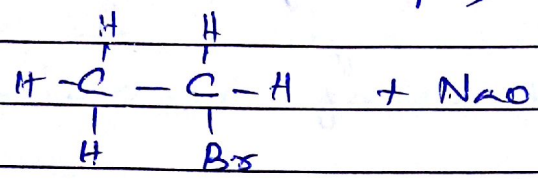
Date :.....

Elimination reaction:

The reaction which involves the loss of groups from a molecule to form multiple bond (Unsaturated compd)

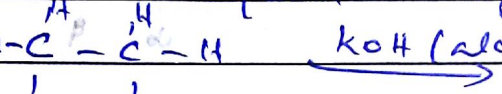


Types of Elimination reaction:

1. β-Elimination:

It involves the loss of two atoms from the adjacent carbon atoms of the molecule. It is also called as 1,2-elimination.

eg: Base catalysed dehydrohalogenation of ethyl bromide

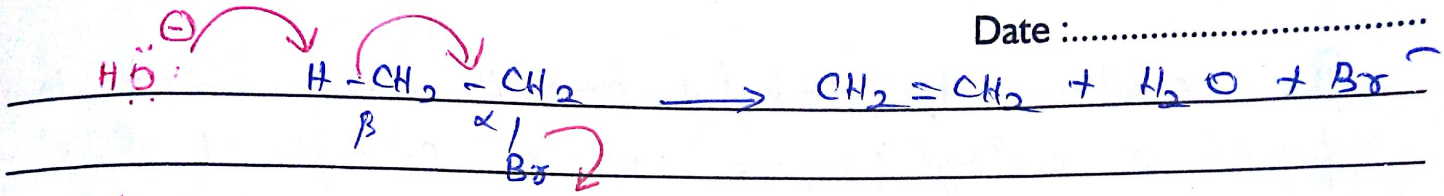


* This occurs in primary alkyl halide.
* This is an example of E2 reaction.
* It is a second order reaction because the rate of the reaction depends on the concentration of both ethyl bromide and hydroxide ion.

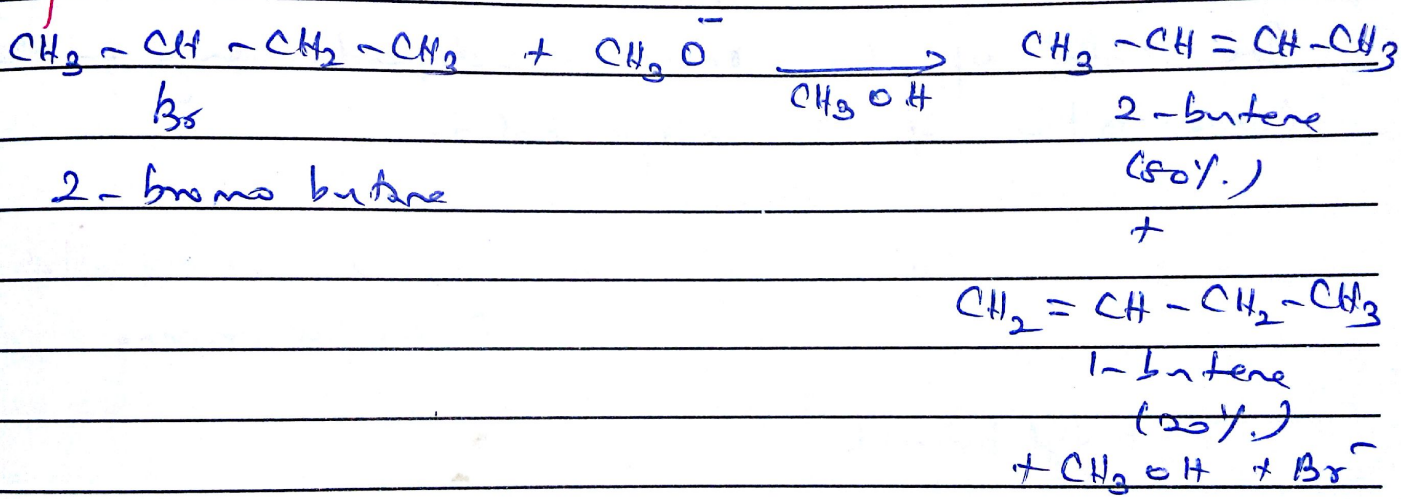
This reaction involves the removal of proton by base from the β-carbon atom and simultaneous release of nucleophile (Br^-) from the α-carbon atom of the alkyl halide.

* It involves one step (no intermediate formed)

Date :.....



Example 2:



2-bromo butane

2-butene (50%) + 1-butene (20%) + CH_3OH + Br^-

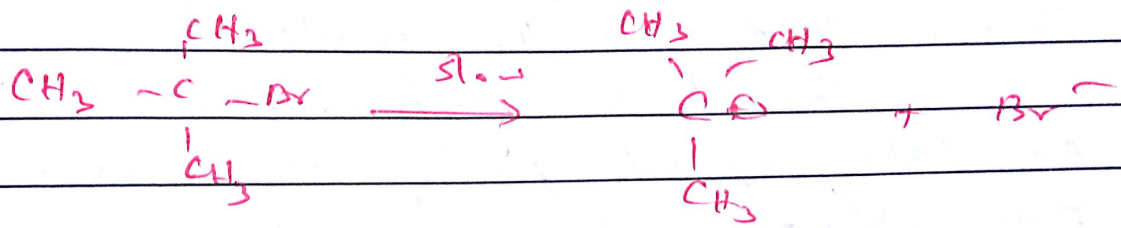
According to Zaitsev rule, the more substituted alkene product is obtained when a proton is removed from the β-carbon that is bonded to less hydrogen atoms.

S_N1 reaction.

S_N1 stands for unimolecular nucleophilic substitution. When the rate of nucleophilic substitution depends on the concn of the substrate, the reaction is first order and is represented as S_N1.

Consider the hydrolysis of t-butyl bromide.

step 1.



The alkyl halide ionises to give the carbocation. This step is the slow rate determining step.

The carbocation is planar because the central positively charged carbon atom is sp^2 hybridised

step 2