

Exam. Code : 103203

Subject Code : 1308

B.A./B.Sc. 3rd Semester

CHEMISTRY

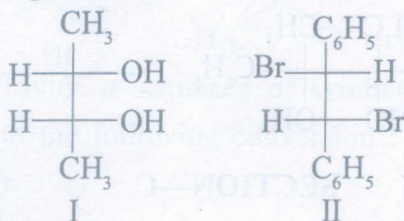
(Organic Chemistry-A)

Time Allowed—Three Hours] [Maximum Marks—35

Note :— Candidates are required to attempt **FIVE** questions, selecting at least **ONE** question from each section. The **fifth** question may be attempted from any section.

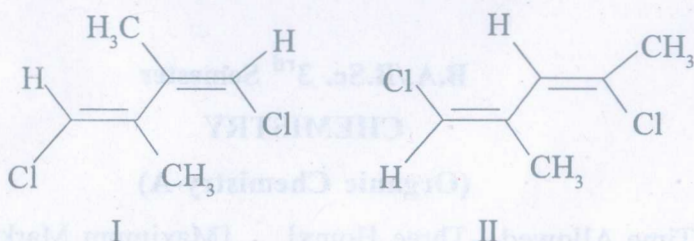
SECTION—A

1. (a) With suitable examples, define the following :
- (i) Enantiomers 2
- (ii) D- and L- isomers. 2
- (b) Assign R/S configuration to the following compounds : 3



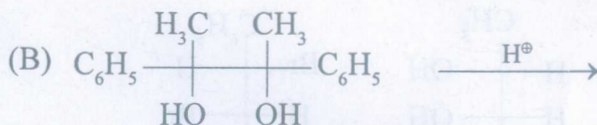
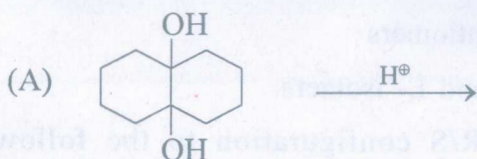
2. (a) Justify the statement with a suitable example, “S_N2 reaction proceeds with inversion of configuration”. 4

- (b) Assign E/Z configuration to the following compounds : 3



SECTION—B

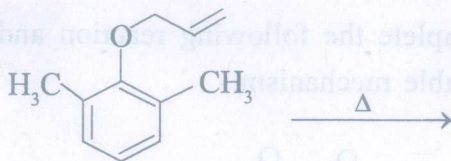
3. Discuss various conformational isomers of n-Butane and draw their potential energy diagram. 7
4. Complete the following reactions with suitable mechanisms : 3.5+3.5



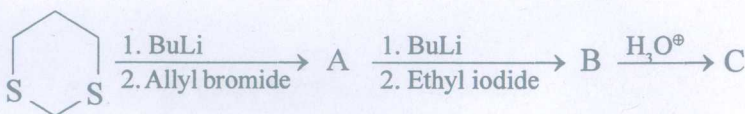
SECTION—C

5. (a) Discuss Fries rearrangement with a suitable mechanism. 4

- (b) Complete the following reaction and provide a suitable mechanism : 3

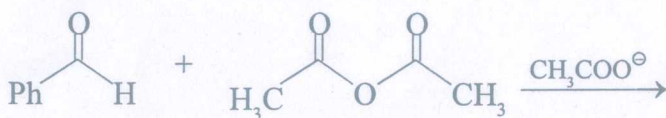


6. (a) Discuss Gatterman synthesis with a suitable mechanism. 4
- (b) Provide the structure of A, B and C in the following reaction sequence : 3

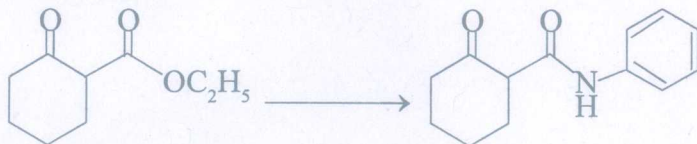


SECTION—D

7. (a) Complete the following reaction and provide a suitable mechanism : 4



- (b) Provide a sequence of synthetic steps to carry out the following conversion : 3



8. (a) Using a suitable example, discuss Mannich reaction and provide a suitable mechanism. 4
- (b) Complete the following reaction and provide a suitable mechanism. 3

