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D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1

SEMESTER EXAMINATIONS

APRIL – 2018

15CPCH2A

ORGANIC CHEMISTRY - II

Time : 3 Hrs

Max. Marks : 75

SECTION-A (5x 6 =30)

Answer ALL the questions.

1. (a) Write a note on mechanism and applications of Mannich reaction.
(Or)
(b) Explain in detail on 1,3 dipolar cycloaddition reaction with mechanism.
2. (a) Bring out the various competitions between elimination and substitution reaction.
(Or)
(b) Discuss about the mechanism of Pyrolytic eliminations.
3. (a) Discuss the mechanism of the conversion of 1,2 diols into carbonyl compounds in the presence of acid. Explain the stereochemistry of this rearrangement reaction.
(Or)
(b) Bring out the mechanism of Von-Richter rearrangement.
4. (a) What is Oppenauer Oxidation? Give a mechanism of the oxidation of alcohol using Aluminum isopropoxide.
(Or)
(b) List out the uses of DMSO with DCC in the oxidation of alcohols.
5. (a) Explain the synthetic importance of Wolf-Kishner reduction.
(Or)
(b) Describe the preparation and reactions of Nitrene.

SECTION-B (3x15 =45)

Answer any THREE of the following questions.

6. Explain the following reactions with mechanism. (5+5+5)
 - (i) Darzen reaction.
 - (ii) Simmon-smith reaction.
 - (iii) Wittig-Horner reaction.
7. (i) Discuss briefly on the stereochemistry of E₂ eliminations in cyclohexane. (10)
(ii) Explain dehydrohalogenation reaction with suitable mechanism. (5)
8. (i) Bring out the mechanism of dienone – phenol rearrangement. (8)
(ii) Explain the mechanism of Favorski rearrangement. (7)
9. Describe about the mechanism of dehydrogenation reaction by the following reagents. (5+5+5)
 - (i) SeO₂
 - (ii) Quinone
 - (iii) Pb(OAC)₄
10. Illustrate in detail on the following reduction reactions with suitable mechanism. (5+5+5)
 - (i) MPV reduction.
 - (ii) Birch reduction.
 - (iii) Clemmenson reduction.

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