

1. Which of the following is not an example of redox reaction?

- (1) $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$
 (2) $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$
 (3) $2\text{K} + \text{F}_2 \rightarrow 2\text{KF}$
 (4) $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2\text{HCl}$

2. In which of the following compounds, an element exhibits two different oxidation states?

- (1) NH_2OH (2) NH_4NO_3
 (3) N_2H_4 (4) N_3H

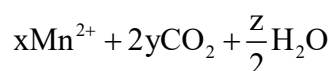
3. Oxidation number of potassium in K_2O , K_2O_2 and KO_2 , respectively is

- (1) +1, +1 and +1
 (2) +2, +1 and + $\frac{1}{2}$
 (3) +1, +2 and +4
 (4) +1, +4 and +2

4. An example of disproportionation reaction is

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

5. Consider the following reaction,



The values of x, y and z in the reaction are respectively

- (1) 5, 2 and 8 (2) 5, 2 and 16
 (3) 2, 5 and 8 (4) 2, 5 and 16

6. When KMnO_4 acts as an oxidising agent and ultimately forms MnO_4^- , MnO_2 , Mn_2O_3 and Mn^{2+} , then the number of electrons transferred in each case respectively is

- (1) 4, 3, 1, 5 (2) 1, 5, 3, 7
 (3) 1, 3, 4, 5 (4) 3, 5, 7, 1

7. The largest oxidation number exhibited by an element depends on its outer electronic configuration with which of the following outer electronic configuration the element will exhibit largest oxidation number?

- (1) $3d^1 4s^2$ (2) $3d^3 4s^2$
 (3) $3d^5 4s^1$ (4) $3d^5 4s^2$

8. What is the change in oxidation number of carbon in the following reaction?



- (1) +4 to +4 (2) 0 to +4
 (3) -4 to +4 (4) 0 to -4

9. The oxidation state of Cr in CrO_5 is

- (1) -6 (2) +12
 (3) +6 (4) +10

10. Oxidation state of Fe in Fe_3O_4 is

- (1) $\frac{5}{4}$ (2) $\frac{4}{5}$
 (3) $\frac{3}{2}$ (4) $\frac{8}{3}$