



Shree H.N.Shukla Science College-Rajkot

B.Sc.(Sem-2) (CBCS)

Chemistry [201]

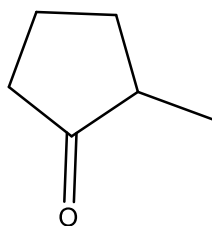
Question bank

Ch-5 Cycloalkanes

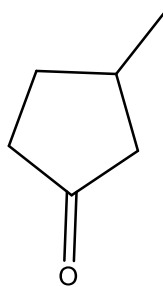
Q-1(A) Answer the following Questions [1 mark]

- (1) Give general formula of cycloalkanes
- (2) In cycloalkanes repetitive unit is _____ group.
- (3) The smallest cycloalkanes is _____
- (4) Give definition of Dihedral angle.
- (5) Give definition of Conformational analysis
- (6) Give the another name torsional strain.
- (7) Which conformer more stable for n-butane?
- (8) Torsional angle of two methyl group in partially eclipsed conformer of n-butane is _____
- (9) What is Dihedral angle in staggered conformer is?
- (10) Give IUPAC name for the following compounds.

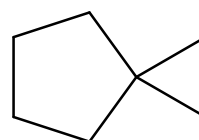
(a)



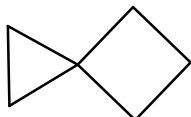
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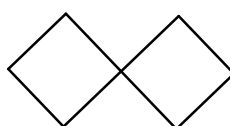
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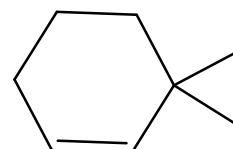
(d)



(e)



(f)



(B) Answer the following Questions [2 mark]

- (1) Explain Simmon-smith method to preparation of cycloalkanes.

- (2) Explain Diel's Alder method to preparation of cycloalkanes.
- (3) Write limitation of Bayer's strain theory.
- (4) Give the idea about Wedge-Desh projection.
- (5) Give the idea about Sawhorse projection.
- (6) Give the idea about Newman projection.
- (7) Draw different conformer of butane.
- (8) Draw different conformer of ethane.

(C) Answer the following Questions [3 mark]

- (1) Give any two method of preparation of small-ring cycloalkane
- (2) Give any two substitution reaction of cycloalkane
- (3) Give any two addition reaction of cycloalkane
- (4) Describe type of strain.

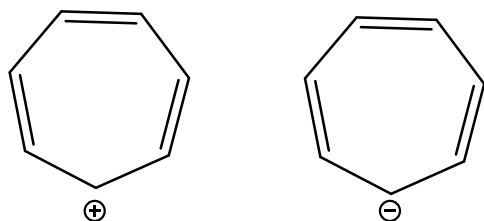
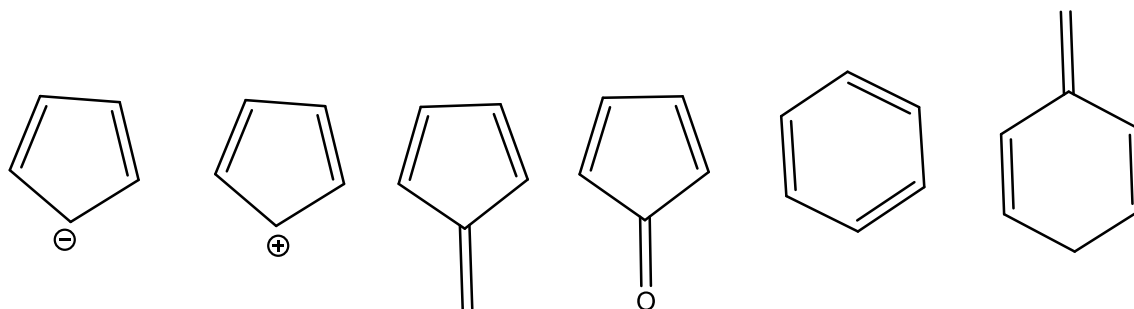
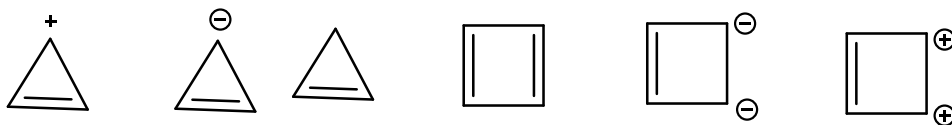
(D) Answer the following Questions [5 mark]

- (1) Describe Baeyer strain theory.
- (2) Explain conformational study of n-butane.
- (3) Discuss chemical properties of cycloalkane.

Ch-6 Aromatic Hydrocarbon

Q-1(A) Answer the following Questions [1 mark]

- (1) Define Aromaticity
- (2) What is sigma complex?
- (3) Give the structure of cyclopropyl cation ions and their aromatic characters.
- (4) Determine whether the following compounds are **Aromatic, Non-Aromatic OR Anti-Aromatic** explain.



- (5) Give the examples of activating and deactivating groups.

(B) Answer the following Questions [2 mark]

- (1) Give Criteria for aromaticity

- (2) What are effect of the substitution on the reactivity?
- (3) Naphthelene is aromatic but [10] Annulene is not aromatic explain.
- (4) Discuss the halogenation reaction with mechanism.

(C) Answer the following Questions [3 mark]

- (1) Explain Huckel rule to simple annulene.
- (2) Discuss the reaction with mechanism
 - a) Nitration of benzene
 - b) Halogenation of benzene
 - c) Sulphonation of benzene

(D) Answer the following Questions [5 mark]

- (1) Give the general mechanism of electrophilic aromatic substitution.
- (2) Discuss cyclopentadienyl(cation and anion) and their aromaticity.
- (3) Explain Friedel craft acylation(FCR) reaction with mechanism and discuss its limitations.
- (4) Discuss electronic explanation for ortho and para directive influence with example.