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**Worksheet**

1. Oxidation state of P in H4P2O5 , H4P2O6 , H4P2O7 are respectively:

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 3 , + 5 , + 4 | b) + 5 , + 3 , + 4 | c) + 5 , + 4 , + 3 | d) + 3 , + 4 , + 5 |

1. The oxidation numbers of the Sulphur atoms in peroxomonosulphuric acid (H2SO5) and peroxodisulphuric acid (H2S2O8) are respectively:

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 8 and + 7 | b) + 3 and + 3 | c) + 6 and + 6 | d) + 4 and + 6 |

1. What is the oxidation state of Co in [Co(H2O)5 Cl]2+ ?

|  |  |  |  |
| --- | --- | --- | --- |
| a) + 2 | b) + 3 | c) + 1 | d) + 4 |

1. Oxidation state of each Cl in CaOCl2 is/are :

|  |  |  |  |
| --- | --- | --- | --- |
| a) 0 | b) + 1 | c) – 1 | d) + 1 , – 1 |

1. Balance the following equations by acidic medium
2. Sn (s) + (aq) + H + (aq) Sn2+ (aq) + (aq) + H2O (l).
3. (aq) + C2H4O (g) → Cr3+ (aq) + C2H4O2 (aq).
4. Cu (aq) + (aq) Cu2+ (aq) + NO2 (g).
5. (aq) + Fe2+ (aq) → Mn2+ (aq) + Fe3+ (aq)
6. Balance the following equations by Basic medium
7. Cr (s) + (aq) Cr(OH)3 (s) + (aq)
8. Zn (s) + (aq) Zn2+ (aq) + (aq)
9. Find the oxidation number of the following :

(a) C2H6 (b) (NH4)2SO4

(c) KClO4 (d) PbSO4

(e) SiH4 (f) KMnO4

(g) Cr (h) H4P2

1. Identify the oxidizing , reducing agent and which will act as both oxidizing and reducing, of the following.

(a) HNO3 (b) H2SO4

(c) HNO2 (d) H2S

(e) NF3 (f) H3PO4

(g) H3PO2 (h) H3PO3

(i) (j) SO2