

VPG (4) — Chem  
(13) Gr. B

**2016-18**

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in  
their own words as far as practicable.

The figures in the margin indicate full marks.

Answer any **five** questions.

1. (a) Define and explain stereospecific and stereo-selective reaction. 4½ × 2 = 9
- (b) What is the role of stereo-chemistry in rearrangement reaction? 5
2. (a) Discuss Tiffenean-Demjanov rearrangement. 5
- (b) Explain the conformational analysis of cyclohexane. 9

3. (a) Define fragmentation Reaction. 6
- (b) Explain the fragmentation of three membered ring. 8
4. Explain the different methods of asymmetric synthesis. 14
5. (a) Explain the stereo-chemistry of olefination through E<sub>1</sub>, E<sub>2</sub> and E<sub>1</sub> CB mechanism. 10
- (b) What is Peterson Reaction? 4
6. (a) Discuss and explain the transformation of alkynes to Z and E selective alkenes. 7
- (b) Discuss the synthesis of Z and E Selective enolates. 7
7. (a) What is Cram's rule? 4
- (b) Explain the effect of electronegative atoms and chelation on stereoselectivity. 10
8. (a) Explain the synthesis of Syn and anti-aldois. 10
- (b) What is Zimmermann's model? 4

9. Write short notes on any **two** of the following :

7×2 = 14

- (a) Bayer Villiger Rearrangement
- (b) Eschenmoser fragmentation
- (c) Favroskii Rearrangement



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CB - 10/2 (300)      ( 3 )      VPG (4) — Chem  
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