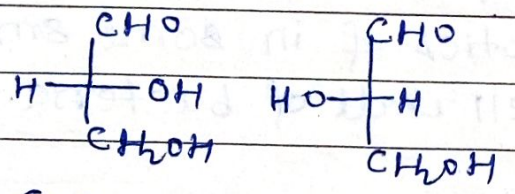
R, S & D, L are conventions used by human to depict the structure of molecule.

Configuration of AA

It is similar to that of sugar configuration that is based on the configuration of smallest aldose i.e. glyceraldehyde, an aldotriose. It is a chiral molecule and exist as a pair of enantiomer like –



(S)-(-)- Glyceraldehyde

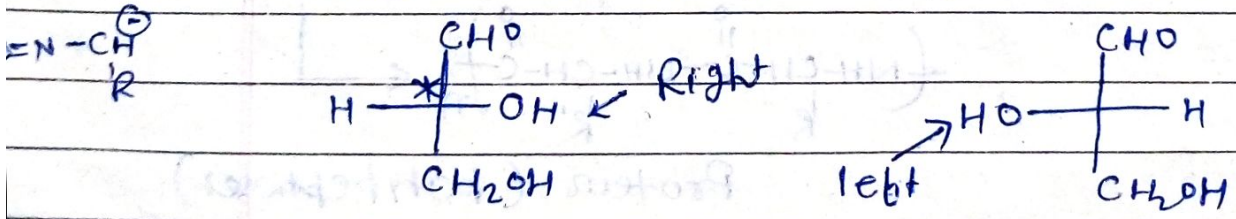
((R)-(+)- Glyceraldehyde)

⇒ D & L-notations can be used to describe the carbohydrates & Amino acid configurations.

⇒ D & L-notations indicates the configuration of (like R & S) chiral center. It should be noted that it does not tells about the rotation of plane polarized light to right (+) or left (-) by compound.

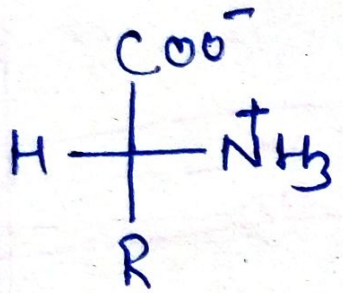
⇒ As for eg. D-glyceraldehyde is dextrorotatory but D-lactic acid is levorotatory

⇒ If -OH gr. attached to bottom-most chiral center is on the right side, compound will be D-sugar while when it is on left side, it will be L-sugar

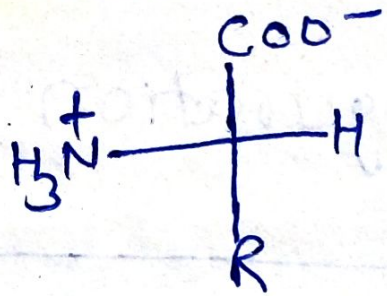


(D- Glyceraldehyde) (L-)

⇒ In the same way when fischer formula is drawn for AA having -COOH gr on top & R-gr on bottom with $-NH_2$ gr. on right side of horizontal line, & AA will be D-AA while when it is on left side, AA will be L-AA.



(D-AA)



(L-AA)

⇒ Unlike monosaccharides where the D-isomer is the one found in nature, most AA found in nature have the L-configuration.

⇒ Till date, D-AA residues have been found only in a few peptide antibiotics & in some small peptides attached to the cell wall of bacteria.