

class - P.G. Sem. II

Subject - chemistry

Paper - VIII

Unit - IV

Topic - conformation of Mono -
Saccharides continue $\Rightarrow$

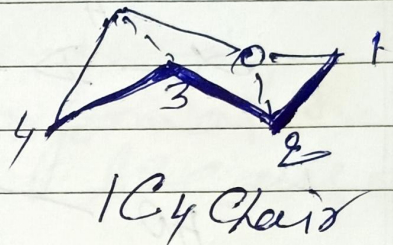
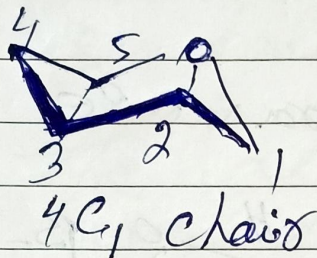
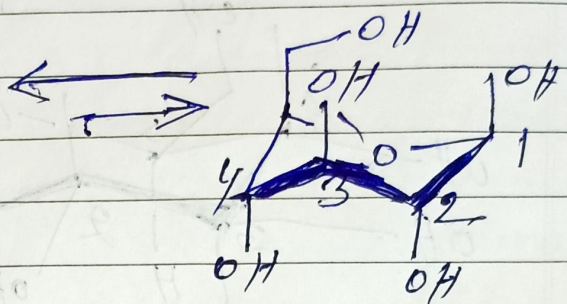
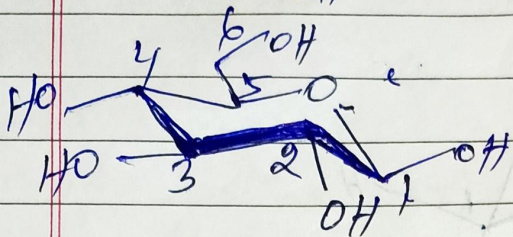
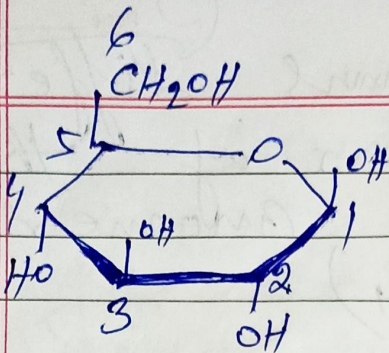
continue →

classmate

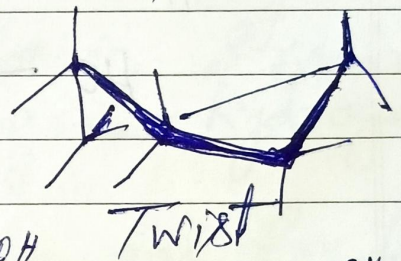
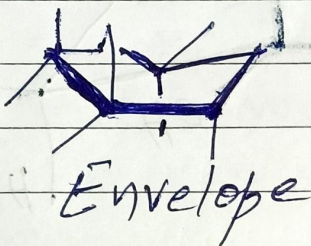
Date _____

Page _____

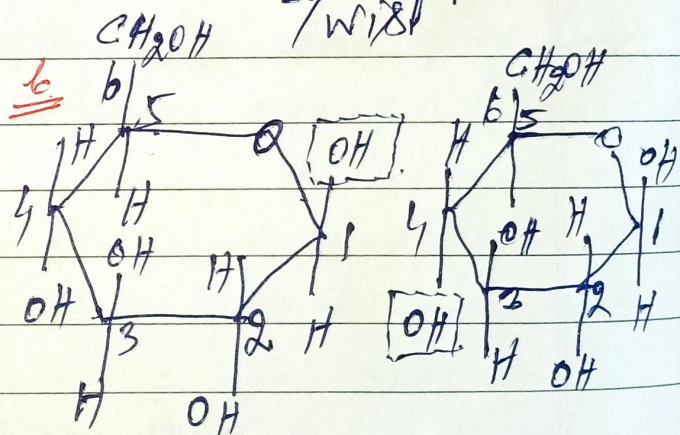
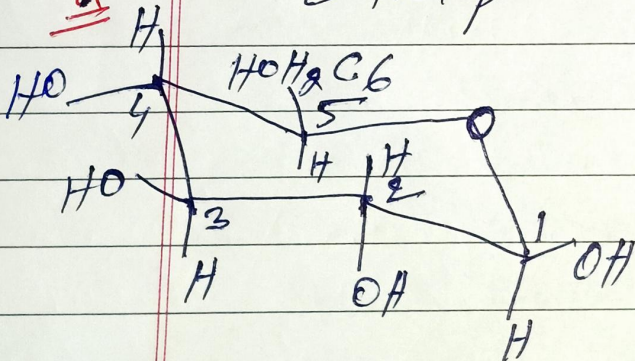
A

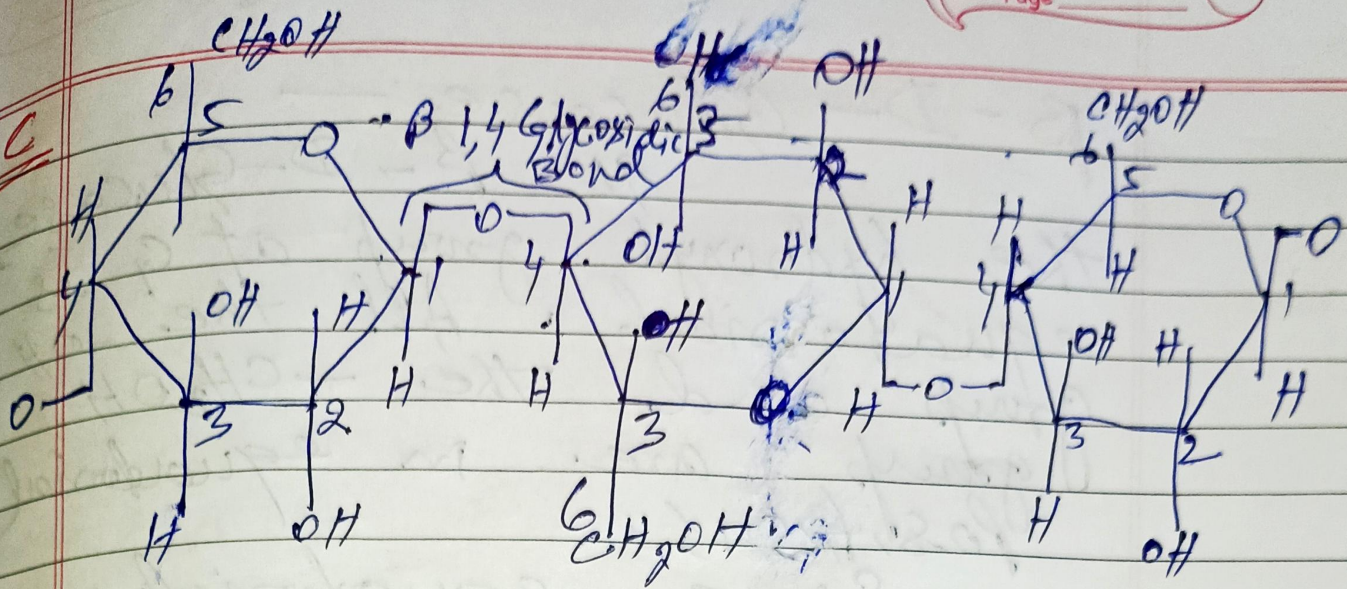


B



a





The chair conformations of sugars are represented by symbols:

* D - Glucose $\rightarrow$ α

* L - Glucose $\rightarrow$ β

These symbols represent mirror-image conformations.

α -D-Glucose

In α -D-Glucose, the hydroxyl (-OH) group attached to the C₁ Carbon is in axial position, i.e. it is oriented downwards. Because the -OH group at C₁ is axial, it experiences greater steric hindrance, making this form less stable.

β -D-Glucose:-

In β -D-Glucose, the hydroxyl group at C₁ is equatorial. All the -OH group and the -CH₂OH group are in equatorial positions.

Since equatorial groups experience less steric repulsion, β -D-glucose is more stable and therefore predominates at equilibrium.

In chair conformation:

- * Axial positions are vertical (up or down).
- * Equatorial positions lie around the ring. Equatorial positions are preferred because they minimize repulsion between bulky groups.