

Seat No. : _____

MF-129

March-2022

M.Sc. Sem.- I

402 : Chemistry

(Organic Chemistry)

(New Course)

Time : 2 Hours]

[Max. Marks : 50

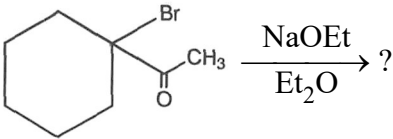
- Instructions :**
- (1) All questions carry equal marks.
 - (2) **Section-I :** Answer any **three (3)** questions out of **eight (8)**.
 - (3) **Section-II :** All questions are compulsory
 - (4) Illustrate your answers with neat diagrams/figures wherever necessary

SECTION-I

Answer any three (3) questions :

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1. Answer the following questions :
 - (A) Discuss why Cis-tert-butylcyclohexylbromide under goes elimination reaction to give 4-tert-butylcyclohexene, where as its trans isomer does not undergo reaction at all.
 - (B) 2-Chloropropylethylsulphide on hydrolysis gives 2-hydroxypropyl ethyl sulphide as a normal product & 1-hydroxy isopropyl ethyl sulphide as a rearranged product – explain.
2. Answer the following questions :
 - (A) 1-Bromo-1,2-diphenylpropane undergoes elimination (dehydrohalogenation) to form Z and E-1,2-diphenylprop-2-ene.
 - (B) Discuss NGP of hydroxyl group with mechanism.
3. Answer the following questions :
 - (A) Discuss aromatic character of azulenes.
 - (B) Write a note on important websites in data search in chemistry.

4. Answer the following questions :
- State Huckel's rule of aromaticity, explain the terms of non-aromaticity and anti-aromaticity giving suitable examples.
 - What are open access online journals? Give brief overview of online journals in chemistry.
5. Answer the following questions :
- Complete the following reaction with mechanism :

 - Discuss preparation and stability of free radicals.
6. Answer the following questions :
- Give principle, mechanism and applications of Fries rearrangement.
 - Write a note on nitrenes and carbenes.
7. Answer the following questions :
- Discuss atropisomerism in biphenyls.
 - Discuss Cram's rule with suitable example.
8. Answer the following questions
- Discuss stereoselectivity and stereospecificity giving suitable example.
 - Discuss enantiotopic atoms, groups and faces giving suitable example with nomenclature of each.

SECTION-II

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9. Answer in short :
- Give general reaction for Smile's rearrangement.
 - Give one example of pyrolysis elimination.
 - Name two drawing tools software for chemistry.
 - Show whether tropilium ion is aromatic or not ?
 - Name any one reaction where carbon ion is the intermediate.
 - Give Principle of Schmidt rearrangement.
 - Give difference between anomer and epimer.
 - Give Haworth projection for cyclic alpha-pyranose form of D-Glucose.
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