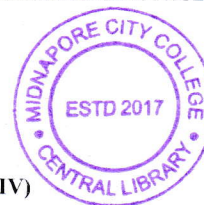


PG (CBCS)
M.SC. Semester- IV Examination, 2026
CHEMISTRY
PAPER: CEM 403
(ADVANCED ORGANIC CHEMISTRY-IV)



Full Marks: 40

Time: 2 Hours

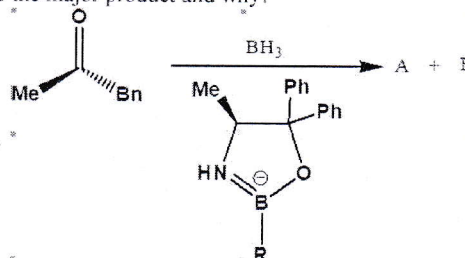
The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

GROUP-A1. Answer any **FOUR** of the following questions: 2×4=8

- Distinguish between cis- and trans-decalin in terms of conformation and stability?
- What is specific rotation?
- What do you mean by enantiotropic and distereotropic face of carbonyl compound?
- What are 9,10-dimethyldecalins?
- What is asymmetric induction?
- What are 1,2 and 1,3 allylic strains?

GROUP-B2. Answer any **FOUR** of the following questions: 4×4=16

- Describe Cieplak model with suitable example.A
- In following reduction reaction two enantiomeric products (A+B) will form. Explain which one will be the major product and why?



- Write name, structures and symmetry of different octalins.
- Draw the Newman projection formula of trans decaline.
- Discuss on the conformational analysis of cis-decaline.
- Write a short note on CD and ORD.

P.T.O

(1)

GROUP-C**3. Answer any TWO of the following questions:****2×8=16**

- a) Derive Weinstein-Holness equation with its Eliel modification.
- b) Discuss on Curtin-Hammett principle using suitable example.
- c) Describe Felkin model with suitable example.
- d) Write the name and structures of six diastereomers of perhydro phenanthrene.

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