

Total No. of Printed Pages: 3

LB-118-2023
FACULTY OF SCIENCE
M.Sc. (First Year) (Sem-II) Examination
APRIL/MAY 2023
CHEMISTRY
Organic Chemistry – II CH-422

Duration: 3:00 Hours**Marks:75**

- i) Attempt all questions
- ii) Figures to the right indicates full marks.

Q1 Attempt any three of the following.

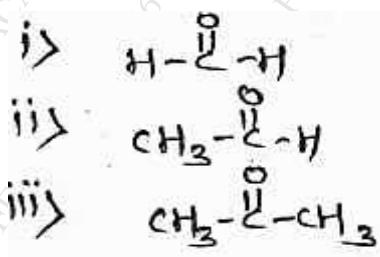
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- a) Explain the regioselectivity and chemoselectivity with suitable example.
- b) Explain Arenium ion mechanism with suitable examples.
- c) Explain the effect of Substrate, and leaving group in aliphatic electrophilic substitution reaction.
- d) What are cycloaddition reactions? Explain the cycloaddition between the two molecules of ethylene ($2\pi + 2\pi$) system
- e) Explain Norrish Type-I and II with suitable examples.

Q2 Answer any three of the following.

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- a) What is sharpless Asymmetric epoxidation? Give its mechanism and application
- b) Explain witting reaction with mechanism and stereochemistry.
- c) Interconversion of 1, 3, 5 hexatriene \rightleftharpoons 1, 3 cyclohexadiene under thermal and photochemical condition Explain by FMO method.
- d) What is Paterno - Buchi reaction? Discuss mechanism along with stereochemical sequence.
- e) Explain the action of Grignard reagent on the following compound with mechanism



- Q3 a) What is photoreduction? Explain the photoreduction of benzophenone with mechanism? **07**

Or

Explain the following reactions with mechanism.

- i) Michael reaction
 - ii) Mannich reaction
- b) Predict the product with mechanism of the following (any four) **08**

