

RUFUS FORTUNE CHEMISTRY  
MHS  
MBBS  
19/MHS01/388  
CAM 102

1. Alkanols can be classified in two ways:  
a) Based on number of hydrogen atoms attached to the carbon atom with the hydroxyl group

- i) Primary alkanols: ~~Only one carbon~~ <sup>three/two hydrogen</sup> carbon atom attached to the hydroxyl group e.g. methanol
- ii) Secondary alkanols: One hydrogen atom attached to the carbon atom bearing the hydroxyl group e.g. Propan-2-ol

iii) Tertiary alkanol: No hydrogen atom attached to the carbon atom bearing the hydroxyl group e.g. 1,1-dimethyl ethan-1-ol

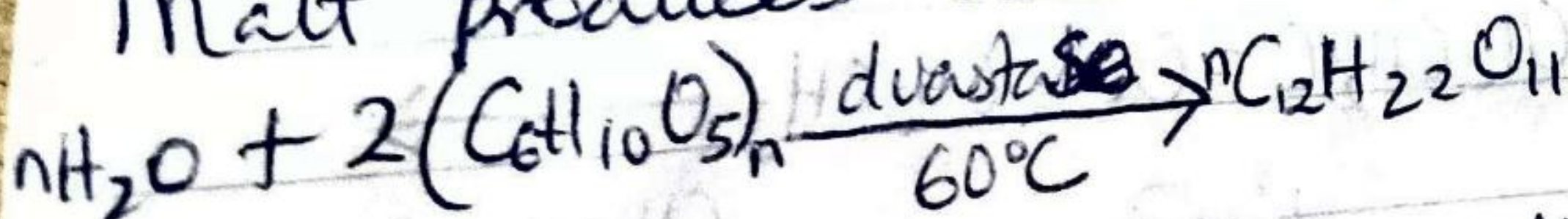
b) Based on number of hydroxyl groups present

- i) Monohydric alkanols: Possess only one hydroxyl group e.g. ethanol
- ii) Dihydric alkanols: Possess two hydroxyl groups e.g. ethane-1,2-diol
- iii) Trihydric alkanols: Possess three hydroxyl groups e.g. propane-1,2,3-triol
- iv) Polyhydric alkanols: Possess more than three hydroxyl groups e.g. pentaol

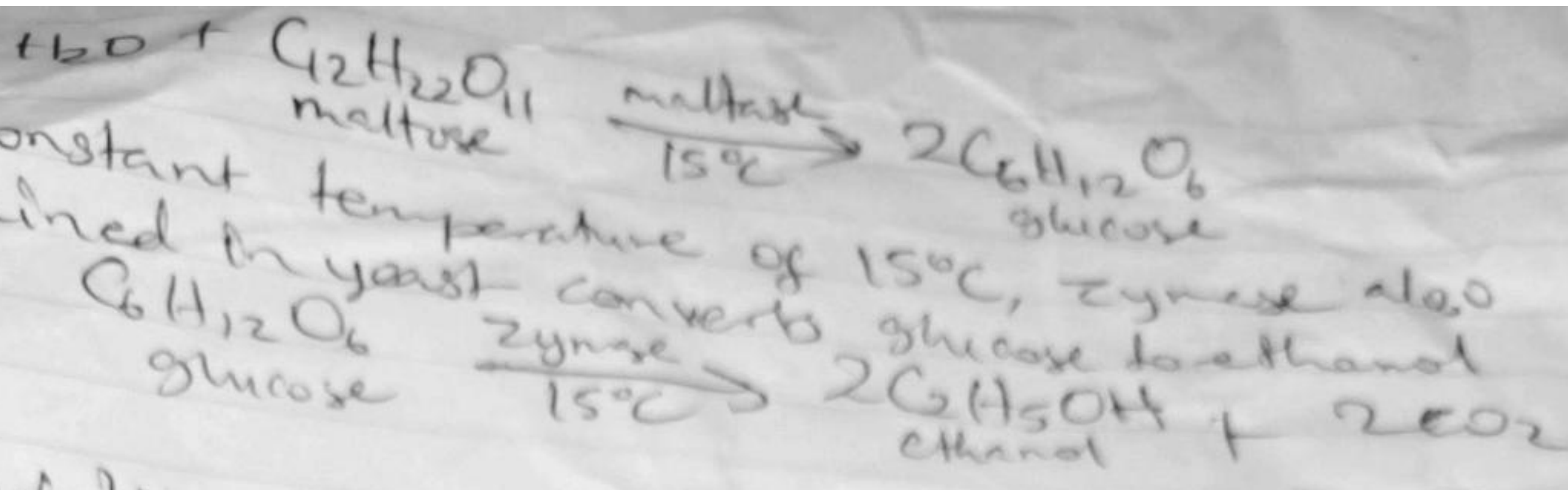
### 3. Industrial production of ethanol

Starch is boiled with malt at a temperature of 60°C

Malt produces diastase. ~~and maltose~~



Yeast is then added to the maltose.  
Yeast contains the enzymes maltase and zymase  
At temp of 15°C, maltase converts maltose to glucose

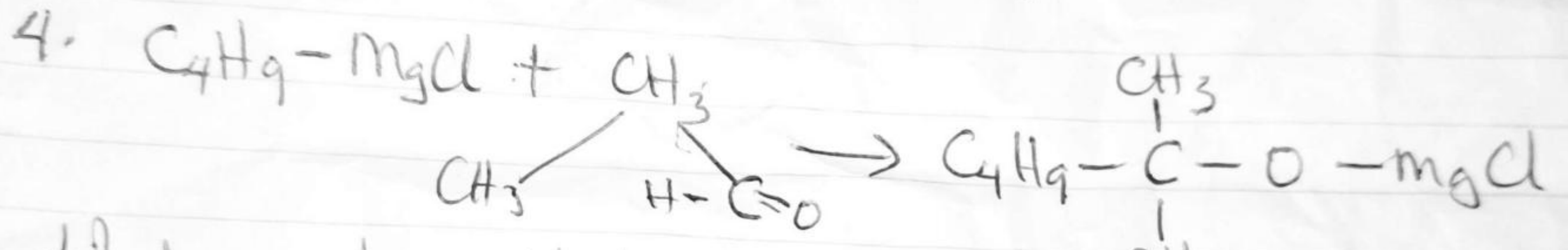


2. Solubility in water

Lower alcohols with up to three carbon atoms in their molecules are soluble in water because these lower alcohols can form hydrogen bond with water molecules. The solubility of alcohol decreases with increasing molecular mass.

Solubility in organic solvents

All alcohols are soluble in organic solvent



dilute acid is added to hydrolyze

