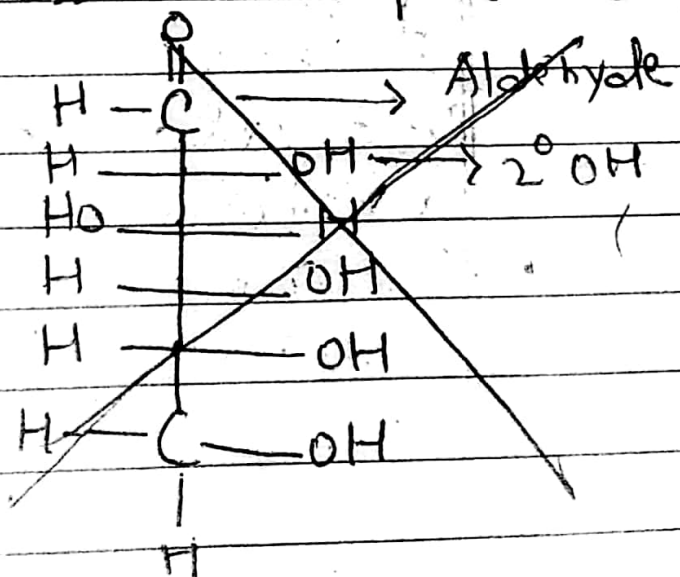


Glucose having 4 chiral center hence show 16 different optical isomers because no. of optical isomers $= (2)^n = (2)^4 = 16$

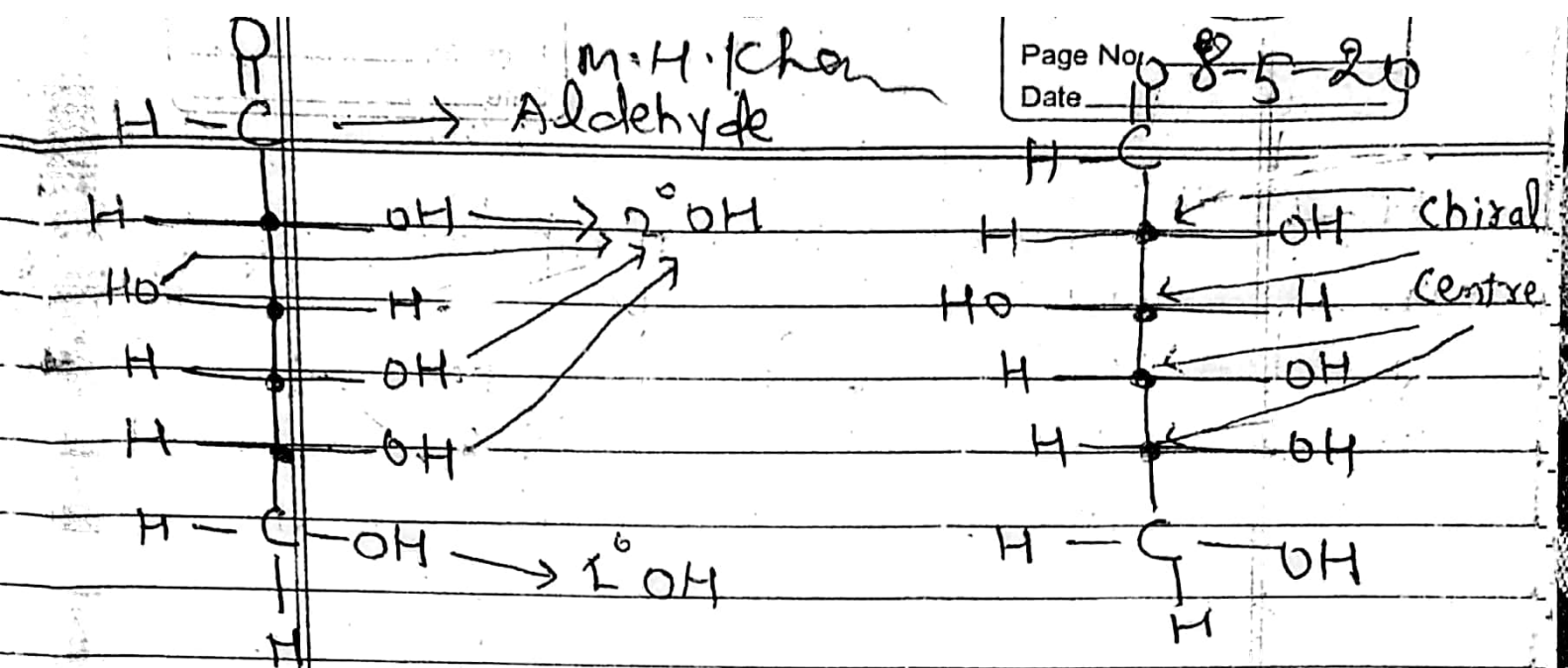
where, $n =$ no. of chiral center (when all the four valency of carbon filled by four different atoms and group).

- It show geometrical isomerism (cis and trans) due to different or same diagonal atom or group.
- It show tautomerisation.
- It having H-bond hence soluble in H-bonded compound and insoluble in non H-bonded compd.

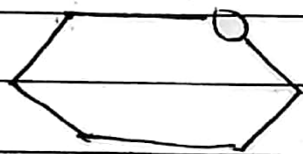
It show sweetness due to presence of H-bond



m.h.khan
Aldehyde

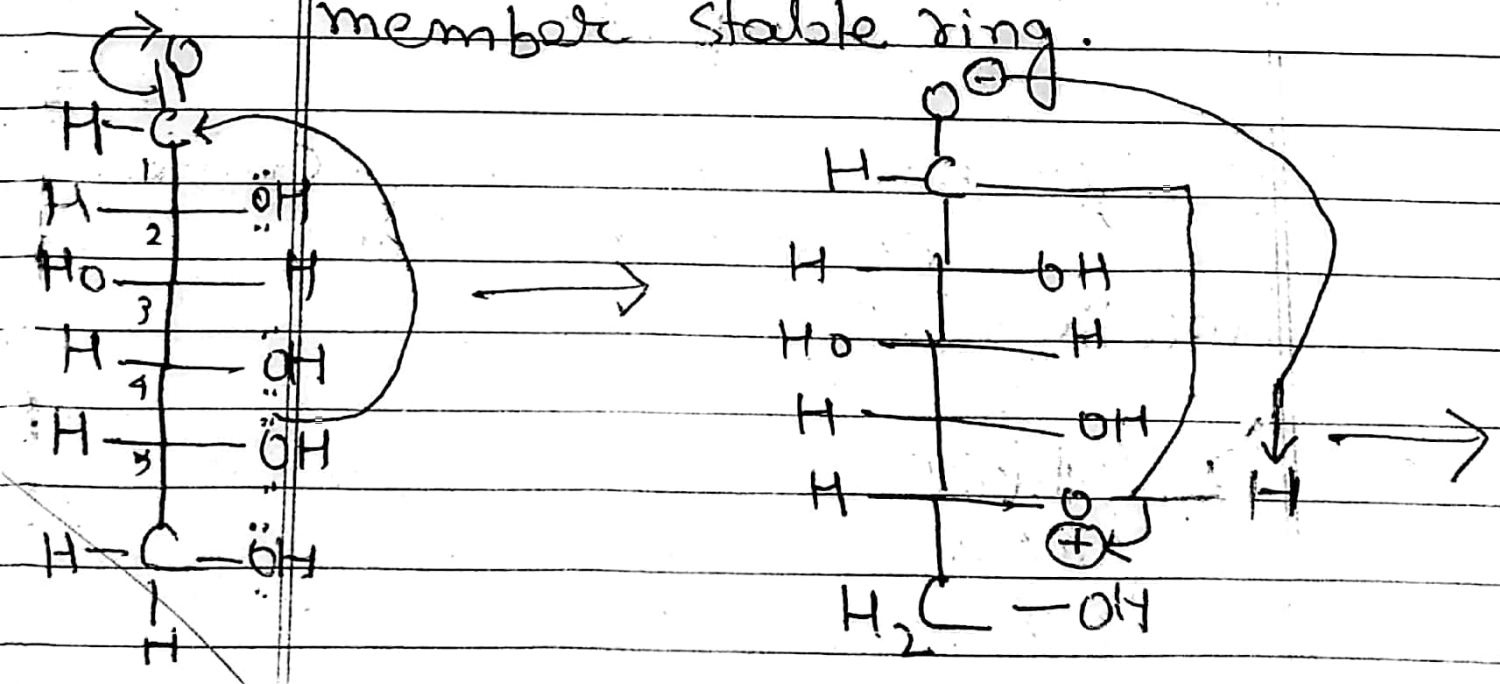


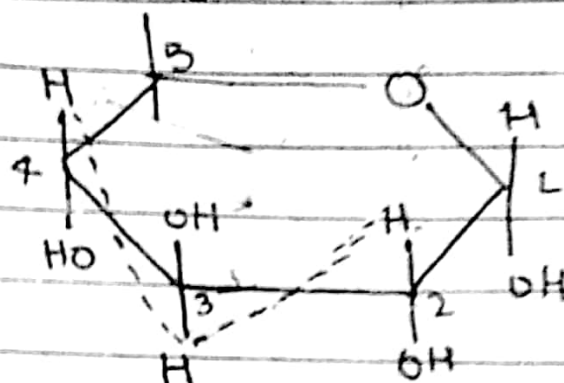
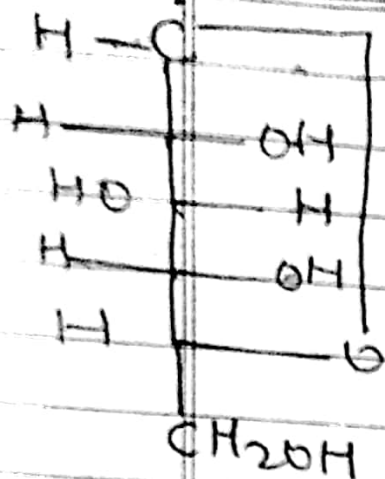
Glucose is more stable in ring form than in chain form.
Glucose show 6 member ring like pyranose



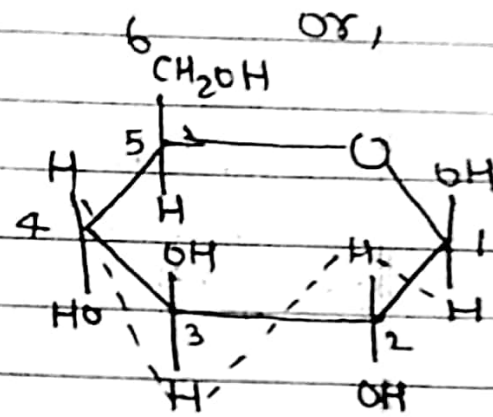
Pyranose

Here, reaction occurs between C1 and C5 carbon to obtain 6 member stable ring.





α -glucose



β -glucose

α -glucose - When -OH of C_1 and C_6 position in different direction one up other down.

β -glucose - When -OH of C_1 and C_6 present in same direction both are up.

- β -Glucose is more stable than α -glucose because more no. of trans isomer in β -glucose than in α -glucose