

Roll No.

42009

**M. Sc. Chemistry 4th Semester
Examination – May, 2019**

ORGANIC SPECIAL-VI

Paper : CY(H)-403(C)/4289

Time : Three hours / [Maximum Marks : 80

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

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is *compulsory*.

1. (a) Write one important application of dialkyl copper lithium. $2 \times 8 = 16$
- (b) How can you prepare Grignard reagent ?
- (c) What is the importance of phase transfer catalyst in organic reactions ?

P. T. O.

42009

- (d) Mention one important application of N-Bromosuccinamide.
- (c) What do you mean by catalytic hydrogenations ?
- (f) Write one main application of lead tetracetate.
- (g) Give one example of Curtius rearrangement.
- (h) What is Shapiro reaction ?

SECTION – A

2. Discuss significant applications of : 8, 8

- (i) Diborane
- (ii) Octacarbonyl dicobalt

3. (a) Describe the preparation and important applications of Wilkinson's catalyst. 8

(b) Explain the significant applications of tri-n-butyl tin hydride. 8

SECTION – B

4. Illustrate the role of following reagents in organic synthesis : 8, 8

(i) Dicyclohexylcarbodiimide

(ii) Polyphosphoric acid

5. Discuss the main applications of : 10, 0

(i) 1, 3-Dithianes

(ii) Trifluoroacetic acid

SECTION – C

6. Explain the important applications of : 10, 0

(i) Lithium aluminium hydride

(ii) Periodic acid

7. Describe briefly the significant use of the following reagents : 10, 6

(i) Osmium tetroxide

(ii) Sodamide

SECTION – D

8. Illustrate the following rearrangement with mechanism and suitable examples : 8, 8

(i) Pinacol-pinacolone rearrangement

(ii) Beckmann rearrangement

9. Describe with mechanism and examples : 8, 8

(i) Baeyer-Villiger reaction

(ii) Wagner-Meerwein rearrangement
