(b) Explain E1, E2 and Ecb mechanism with examples. **12**

Unit IV

7. (a) Explain Hydrolysis of amide bond in acidic conditions. **10**

(b) Explain Hydrogenation of double and triple bonds. **10**

8. Explain the following in detail with mechanism : **20**

(i) Aldol condensation

(ii) Wittig Reaction

(iii) Sharpless asymmetric epoxidation.

(iv) Stobbe reaction.

No. of Printed Pages : 04 **Roll No. .....**

BB292

M. Sc. EXAMINATION, May 2019

(Second Semester)

(B. Scheme) (Re-appear)

CHEMISTRY

CH504B

Organic Chemistry-II

(Structure and Mechanism in Organic Chemistry-II)

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 : The question paper comprises of eight questions, two from each Unit. The candiates will be required to attempt *Five*

questions, selecting at least *one* question from each Unit.

Unit I

1. What is arenium ion mechanism ? Explain the orientation and reactivity of aromatic electrophilic substitution reactions. **20**

2. (a) Explain the following : **10**

(i) Directive effects of biphenyl

(ii) Role of hydrolysis in Vilsmeir reaction.

(b) Explain the effect of polar solvents in SE^2, SE^1 and SE^i. **10**

Unit II

3. (a) Explain $ArSN^1$, $ArSN^2$ and benzene mechanism with examples. **10**

(b) Explain Neighbouring Group Participation with one suitable. **10**

4. (a) Explain the mechanism for the following name reactions : **10**

(i) Sommelet Hauser

(ii) Smiles Rearrangements.

(b) Which one will react faster in the S_N1 reactions and why : **10**

(i) *t*-butyle chloride or *t*-butyl bromide

(ii) $(CH_3)_2CH$-Br in water or $(CH_3)_2CH$-Br in acetone.

Unit III

5. Explain the following :

(i) Sandmeyer reaction

(ii) Free radical substitution reation

(iii) Auto-oxidation

(iv) Effect of solvent on reactivity. **20**

6. (a) Write down the main product(s) and the mechanism for the following : **8**

(i) $Cl_2+CH_3–CH=CH_2 \xrightarrow{h\nu}$

(ii)  + NBS $\longrightarrow$