



Arjuna NEET (2024)

Redox Reactions

DPP-02

1. Identify the correct statements with reference to the given reaction.
$$\text{P}_4 + 3\text{OH}^- + 3\text{H}_2\text{O} \rightarrow \text{PH}_3 + 3\text{H}_2\text{PO}_2^-$$

(1) Phosphorus is undergoing reduction only.
(2) Phosphorus is undergoing oxidation only.
(3) Phosphorus is undergoing oxidation as well as reduction.
(4) Phosphorus is undergoing neither oxidation nor reduction.
2. Oxidation state of oxygen in CrO_5 is:
(1) -1 (2) -2
(3) Both A and B (4) -1/2
3. The equation
$$\text{Mg(s)} + \text{CuO(s)} \rightarrow \text{MgO(s)} + \text{Cu(s)}$$
 represents
i) decomposition reaction
ii) combination reaction
iii) displacement reaction
iv) double displacement reaction
v) redox reaction
(1) ii and v (2) iii and v
(3) i and ii (4) iv and v
4. Which of the following elements does not show disproportionation tendency?
(1) Cl (2) Br
(3) F (4) I
5. Which of the following is disproportionation reaction
(1) $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$
(2) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$
(3) $2\text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$
(4) $\text{Fe}^{+2} + \text{MnO}_4^- + 8\text{H}^+ \rightarrow \text{Fe}^{+3} + \text{Mn}^{+2} + 4\text{H}_2\text{O}$
6. $\text{H}_2\text{O}_2 + \text{H}_2\text{O}_2 \rightarrow 2\text{H}_2\text{O} + \text{O}_2$ is an example of disproportionation because
(1) Oxidation number of oxygen only decreases
(2) Oxidation number of oxygen only increases
(3) Oxidation number of oxygen decreases as well as increase
(4) Oxidation number of oxygen neither decreases nor increase
7. The number of electrons required to balance change in the following equation
$$\text{MnO}_4^- + 2\text{H}_2\text{O} \rightarrow \text{MnO}_2 + 4\text{OH}^-$$
 is
(1) 5 (2) 4
(3) 3 (4) 2
8. In the reaction:
$$\text{MnO}_4^- + x\text{H}^+ + ne^- \rightarrow \text{Mn}^{2+} + y\text{H}_2\text{O}$$
 What is the value of n .
(1) 5 (2) 8
(3) 6 (4) 3
9. Choose the set of coefficients that correctly balances the following equation:
$$x\text{Cr}_2\text{O}_7^{2-} + y\text{H}^+ + ze^- \rightarrow a\text{Cr}^{+3} + b\text{H}_2\text{O}$$

| | x | y | z | a | b |
|-----|-----|-----|-----|-----|-----|
| (1) | 2 | 14 | 6 | 2 | 7 |
| (2) | 1 | 14 | 6 | 2 | 7 |
| (3) | 2 | 7 | 6 | 2 | 7 |
| (4) | 2 | 7 | 6 | 1 | 7 |
10. Consider the following reaction
$$x\text{MnO}_4^- + y\text{C}_2\text{O}_4^{2-} + z\text{H}^+ \rightarrow x\text{Mn}^{2+} + 2y\text{CO}_2 + \frac{z}{2}\text{H}_2\text{O}$$

The value of x , y and z in the reaction are respectively
(1) 5, 2 and 6
(2) 2, 5 and 8
(3) 2, 5 and 16
(4) 5, 2 and 8
11. For the redox reaction:
$$\text{Zn} + \text{NO}_3^- \rightarrow \text{Zn}^{2+} + \text{NH}_4^+$$

In Basic Medium, coefficient of Zn , NO_3^- and OH^- in the balanced equation respectively are
(1) 4, 1, 7 (2) 7, 4, 1
(3) 4, 1, 10 (4) 1, 4, 10



- 12.** Consider the following reaction,
 $5\text{H}_2\text{O}_2 + x\text{ClO}_2 + 2\text{OH}^- \rightarrow x\text{Cl}^- + y\text{O}_2 + 6\text{H}_2\text{O}$
The reaction is balanced if
- (1) $x = 5, y = 2$
 - (2) $x = 2, y = 5$
 - (3) $x = 4, y = 10$
 - (4) $x = 5, y = 5$

- 13.** In the balanced chemical reaction,
 $\text{IO}_3^- + a\text{I}^- + b\text{H}^+ \rightarrow c\text{H}_2\text{O} + d\text{I}_2$
a, b, c and d respectively correspond to
- (1) 5, 6, 3, 3
 - (2) 5, 3, 6, 3
 - (3) 3, 5, 3, 6
 - (4) 5, 6, 5, 5



Note: Kindly find the Video Solution of DPPs Questions in the DPPs Section.

Answer Key

1. (3)
2. (3)
3. (2)
4. (3)
5. (3)
6. (3)
7. (3)

8. (1)
9. (2)
10. (3)
11. (3)
12. (2)
13. (1)



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