

Q1. Define torsion strain and dihedral angle?

Q2. Show with the help of sawhorse projection and Newman's projection eclipsed and staggered conformation of Ethane?

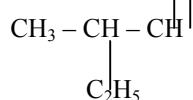
Q3. Write structures for each of the following compounds? Why are the given names incorrect? Write correct IUPAC Names?

(i) 2-ethyl / pentane

(ii) 5-ethyl-3-methyl heptane

Q4. Write IUPAC names of the following compounds:- Calculate no. of figure and p bonds in the structures (i) to (iii)

(i) $(\text{CH}_3)_2\text{CH}-\text{CH}=\text{CH}-\text{CH}_2-\text{CH}$



(ii)

(iii) $\text{CH}_2=\text{C}(\text{CH}_2\text{CH}_2\text{CH}_3)_2$

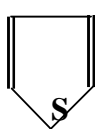
Q5. Which of the following are aromatic and why?

(a)



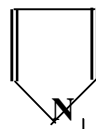
Pyridine

(b)



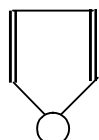
Thiophene

(c)



Pyrrole

(d)



Furan

(e)



-Cyclopentadienyl ion

Q6. Identify the structures A, B, C, D in the given set of reactions:-

