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 Course: Chemistry
 Dept: MBBS
 Matric No: 19/misc/098

for the delay I accept it and kindly accept it. I mean to make excuses but due to the lockdown, I am unable to fix my phone which got spilt and had just repaired it.

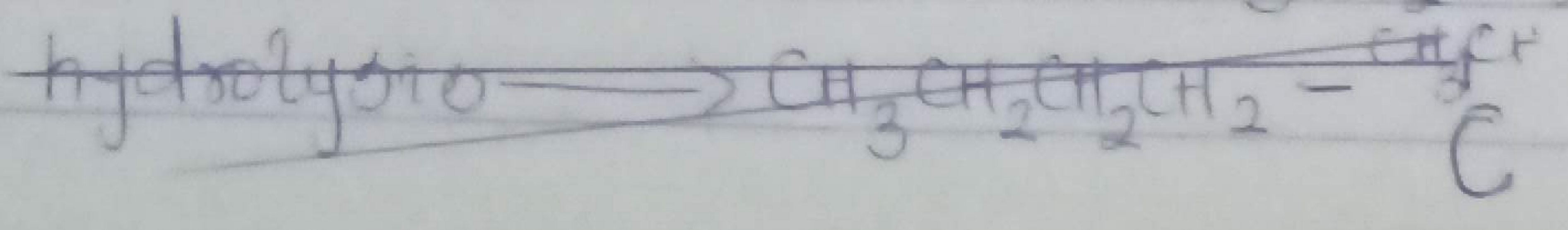
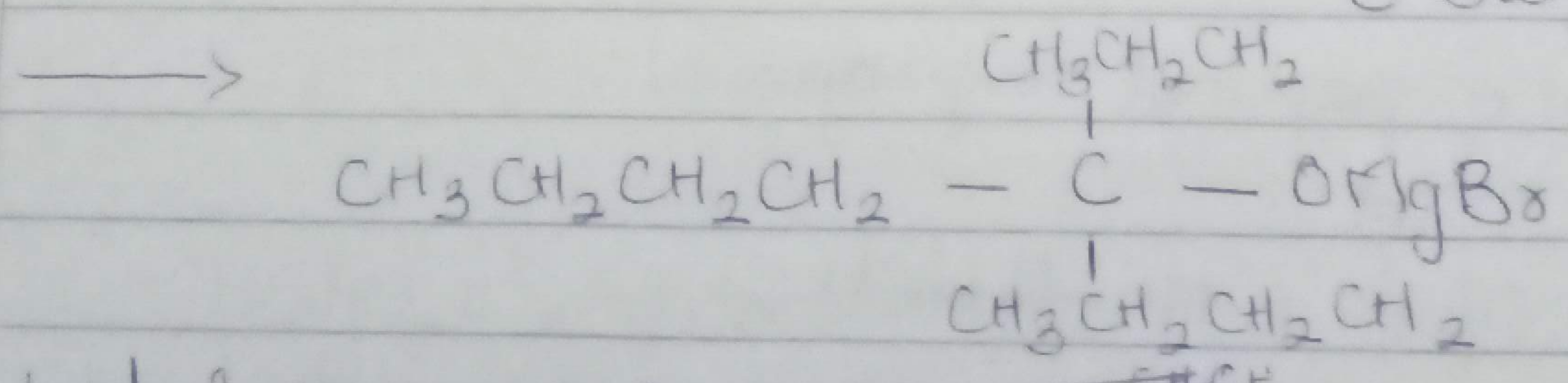
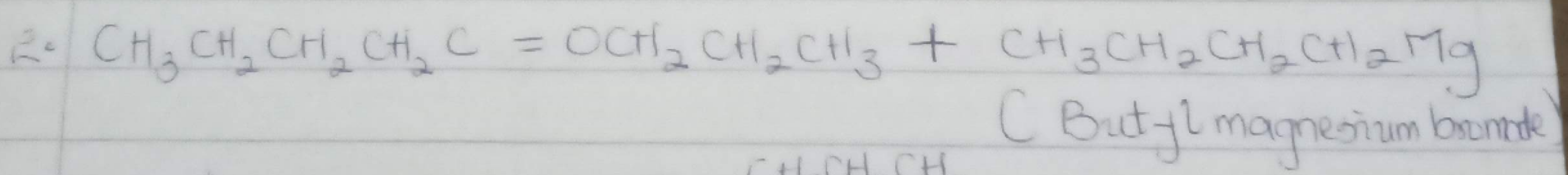
Ans

1. Two major classifications of alkanols: They are:
 1. The classification is based on the number of hydrogen atoms attached to the carbon atom containing the hydroxyl group. This classification divides alkanols into three. They are;

- Primary alkanols: Alkanols in which the carbon bearing the hydroxyl group has two or three hydrogen atoms attached to it. e.g. CH_3OH .
- Secondary alkanols: Alkanols in which the carbon bearing the hydroxyl group has one hydrogen atom attached to it.
- Tertiary alkanols: Alkanols in which the carbon bearing the hydroxyl group has no hydrogen attached to it.

The second type of classification is based on the number of hydroxyl groups that alkanols possess. They divide into 4:

- Monohydric alkanols: Alkanols which have one hydroxyl group present in the alkanol structure. e.g. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
- Dihydric alkanols: Alkanols which have two hydroxyl groups present in the alkanol structure. They are also referred to as glycols. e.g. $\text{HOCH}_2\text{CH}_2\text{OH}$
- Trihydric alkanols: Alkanols which have three hydroxyl groups present in their alkanol structure. They are referred to as triols.
- Polyhydric alkanols: Alkanols which have more than three hydroxyl groups in their alkanol structures. They are also referred to as polyols.

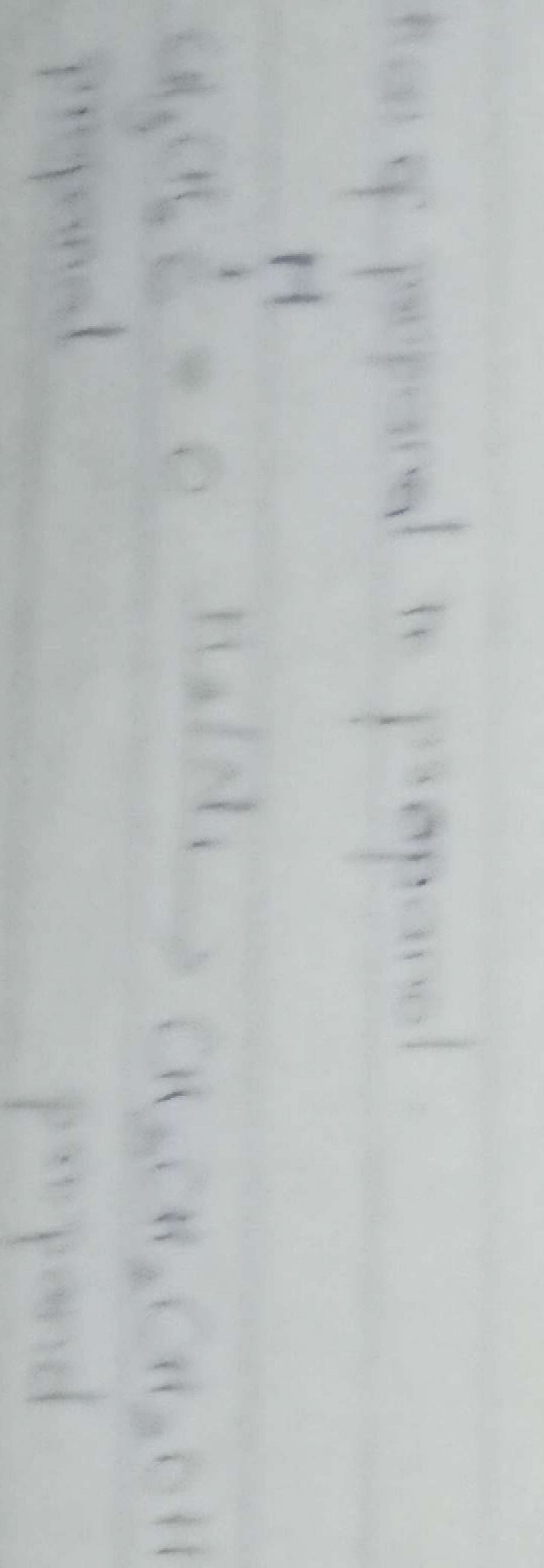


Hydrolysis of ethyl acetate
 $CH_3COOC_2H_5 + H_2O \rightleftharpoons CH_3COOH + C_2H_5OH$
 The name of the group is acetate
 (ethyl acetate)

Alcohols are primary, secondary or tertiary depending on the number of methyl groups attached to the carbon atom bearing the hydroxyl group.
 Primary alcohols: $CH_3OH, C_2H_5OH, CH_3CH_2CH_2OH$
 Secondary alcohols: $CH_3CHOHCH_3, C_2H_5CHOHCH_2CH_3$
 Tertiary alcohols: $(CH_3)_3COH$

Aldehydes are formed by the oxidation of primary alcohols.
 $C_2H_5OH \xrightarrow{[O]} C_2H_5CHO$
 Aldehydes are further oxidized to carboxylic acids.
 $C_2H_5CHO \xrightarrow{[O]} C_2H_5COOH$

Alcohols are reduced to their corresponding primary alcohols.
 Example:
 Reduction of propanal to propanol:
 $CH_3CH_2CHO + H_2 \xrightarrow{Ni} CH_3CH_2CH_2OH$



Alcohols are oxidized to aldehydes or ketones.
 Example:
 $CH_3CH_2OH \xrightarrow{[O]} CH_3CHO$
 propan-2-ol acetone

and

hydroxyl

are used as

named at 1906

1000 mark

by using

no 2000

mark and

g)

marks

Alkanes are reduced to their corresponding secondary alcohols

Example 2
Reduction of propane-2-one to propane-2-ol



propan-2-one propan-2-ol