

## JEE Mains 2019 Chapter wise Question Bank

## Isomerism of Organic Compounds - Questions

Q1

The species that can have a trans-isomer is :

(en = ethane – 1, 2–diamine, Ox = oxalate)

- (1)  $[\text{Zn}(\text{en})\text{Cl}_2]$                       (2)  $[\text{Pt}(\text{en})\text{Cl}_2]$   
 (3)  $[\text{Cr}(\text{en})_2(\text{Ox})]^+$                       (4)  $[\text{Pt}(\text{en})_2\text{Cl}_2]^{2+}$

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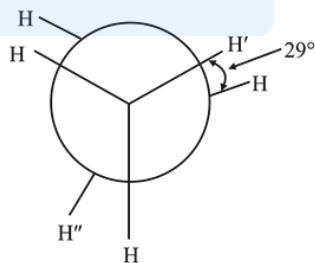
Q2

Number of stereo centers present in linear and cyclic structures of glucose are respectively:

- (1) 5 & 4      (2) 4 & 4      (3) 5 & 5      (4) 4 & 5

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Q3

In the following skew conformation of ethane,  $\text{H}' - \text{C} - \text{C} - \text{H}''$  dihedral angle is :

- (1)  $58^\circ$       (2)  $149^\circ$       (3)  $151^\circ$       (4)  $120^\circ$

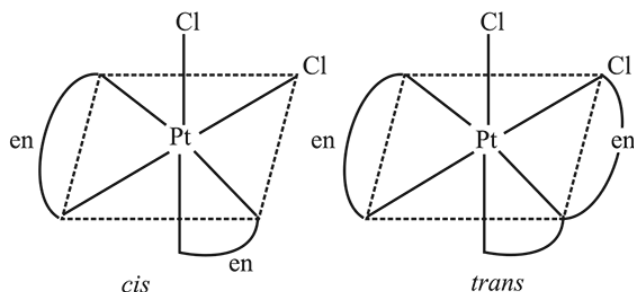
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## JEE Mains 2019 Chapter wise Question Bank

## Isomerism of Organic Compounds - Answers

Q1

(4)

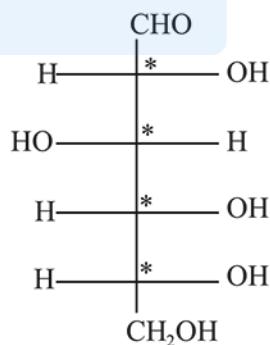


*cis-trans* Isomerism is possible with  $[\text{Pt}(\text{en})_2\text{Cl}_2]^{2+}$ .  $[\text{Cr}(\text{en})_2\text{Ox}]^+$  shows only optical isomerism. The other two complexes, i.e.,  $[\text{Pt}(\text{en})\text{Cl}_2]$  and  $[\text{Zn}(\text{en})\text{Cl}_2]$  do not show stereoisomerism.

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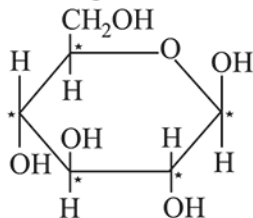
Q2

(4) Linear structure of glucose,



4 stereogenic centres

Cyclic structure of glucose,



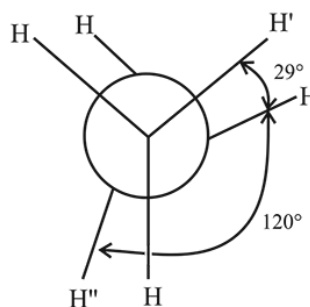
5 stereogenic centres

Here, \* represents stereocenters.

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Q3

(2)


 $\therefore$  Angle between  $\text{H}'$  and  $\text{H}'' = 120^\circ + 29^\circ = 149^\circ$ 

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