

✓ Redox Reactions – MCQs

1. In a redox reaction, oxidation is defined as:

- A) Loss of electrons
- B) Gain of electrons
- C) Gain of protons
- D) Loss of protons

2. Reduction is a process which involves:

- A) Loss of electrons
- B) Gain of oxygen
- C) Gain of electrons
- D) Increase in oxidation number

3. The substance that gets reduced is called:

- A) Reducing agent
- B) Oxidizing agent
- C) Catalyst
- D) Neutral agent

4. Which of the following is not a redox reaction?

- A) $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$
- B) $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
- C) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$
- D) $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$

5. Oxidation number of oxygen in peroxides is:

- A) -2
- B) -1
- C) 0
- D) +1

6. In the reaction:



what type of change is it?

- A) Reduction
- B) Oxidation
- C) Displacement
- D) Neutralization

7. Which element has an oxidation number of zero in its elemental form?

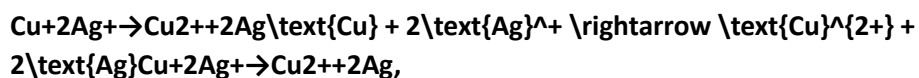
- A) H in H_2
- B) O in O_2
- C) Na in Na
- D) All of the above

8. Which of the following is the best oxidizing agent?

- A) H_2
- B) F_2

- C) Cl₂
- D) Br₂

9. In the redox reaction:



which species is oxidized?

- A) Cu
- B) Ag⁺
- C) Cu²⁺
- D) Ag

10. The sum of oxidation numbers of all atoms in a neutral compound is:

- A) 0
- B) 1
- C) 2
- D) -1

11. The oxidation number of sulfur in H₂SO₄ is:

- A) +4
- B) +6
- C) -2
- D) 0

12. What is the oxidation number of Mn in KMnO₄?

- A) +2
- B) +4
- C) +7
- D) +6

13. A reducing agent:

- A) Gets oxidized
- B) Gets reduced
- C) Gains electrons
- D) Increases oxidation number of others

14. Disproportionation is a reaction in which:

- A) Same species is both oxidized and reduced
- B) Two species are oxidized
- C) Two species are reduced
- D) No redox reaction occurs

15. In acidic medium, which species is commonly used to balance oxygen in redox reactions?

- A) OH⁻
- B) H₂O
- C) O₂
- D) H⁺

16. Oxidation number of chlorine in NaClO₃ is:

- A) +3
- B) +5

- C) +7
- D) -1

17. Identify the redox reaction among the following:

- A) $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$
- B) $\text{BaCl}_2 + \text{Na}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{NaCl}$
- C) $2\text{K} + \text{Br}_2 \rightarrow 2\text{KBr}$
- D) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$

18. Which of the following is both an oxidizing and reducing agent?

- A) Cl_2
- B) Na
- C) O_2
- D) H_2O

19. Oxidation number of nitrogen in NO_3^- is:

- A) +1
- B) +3
- C) +5
- D) -3

20. In a redox reaction, the oxidizing agent is the one that:

- A) Loses electrons
- B) Gains electrons
- C) Is oxidized
- D) Increases its oxidation number

Answer Key

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