

APRIL/MAY 2019

MCH11 — ORGANIC CHEMISTRY — I

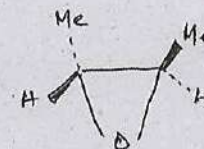
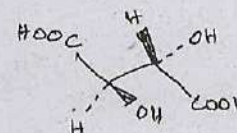
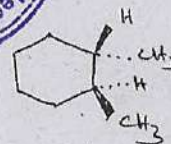
Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL questions.

- (a) Designate the chiral centres of the following molecules with R and S notation.



Or

- (b) Illustrate the E and Z nomenclature with suitable examples.

2. (a) Discuss the reactivity of resolvable and non - resolvable 1,2-cyclohexanediol in acidic solutions.

Or

- (b) Draw the conformations of cis and trans decalins. Of these two which is more stable? Why?



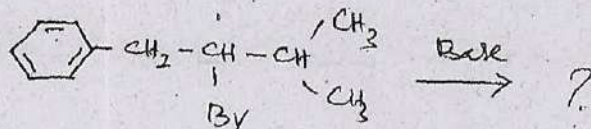
3. (a) Explain the  $S_E1$  and  $S_E2$  mechanisms.

Or

- (b) Write about the substitution at allylic and vinylic carbons.
4. (a) What is Elcb reaction? Explain different aspects involved in mispathway.

Or

- (b) Predict the products for the following reaction and explain :



5. (a) Explain the reactions involved in the synthesis of sym-tribromobenzene from aniline.

Or

- (b) Write short notes on Reimer – Teiman and Kolbe reactions.

## SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. (a) Discuss the stereochemistry of allenes and spirocompounds. (10)
- (b) Write notes on asymmetric synthesis. (5)
- (a) How the conformational future influencing the esterification and ester hydrolysis reactions of cyclohexane systems?
- (b) Explain the conformation of substituted cyclohexanol. (10 + 5)
8. Discuss the following :
- (a) Claisen and Dieckmann condensation. (5 + 5)
- (b) Keto – enol interconversion. (5)
9. (a) Explain in detail the bimolecular elimination reaction. (10)
- (b) Describe the mechanism of pyrolytic elimination. (5)
10. Elaborate the  $S_N1$ ,  $S_NAr$  and benzyne mechanism.