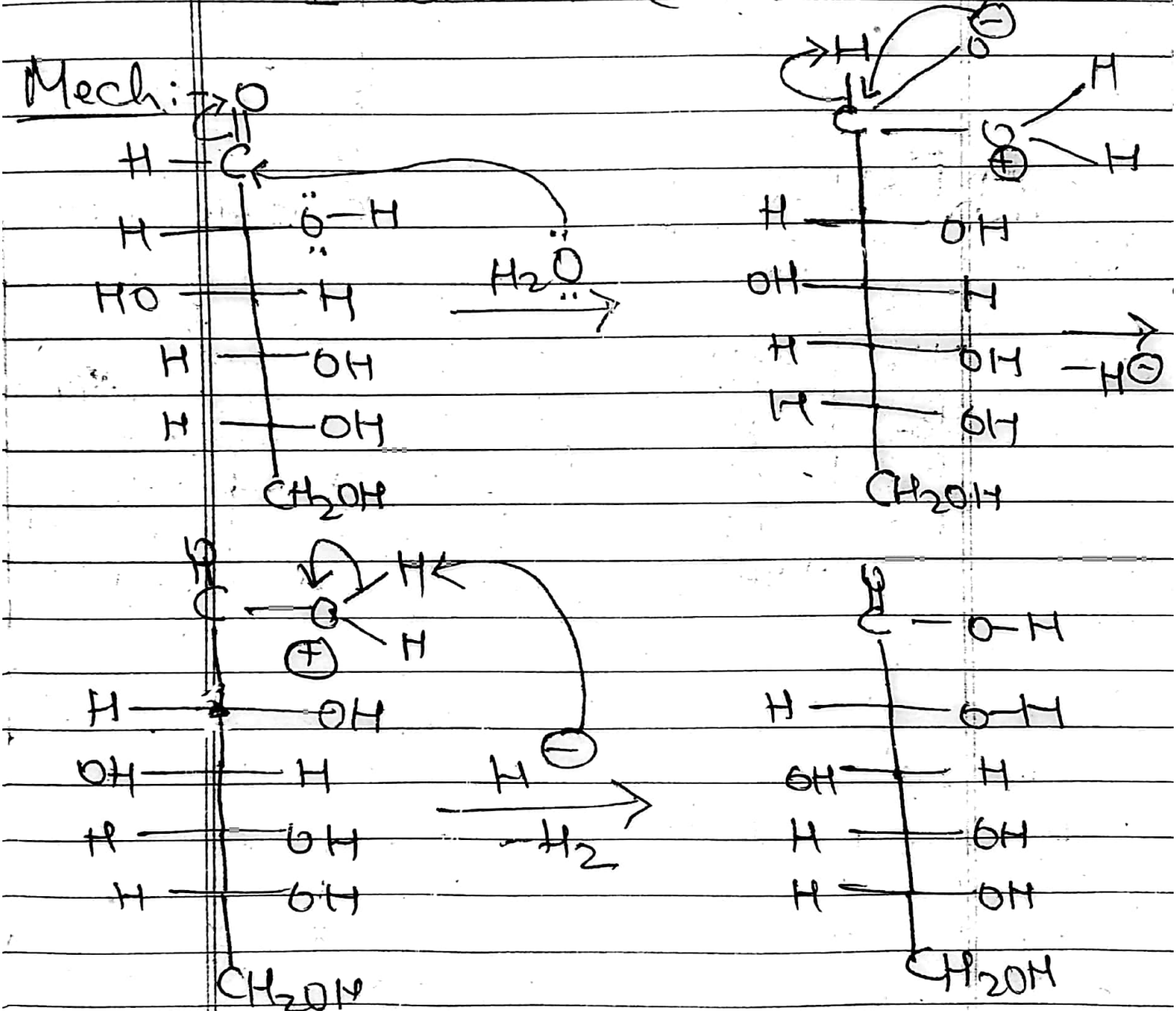
Presence of 1° -OH group

When glucose react with strong oxiding agent (HNO_3/H_2O) then form acid Here, reaction occurs at aldehydic position as well as 1° -alcohol (C_6 Position)

Mech:-



Dr. M. H. Khan Sub-chemistry
class-D2(H). paper-IV. Group-B
unit 4. Topic-Reacts glucose
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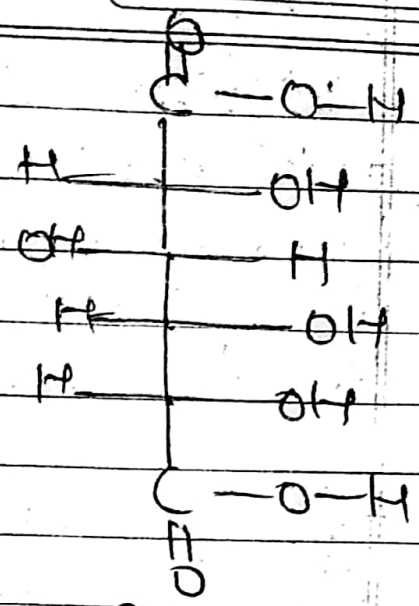
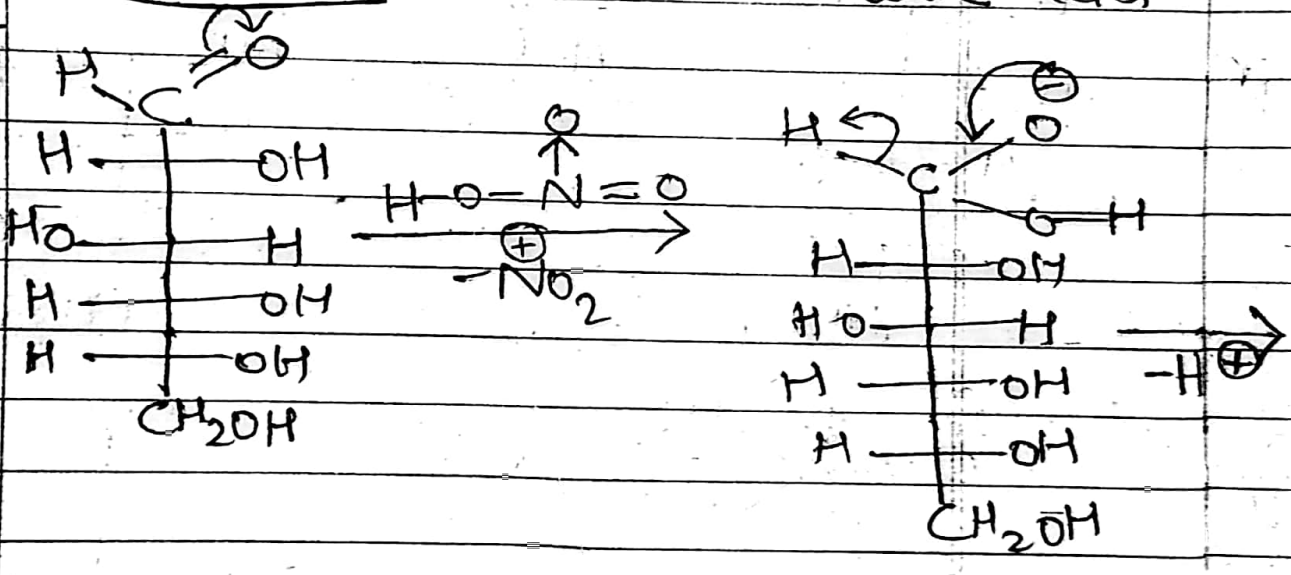
Similarly at C6 position

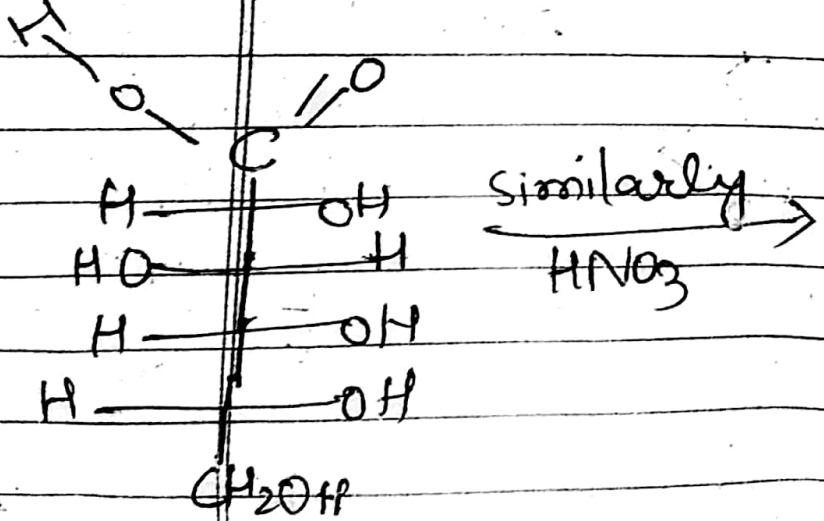


Saccharic acid

With HNO3

Mech:-





Saccharic acid

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* Fructose :-

- Molecular formula = $C_6H_{12}O_6$
- It having 1 ketonic and 5 alcoholic group in which 1 primary alcohol and three secondary alcohol present.
- In fructose 3 chiral center present hence, optically active and form 8 optical isomerism
- It also show geometrical isomerism (cis and trans)
- It make H-bond hence, soluble in H-bonded compd. and insol in non H-bonded compd.
- It show rek^{n} of ketone and alcohol.
- It show sweetness greater than glucose because it show more H-bonded due to tautomerisation
- It make 5 member cyclic str. like furanose.