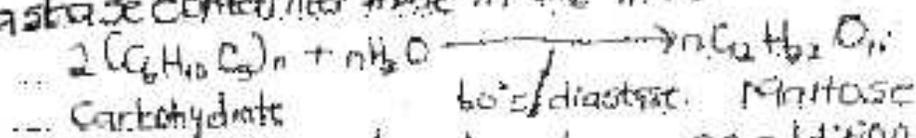


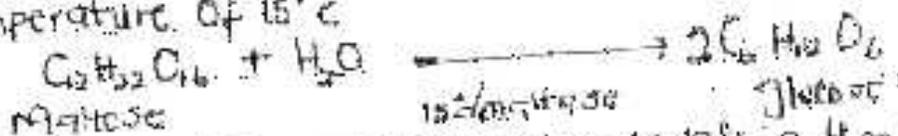
3) INDUSTRIAL PRODUCTION OF ALCOHOLS

Production of Ethanol

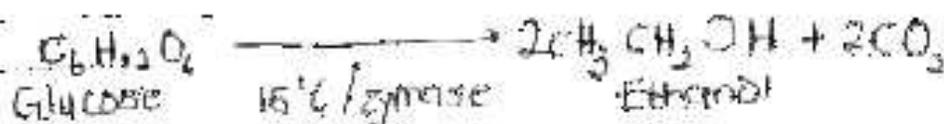
Carbohydrates such as starch are major group of natural compounds that can be made to yield Ethanol by the biological process of fermentation. The starch containing materials include malasses, potatoes, Corn, rice and so on. Warming with malt to 60°C for a short period of time are converted into maltose by the enzyme diastase contained in the malt.



The maltose is broken down into glucose on addition of yeast which contains the enzyme maltase and at a temperature of 15°C.



The glucose at constant temperature of 15°C is then converted into alcohol by the enzyme zymase contained in yeast.



4) Reduction of carbonyl compounds

Aldehydes & ketones can be reduced by reducing agents such as lithium trihydridoaluminate (LiAlH₄) in ethoxyethane (LiAlH₄[(C₂H₅)₂O]), lithium trihydrido-borate (Li) in ethoxyethane (LiAlH₄[(C₂H₅)₂O]) and sodium tetrahydridoborate (Na) in water or methanol. This method is useful for the synthesis of primary and secondary alcohols.

