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Matric no: 19/MH501/229 .

Department: Medicine and Surgery

Course Code: Chem 102 .

1.) Classification of Alcohols based on the following:

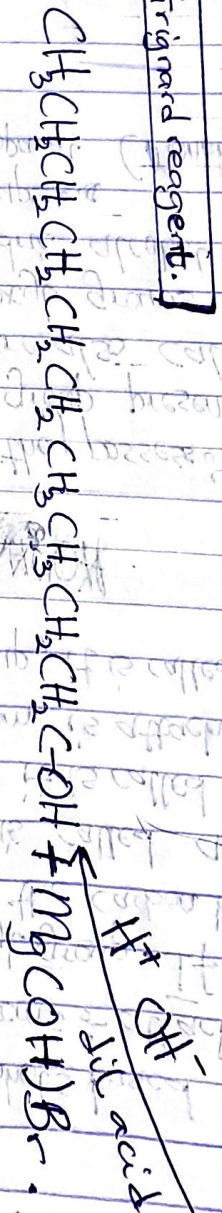
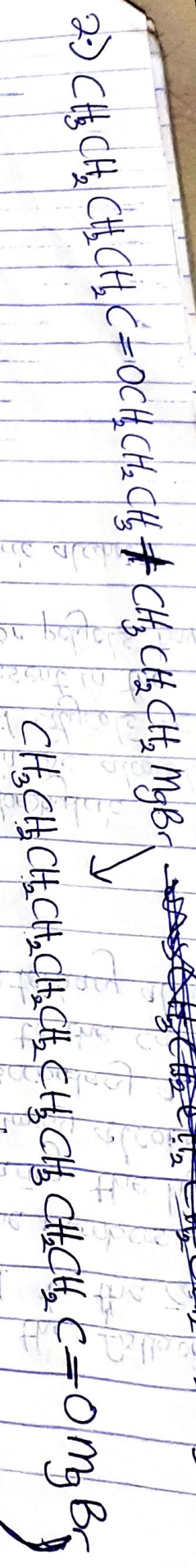
a) Number of hydrogen atoms attached to the carbon atom containing the hydroxyl group. If the numbers of hydrogen atoms attached to the carbon bearing the hydroxyl group are three or two, it is called a primary alcohol (1°). If it is one hydrogen atom, it is called secondary alcohol (2°) and if no hydrogen atom is attached to the carbon atom bearing the hydroxyl group, it is called a tertiary alcohol (3°).

Examples: CH_3OH , $\text{C}_2\text{H}_5\text{OH}$.

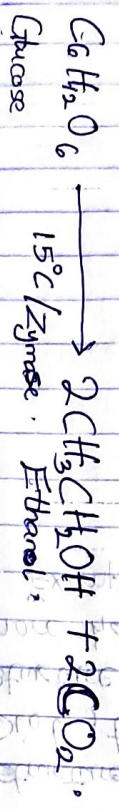
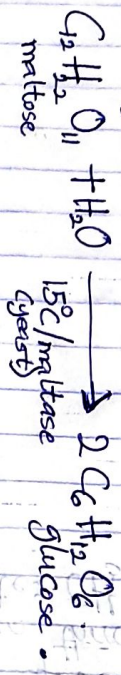
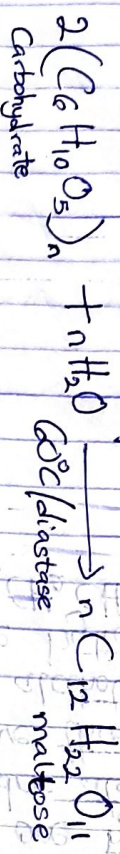
b) Number of hydroxyl groups they possess: Monohydric alcohols have one hydroxyl group present in the alcohol structure. Dihydric alcohols are also called Glycols or Diols, they have two hydroxyl groups present in the structure of the alcohol. Polyhydric alcohols or polyols have more than three hydroxyl groups.

Example: $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ Propanol (Monohydric alcohol)

where $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{MgBr}$ is Grignard reagent.



3) Industrial manufacture of Ethanol:



REDUCTION OF ALKANONE AND ALKANAL.

