$

8 April Morning

Q4



It is an example of disproportionation reaction, as Cu undergoes both oxidation and reduction.