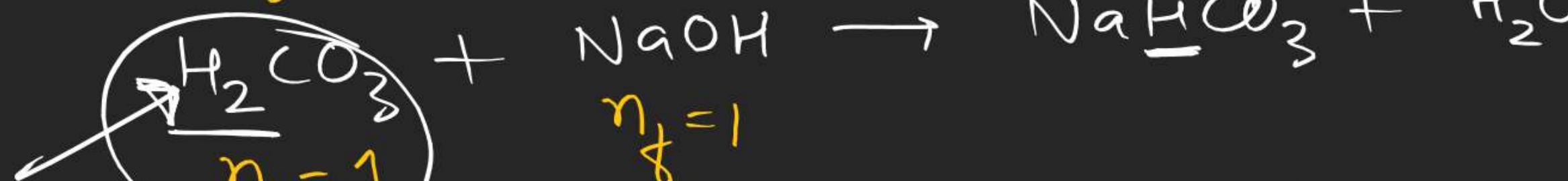
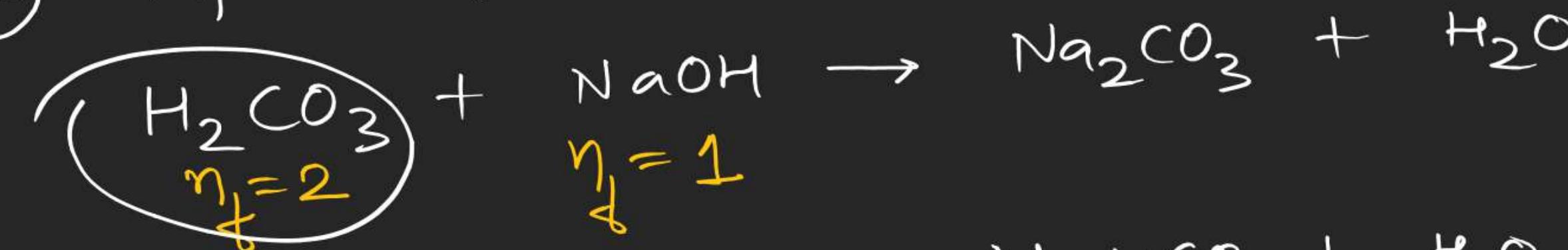


n-factor calculation :-

① For non-redox Rxn

(a) n-factor for acid and base

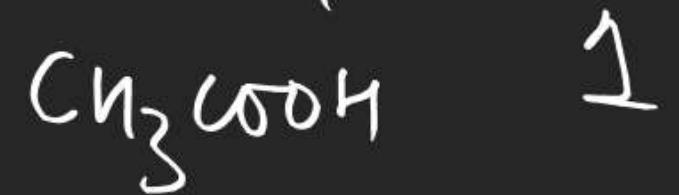
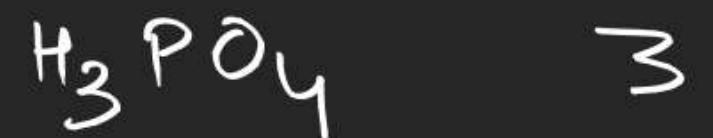


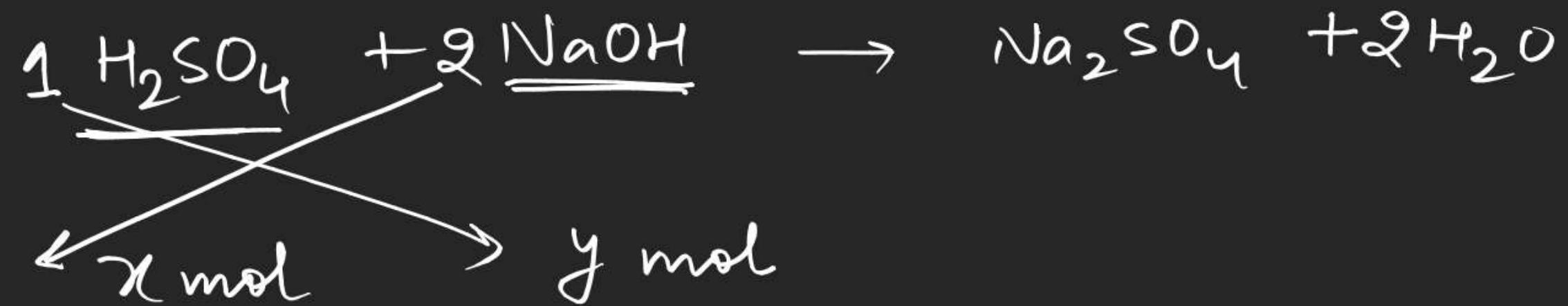
n-factor = no. of H^+ or OH^- given/taken by per mole
acid or base.

If chemical rxn is not given

n-factor of acid/base = basicity or acidity

n-factor





(A) $x = 2y$

(B) $2x = y$

(C) $x = y$

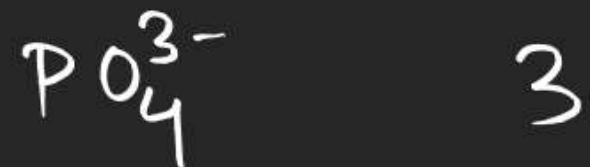
basicity \times acidity = $y \times$ acidity

Acid \rightarrow basicity \rightarrow H^+ given

base \rightarrow acidity \rightarrow O^- given

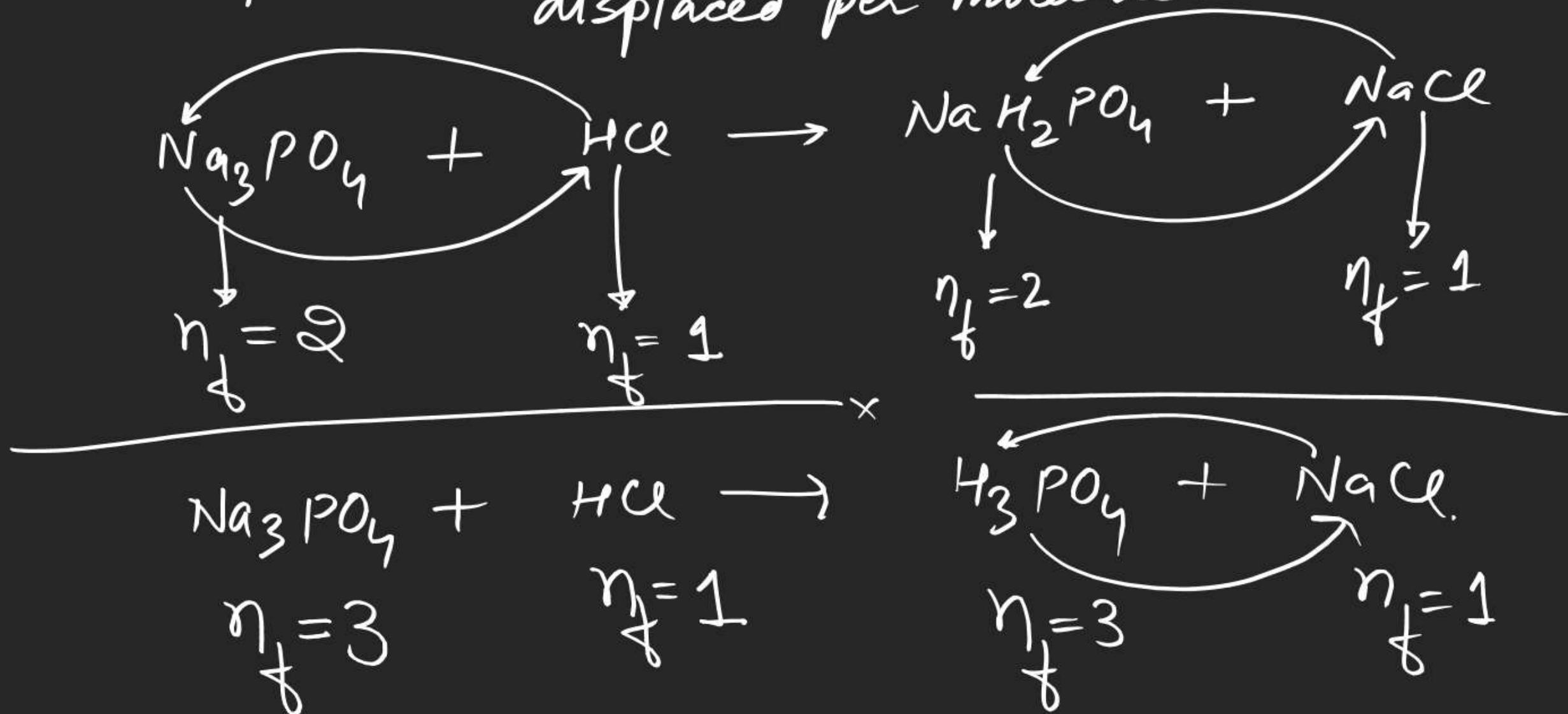
② n-factor for the ion

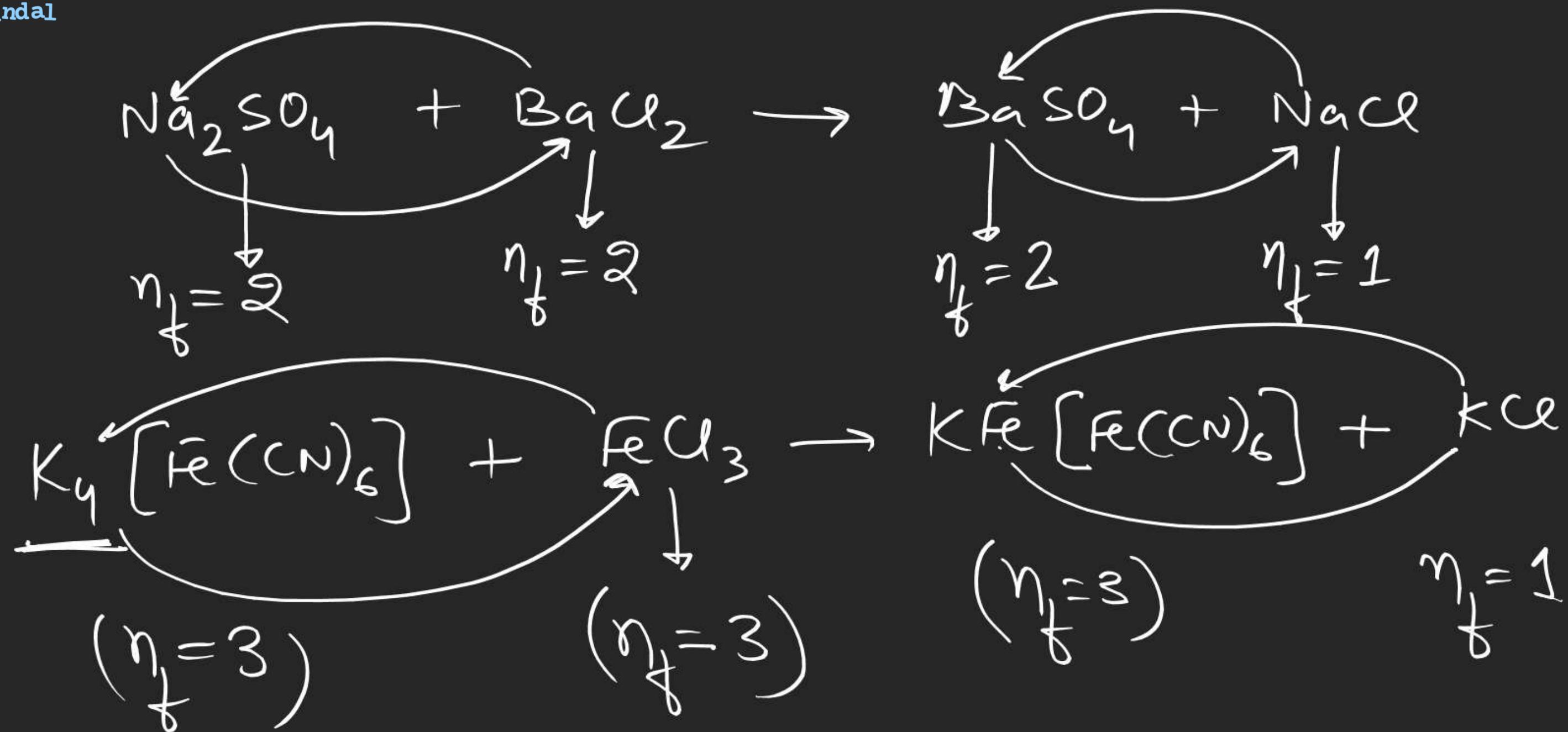
n-factor = charge on ion
n-factor



③ n -factor compound

n -factor = Total charge on cation or anion displaced per molecule.

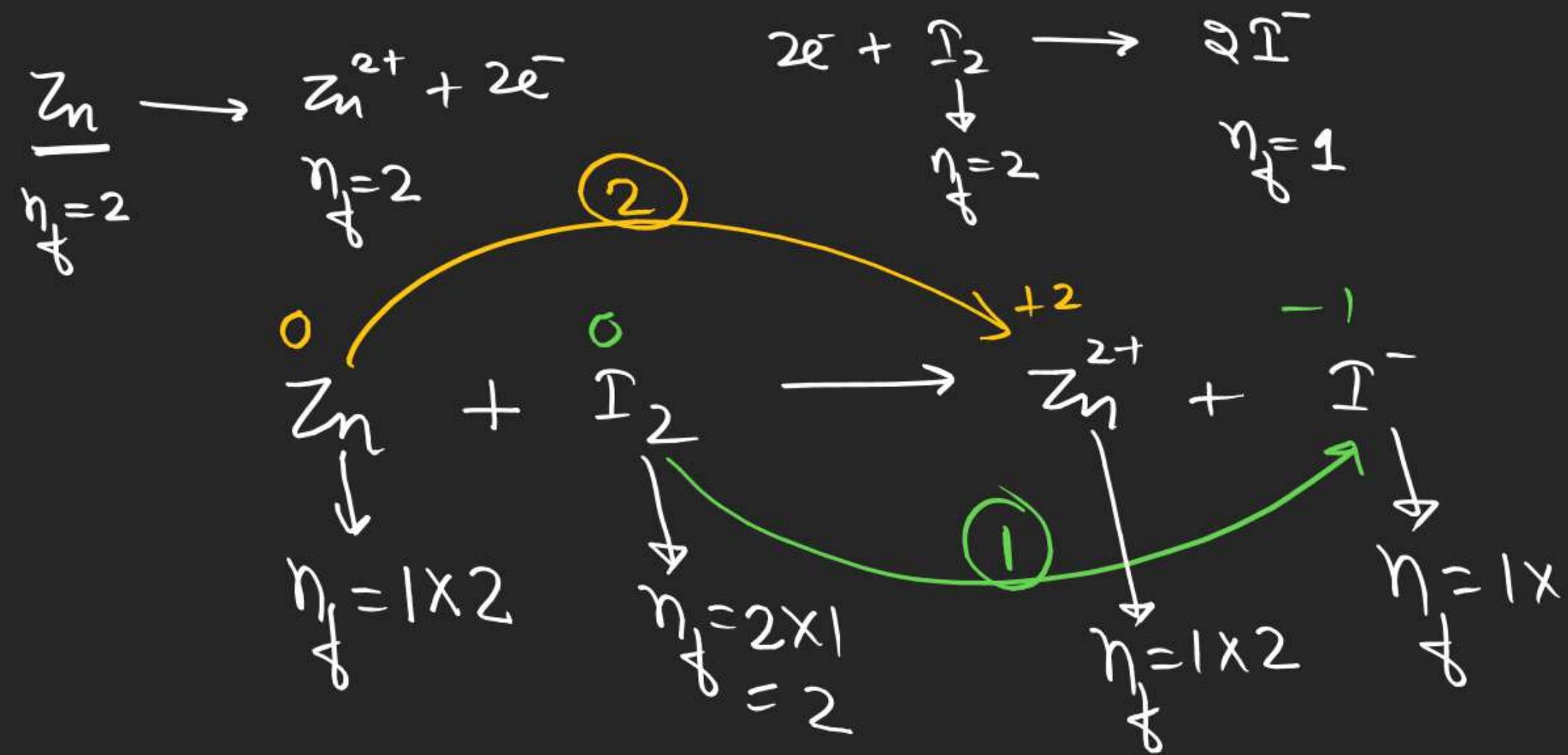




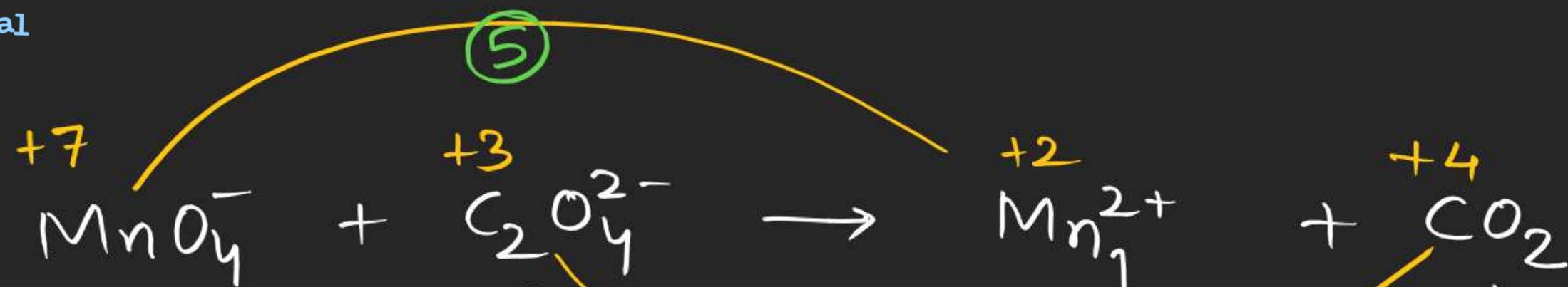
② for redox Rxn

n -factor = no. of e^- exchanged per mole of substance

Type-1 Rxn: \rightarrow Rxns in which ^{only} one element undergoes oxidⁿ and one other element in other compound undergoes redⁿ.



(2)



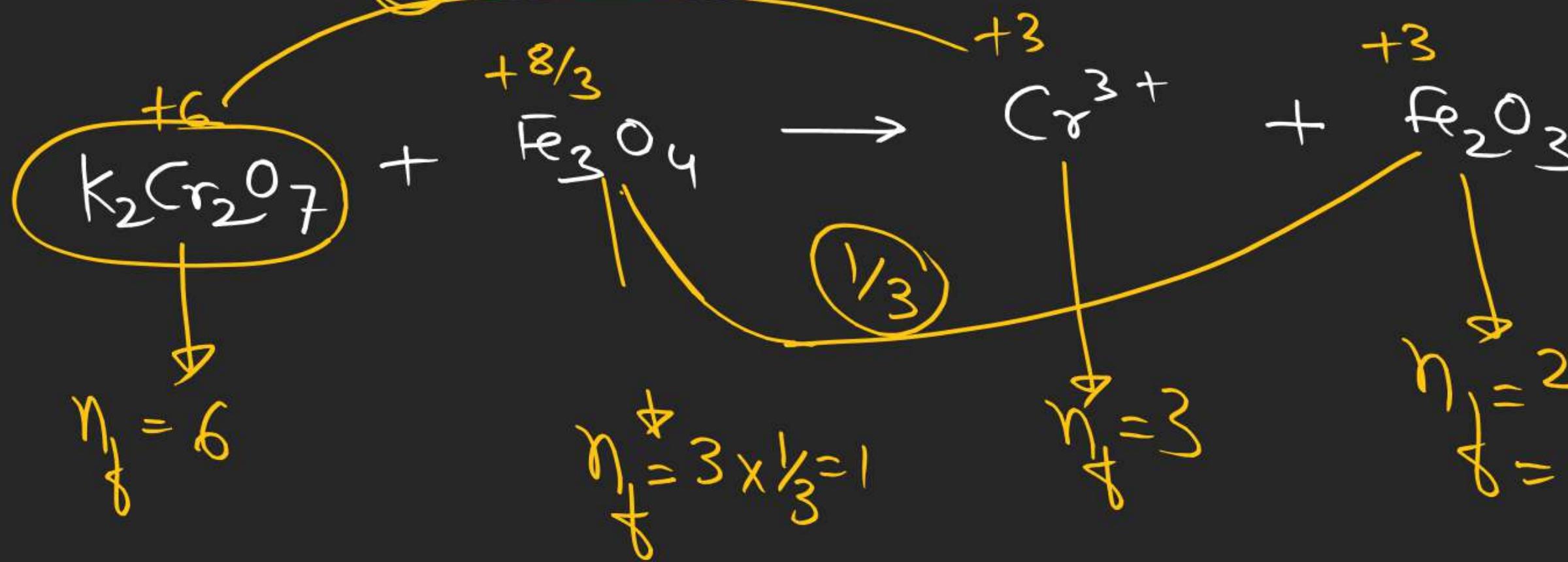
$$\eta_f = 1 \times 5$$

$$\eta_A = 2 \times 1 \\ = 2$$

$$\eta_f = 1 \times 5$$

$$\eta_f = 1$$

(3)



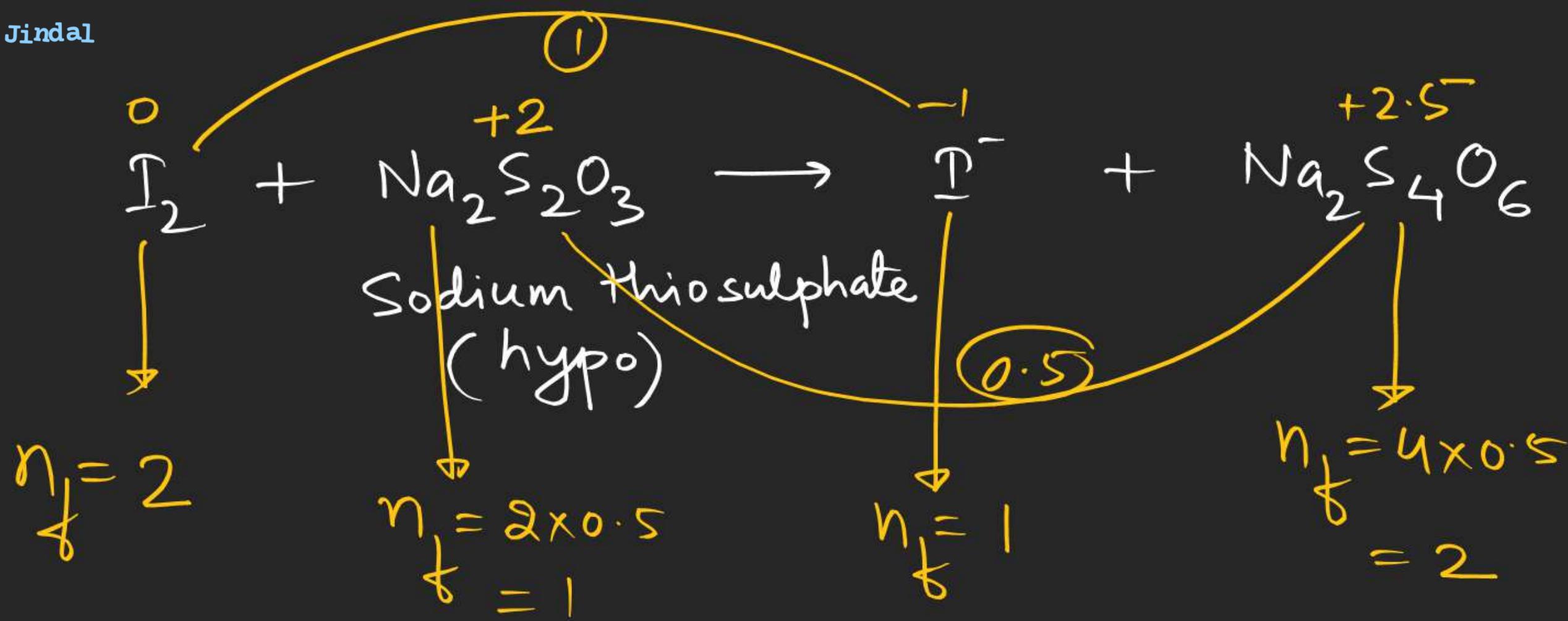
$$\eta_f = 6$$

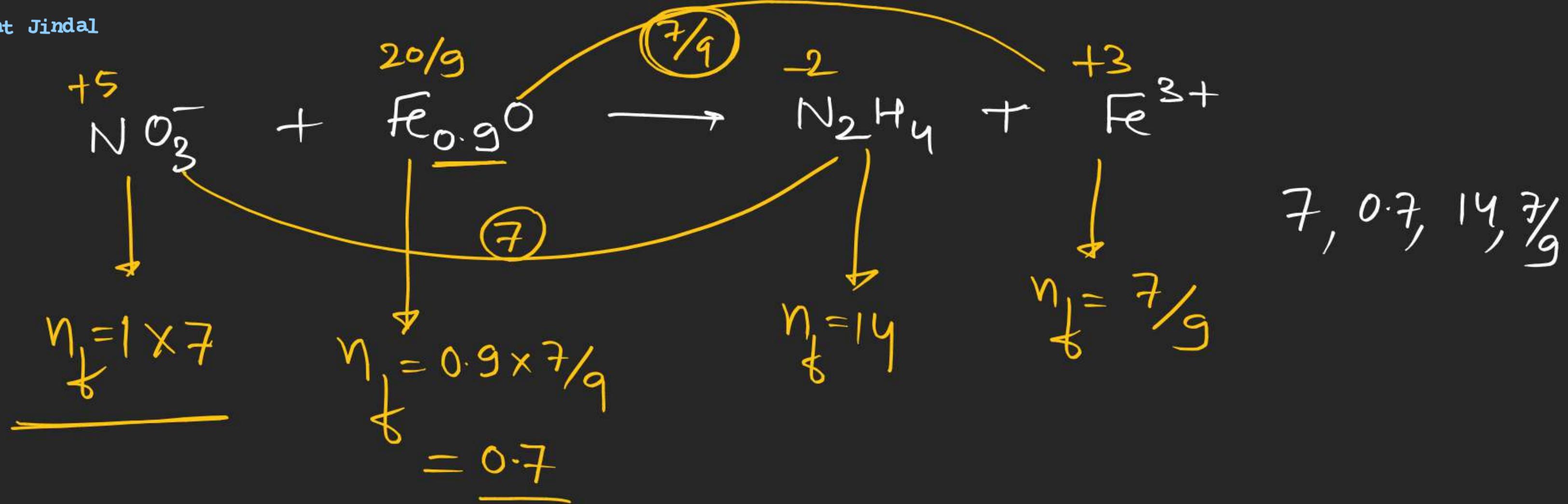
$$\eta_A = 3 \times \frac{1}{3} = 1$$

$$\eta_A = 3$$

$$\eta_A = 2 \times \frac{1}{3} \\ = \frac{2}{3}$$

$$6, 1, 3, \frac{2}{3}$$





$$\text{Normality (N)} = \frac{\text{no. of equivalents}}{\text{Volume (lit)}}$$

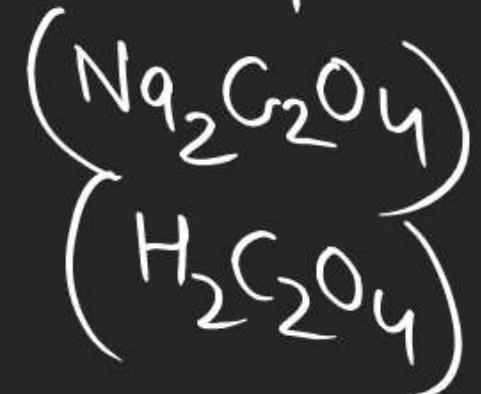
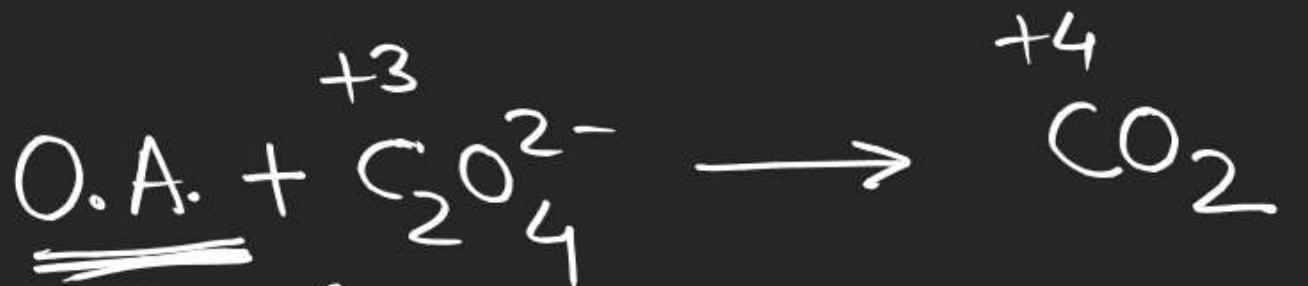
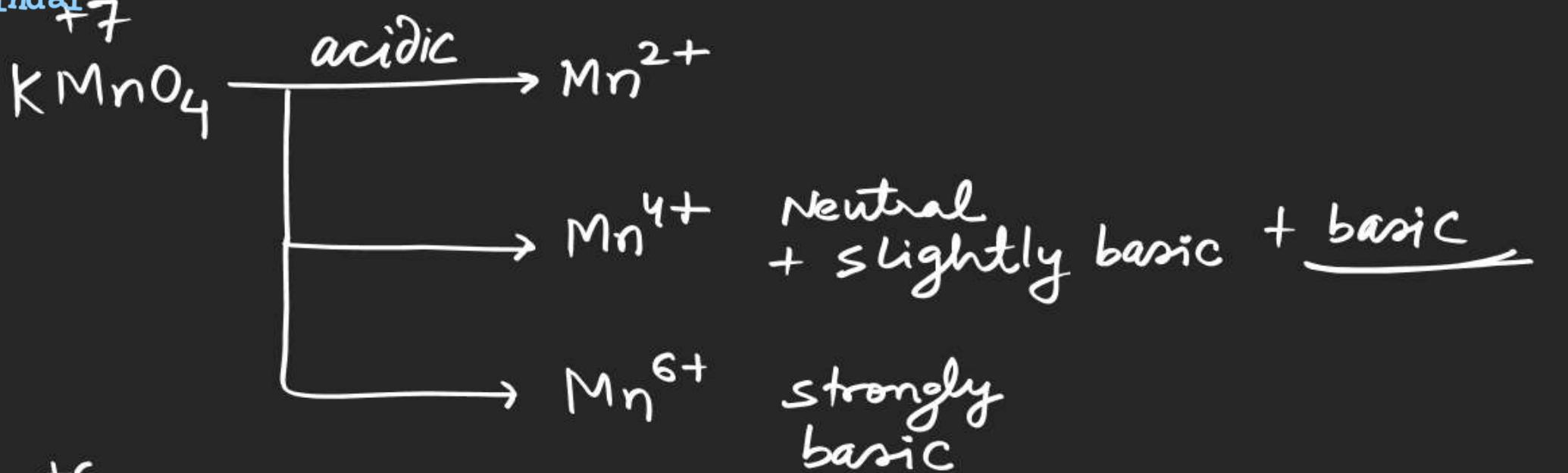
$$M = \frac{\text{no. of moles}}{\text{Vol (lit)}}$$

$$= \frac{\text{no. of moles} \times n\text{-factor}}{\text{Volume (lit)}}$$

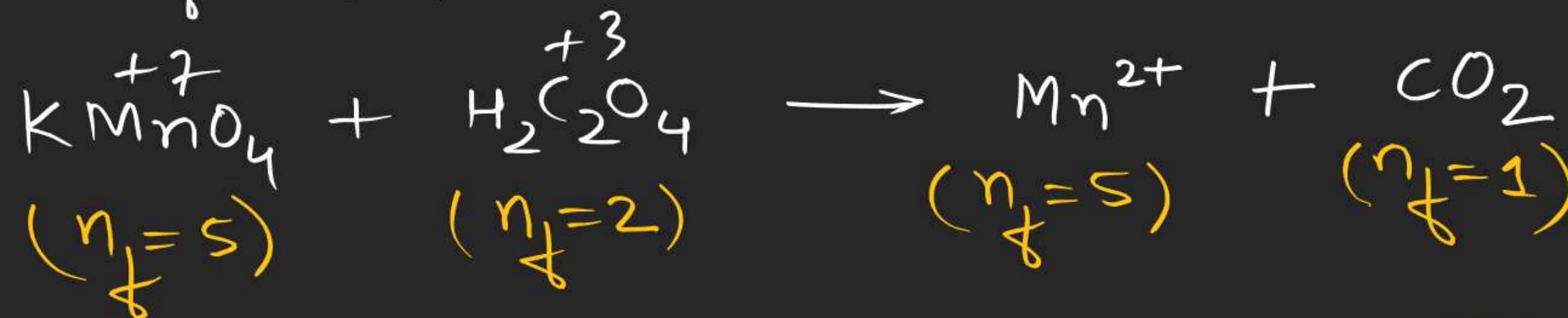
$$N = M \times n\text{-factor}$$

$$\text{no. of equivalent} = N \times V$$

$$\text{no. of moles} = M \times V$$



Q. Calculate moles of KMnO_4 required to oxidise 180 gm $\text{H}_2\text{C}_2\text{O}_4$ in acidic medium. Also calculate moles of CO_2 produced.



4eq

$$n_{\text{H}_2\text{C}_2\text{O}_4} = \frac{180}{90} = 2 \text{ moles}$$

4eq

$$= 4 \times 2 = 4\text{eq}$$

$\frac{4}{5} \text{ mol}$

4eq

$\frac{4}{5} \text{ mol}$

$\frac{4}{1} \text{ moles}$