

## **STEREOISOMERISM**

## **STEREOISOMERISM CONFIGURATIONAL ISOMERISM CONFORMATIONAL ISOMERISM OPTICAL ISOMERISM CONFORMER** [(+)/d dextrorotatory (-)/l levorotatory] **ROTAMER ATROPISOMER DIASTEREOMER** RING CONFORMATIONS **ENANTIOMER** axial chirality: chirality centre СООН COOH (asymmetric atom): OHeclipsed boat\* HO-—Н H<del>-</del>OH ĊООН ĊООН $O_2N$ HO<sub>2</sub>C (R, R)(R, S)(S) (R) O<sub>2</sub>N twist\* HO<sub>2</sub>C mesostaggered COOH COOH (gauche) НО—Н -но **GEOMETRIC ISOMERISM EPIMER** H—OH HO H (conformational enantiomers) COOH ĊООН allylic strain: (S,S)(R,R)-ОН OH-ABSOLUTE **RELATIVE** axial chirality: НО-НО stereochemistry stereochemistry H<del>•</del>OH HO H E/Z-ISOMER cis/trans-ISOMER H—OH H—OH staggered (anti) ĊH<sub>2</sub>OH ĊH<sub>2</sub>OH $(R_a = P)$ $(S_a = M)$ (R,S,R,R)(R,S,S,R)cis-(Z)-zuammen eclipsed Q. Out of the following, the alkene that exhibits optical isomerism is: OH OH (1) 2-methyl-2-pentene transtrans-Q. Which of the following does not show (E)-enigegen (2) 3-methyl-2-pentene geometrical isomerism? D-Glucose D-Galactose (3) 4-methyl-1-pentene (1) 1, 2-dichloro-1-pentene staggered (4) 3-methyl-1-pentene (2) 1, 3-dichloro-2-pentene (gauche) (3) 1, 1-dichloro-1-pentene **ANOMER** (4) 1, 4-dichloro-2-pentene OH OH glycosides, hemiacetals, sugars eclipsed $\alpha$

α-D-Glucose

β-D-Glucose

- Q. With respect to the conformers of ethane, which of the following statements is true?
  - (1) Both bond angles and bond length remains same
  - (2) Bond angle remains same but bond length changes
  - (3) Bond angle changes but bond length remains
  - (4) Both bond angle and bond length change