

- ①/2 Reduction is gain of electrons or decrease in positive valency or increase in negative valency.
- ②/3. Sum of oxidation states of all elements in a compound is zero.
So, in $X_3(YZ_4)_2 \rightarrow 3(+2) + 2(+1) + 8(-2) = 0$.
- ③/1. Configuration of element with At. no. 13 is 2, 8, 3.
- ④/3. $(+2) \times 2 + x(2) + (-2) \times 7 = 0$ $x = +5$
Mg₂ P₂ O₇
- ⑤/3. Co undergoes oxidation & Cu²⁺ undergoes reduction. So, it is a redox reaction.
- ⑥/4. I⁻ is oxidised by H₂SO₄ to I₂. So, H₂SO₄ act as oxidising agent.
- ⑦/2. $2(+1) + x + 4(-2) = 0$ $x = +6$
Na₂ S O₄
- ⑧/2. In peroxides, oxidation state of oxygen is -1.
- ⑨/1. H₂O oxidises C(0) to C(+4). So, act as oxidising agent.
- ⑩/2. loss of electron increases oxidation number so, loss of 3 electrons from M³⁺ changes its oxidation number to M⁶⁺.
- ⑪/2. $(+1) \times 3 + x + (-1) \times 6 = 0$; $x = +3$
K₃ Fe (N)₆
- ⑫/3. species which lose electron, act as reducing agent.
- ⑬/4. HF is weak reducing agent & strong oxidising agent so it can not reduce H₂SO₄, KMnO₄ or K₂Cr₂O₇.
- ⑭/2. ~~HgO → Hg²⁺ + O²⁻~~ $2HgO \xrightarrow{\Delta} 2Hg + O_2$
- ⑮/1. $2(x) + 2(-1) = 0$ $x = +1$
S₂ Cl₂
- ⑯/3. $Zn + I_2 \rightarrow ZnI_2$ here, Zn is oxidised to Zn²⁺.
- ⑰/2. $2(x) + (-2) \times 2 = -2$ So, $x = +1$
S₂ O₂
- ⑱/1. In non-metal hydrides, oxidation state of H = +1.
- ⑲/3. In acidic medium $K_2Cr_2O_7$ gives 2Cr³⁺. Total change of electron for two Cr is +6. So, $E = \frac{M}{6}$.
- ⑳/3. It is a disproportionation reaction in which Phosphorus undergoes a change of 0 to +1 & 0 to -3.
- ㉑/2. $x + 2(+1) + (-2) + (+1) = 0$ So, $x = -1$
N H₂ O H