6. Discuss preparation, properties and uses of the following reagents in organic chemistry : **6,6,8**

(a) DDQ

(b) DIBAL

(c) 9-BBN.

Unit IV

7. (a) "The Baeyer-Villiger Rearrangement occurs with retention of configuration." Justify the statement giving suitable examples.

(b) Discuss Favorski rearrangement of open chain and cyclic α-haloketone. **10,10**

8. (a) Explain the mechanism of Pinacol-Pincolone rearrangement. What is the migratory aptitude of anly, H and alkyl groups in this arrangement ?

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DD-299

M. Sc. EXAMINATION, May 2018

(Fourth Semester)

(Main & Re-appear)

(CHEMSITRY)

CH618B

ORGANIC CHEMISTRY SPECIAL-VI

(Reactions and Reagents)

Time : 3 *Hours*] [*Maximum Marks :* 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) Explain the preparation and importance of Grignard Reagent along with their mechanism involved.

(b) How dimethyl copper lithium prepared ? How with the use of this reagent cyclohexenone can be converted into 2-methyl cyclohexanone ? **10,10**

2. (a) Discuss preparation, properties and synthetic application of : **10,10**

(i) Pentacarbonyl Iron

(ii) Tetra Caronyl Nickel.

(b) Write short notes on the following reagents :

(i) Wilkinson catalyst

(ii) Trimethyl sylyl iodide.

Unit II

3. (a) Explain briefly the applications of DCC with examples giving mechanism of the reaction involved.

(b) What are Phase Catalysis ? Explain the utility of phase transfer catalyts in organic synthesis ? **10,10**

4. (a) What happens under cyclohexanone is oxidised with CF_3COOH ? Justify your answer giving suitable mechanism.

(b) How with the help of N-Bromosuccinimide (NBS), the monoenes are converted into diene and trienes ? **10,10**

Unit III

5. (a) Discuss the stereochemistry of oxidation of cis-and trans 2-butene with alkaline $KMnO_4$.

(b) Compare the applications of $LiAlH_4$ and $NaBH_4$. Give mechanism of action of both reagents. **10,10**

(b) What is Wagner-Meer Wein Rearrangement ? Give its mechanism. How this rearrangement finds application in biosynthesis of natural products ?

10,10

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10,10