

SHIVAJI COLLEGE, UNIVERSITY OF DELHI
DEPARTMENT OF CHEMISTRY
INTERNAL TEST
(Academic Year 2023-24)

Name of the Course : B.Sc. (Hons.) Chemistry
Name of the Paper : Basic Concepts and Aliphatic Hydrocarbons (UPC -2172011102)
Semester : I
Maximum Marks : 12
Duration : 1 hr
Date of Test : 06/11/2023
Faculty Name : Dr. Bhaskar Mohan Kandpal & Dr. Parveen Gahlyan

Q.1 Explain any three: (2 x 3 = 6)

- i) Define hyperconjugation. Explain on the basis of hyperconjugation, why 2,3-dimethyl but-2-ene is more stable than 2-methyl but-1-ene.
- ii) Electromeric effect is temporary effect while inductive effect is permanent effect. Explain why?
- iii) Draw all the conformations of cyclohexane and arrange them in increasing order of their stability. Give reasons for their stability.
- iv) Explain the stability of following carbocations-
 $(\text{CH}_3)_3\text{C}^+$, $(\text{CH}_3)_2\text{C}^+$, CH_3^+ , CH_3CH_2^+ , $\text{C}_6\text{H}_5\text{CH}_2^+$

Q.2 Write down the Fischer Projection of all possible stereoisomers of 2,3-dibromopentane. Designate erythro and threo nomenclature to all the stereoisomers and assign absolute configuration (R/S) of each chiral center. (2, 2, 2)

Signature of the Teacher:

