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D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1
SEMESTER EXAMINATIONS
APRIL – 2017
ORGANIC CHEMISTRY - II

15CPCH2A

Time : 3 Hrs

Max. Marks : 75

SECTION-A (5 x 6 = 30)

Answer ALL questions.

- (a) Explain addition of halogen and hydration of olefins.
(Or)
(b) Outline the mechanism of Wittig and Wittig – Horner reactions.
- (a) Write a note on orientation in elimination reactions with reference to Saytzeff and Hofmann rules.
(Or)
(b) Write short notes on Chugaev and Cope eliminations.
- (a) Give a brief account on Baeyer Villiger Rearrangement.
(Or)
(b) With suitable examples, explain in detail about Demjanov rearrangement.
- (a) Write note on (i) Allylic oxidations of olefins (ii) Oxidation of methylene to carbonyl.
(Or)
(b) Give the applications of the following reagents: (i) SeO_2 (ii) DMSO – DCC in oxidation reactions.
- (a) Discuss the synthetic importance of Clemmenson and Wolf Kishner reductions.
(Or)
(b) Give an account of the selectivity in the reduction of 4-(t)-butylcyclohexanone using selectrides.

SECTION-B (3 x 15 = 45)

Answer any THREE of the following questions.

- Discuss about the methods of preparation carbenes and their additions to double bonds. (15)
- With suitable examples, illustrate E_1 , E_2 , $E_1\text{CB}$ reactions. Outline the conditions of these mechanisms to operate.
- (i) Discuss the mechanism and applications of Von Richter rearrangement. (5)
(ii) Describe in detail about the mechanism of Favorski and Dienone phenol rearrangement. (10)
- (a) Predict the products of the following reactions and write the suitable mechanism.
 - 1, 2 dimethyl cyclopentene $\xrightarrow{1. \text{O}_3 \ 2. \ \text{H}_2\text{O}}$? (5)
 - Pinacol $\xrightarrow{\text{Pb}(\text{OAc})_4}$? (5)
 - Explain in detail about the dehydrogenation using quinones. (5)
- Explain the following:
 - Birch reduction (3)
 - MPV reduction. (3)
 - LAH, NaBH_4 , and Trialkyltin hydride in the reduction reactions. (9)

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