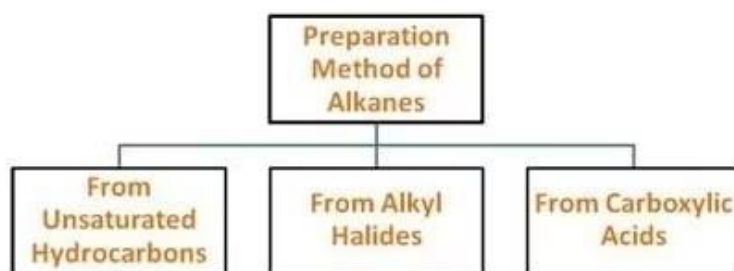


# ALKANES

## Method of Preparation of Alkanes

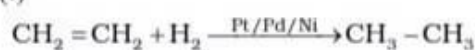


### 1. From unsaturated hydrocarbons

- By adding dihydrogen gas to alkenes and alkynes in the presence of finely divided catalysts like platinum, palladium or nickel to form alkanes. This process is called hydrogenation.

For ex.

(i)



Ethene

Ethane

(ii)

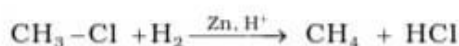


Propyne

Propane

### 2. From alkyl halides

- On reduction with zinc and dilute hydrochloric acid**

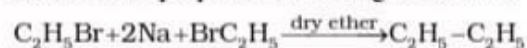


Chloromethane

Methane

- Wurtz Reaction**

Used for the preparation of higher alkanes



Bromoethane

n-Butane

### 3. From carboxylic acids

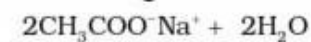
- By elimination carbon dioxide from carboxylic acid**



Sodium ethanoate

- Kolbe's electrolytic method**

On electrolysis of aqueous solution of sodium or potassium salt of a carboxylic acid gives alkane containing even number of carbon atoms



Sodium acetate

↓ Electrolysis

