

SUBJECT - CHEMISTRY

CLASS - B.Sc (Hons) PART - II

PAPER - IV

TOPIC - Glucose Converted to Fructose

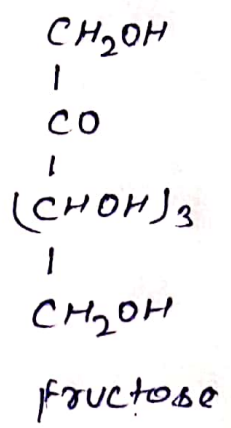
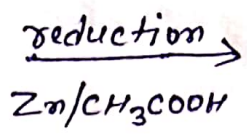
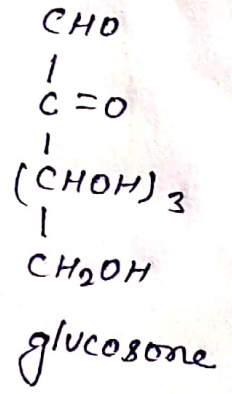
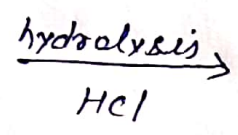
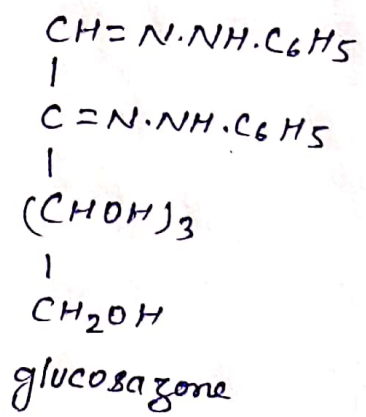
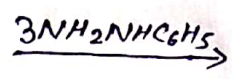
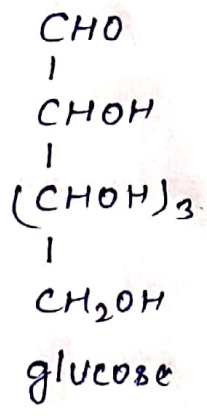
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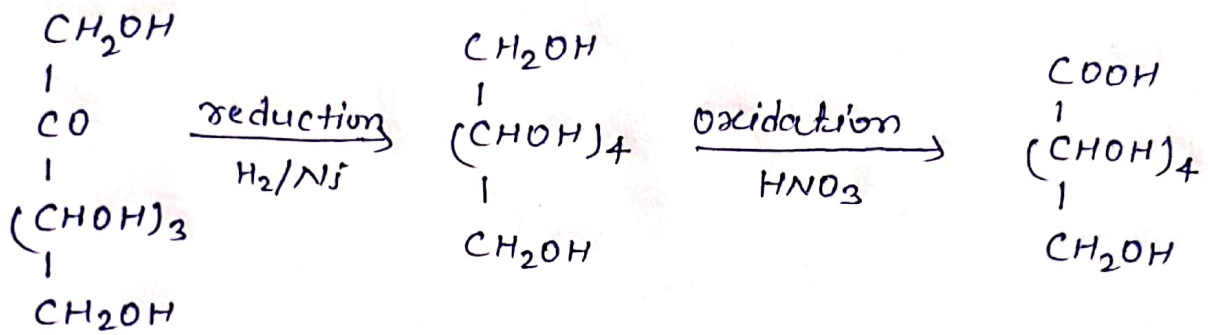
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Q How is glucose converted to fructose and vice versa?

Ans Glucose to fructose: Glucose is first converted to glucosazone by reaction with excess of phenyl hydrazine in presence of ethanoic acid. ~~with~~ glucosazone is then hydrolysed by dil. HCl to glucosone which on reduction with Zn dust and ethanoic acid yields fructose -



Fructose to glucose: Fructose on catalytic reduction gives hexitol which is converted into hexanoic acid on oxidation with HNO_3 . The acid at once loses a molecule of water to form γ -lactone which on reduction in slightly acidic medium gives glucose.



fructose

