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HEG-003-1101002 Seat No. _____

M. Sc. (Chemistry) (Sem. I) (CBCS) Examination

November / December – 2017

C-OP-102 : Organic Chemistry

(New Course)

Faculty Code : 003

Subject Code : 1101002

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All questions carry equal marks.

(2) All five questions are compulsory.

1 Answer the following : (Any **Seven**) **14**

(a) Discuss the mechanism of Wilkinson catalyst.

(b) Differentiate; Electrophile and Nucleophile by citing example.

(c) Enlist the Multi-component reaction and give the chemical reaction of Biginelli reaction.

(d) Discuss the relationship between Hammett Constant with free energy.

(e) Enlist the Phase Transfer Catalyst and give the preparation of any one of them.

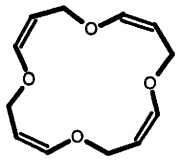
(f) Discuss the hypothesis of Hammett equation.

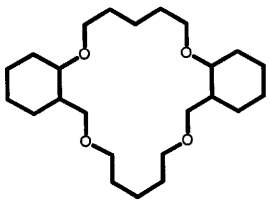
(g) Discuss the principal and reaction of Curtious rearrangement.

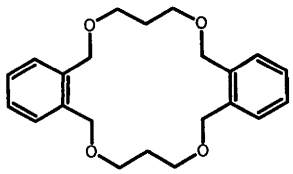
(h) Define: Hemolytic and Hetrolytic bond cleavages and write their properties.

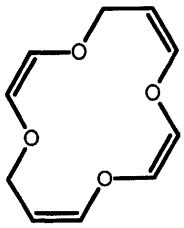
(i) Explain the mechanism of Schmidt rearrangement.

(j) Give the name of followings :

(1) 

(2) 

(3) 

(4) 

2 Answer the following : (Any **Two**) **14**

(a) Discuss the reaction conditions of Woodward and Prevost hydroxylation.

(b) Give a brief account on Hydroboration and the mechanism of anyone Hydroboration reagent.

(c) Discuss the synthesis of polypeptide on solid support reagent.

3 Answer the following : (Any **Three**) **14**

(a) Give a brief account on Stobbe condensation.

(b) Discuss in details: Mc. Murry Reaction

(c) Write a note on Vilsmer-Haack reaction.

(d) Explain the Bouveault-Blanc reduction.

4 Answer the following : **14**

(a) Describe the principal, chemical reaction and reaction mechanism of Suzuki Coupling reaction with its applications.

(b) Give a brief account on Hofmann Loffer Freytag reaction.

OR

(a) Explain the chemical reaction and mechanism of passerine three component reaction with its applications.

(b) Discuss the preparation, chemo-selectivity and application of TMSI.

5 Answer the following : (Any **Two**) **14**

(a) Explain the principal and mechanism of Favorskii rearrangement with its applications.

(b) Give a brief account on Fries rearrangement.

(c) Explain the principal and mechanism of Bayer Villiger rearrangement with suitable example.
