

Day: Thursday
 Date: 10/11/2016

Time 02.00 PM TO 05.00 PM
 Max. Marks: 80

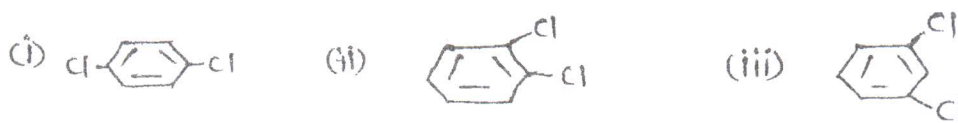
N.B.;

- 1) Q. No. 1 and Q. No. 5 are **COMPULSORY**. Out of the remaining solve Any **TWO** questions from each Section.
- 2) Answers to the two sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.

SECTION - I

Q.1 Answer ANY FIVE of the following: (10)

- a) Draw the Fischer projection formula for the following.
 - i) (R)-3-methylpentane-1-ol
 - ii) S-2,3-dimethylhexane
- b) Draw Newman projection for eclipsed and staggered forms of -
 - i) 2,3-dibromoethane
 - ii) erythro-Tartaric acid
- c) Make a list of rearrangement reactions which involve migrations of carbon from carbon to electron deficient nitrogen.
- d) At room temperature 99% molecules of ethane remain in staggered form. Explain.
- e) Why Maleic acid has high solubility and low melting point than Fumaric acid?
- f) Arrange the following in the increasing order with respect to their Dipole moment.



- g) Write all conformations of cyclohexane.

Q.2 Answer the following:

- a) How will you resolve (\pm) $C_6H_5-CH(CH_3)OH$ by diastereomeric method? (05)
- b) Write a note on stereoselective and stereospecific reactions. (05)
- c) Discuss distereomerism with suitable examples. (05)

Q.3 Discuss resolution of racemic modifications. (15)

Q.4 a) Discuss methods of determination of configuration of geometric isomers involving chemical methods only. (05)

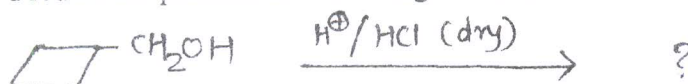
- b) Draw all possible conformations of 1,2-dimethyl cyclohexane and comment on their relative stabilities. (05)

- c) Draw all possible conformations of 1,3-dimethylcyclohexane. (05)

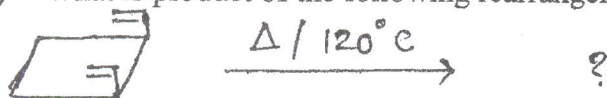
SECTION - II

Q.5 Answer ANY FIVE of the following: (10)

- a) Give an example of Dakin oxidation.
- b) Predict the product of following reaction.



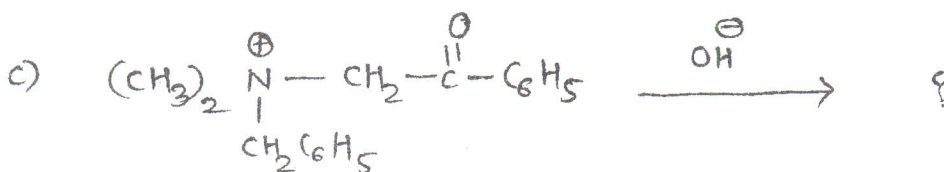
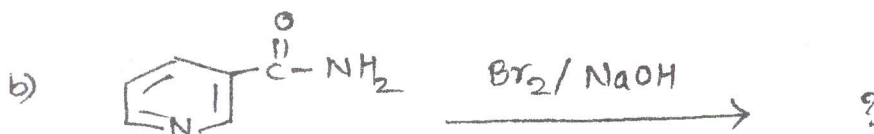
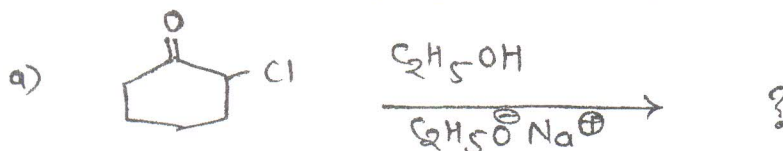
- c) Claisen rearrangement is intramolecular. Explain giving suitable example.
 d) In Oxy-Cope rearrangement isomeric diene is not obtained. Explain.
 e) What is product of the following rearrangement?



- f) Define giving example, following terms.
 i) Synthesis
 ii) Synthons equivalent
 g) Write disconnections of the following.



Q.6 Predict the products giving mechanism Any **THREE** of the following: (15)



Q.7 Discuss the guidelines used in the retrosynthesis. Use suitable examples for each guideline. (15)

Q.8 Write short note on any **three** of the following. (15)

- a) Pinacole-pinacolone Rearrangement
 b) Schmidt Rearrangement
 c) Fries Rearrangement
 d) Curtius Rearrangement

PURUS – III (2015 COURSE) (CBCS) : WINTER - 2016
SUBJECT : PHARMACEUTICAL CHEMISTRY – V
(ORGANIC)

Day : Thursday
Date : 10/11/2016

Time : 02.00 PM TO 05.00 PM
Max. Marks : 60

N. B. :

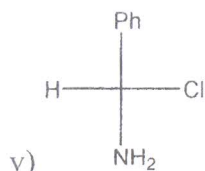
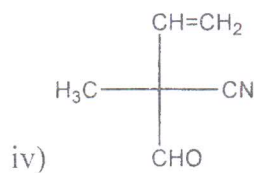
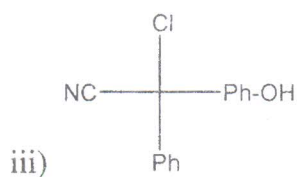
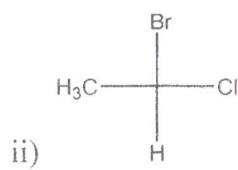
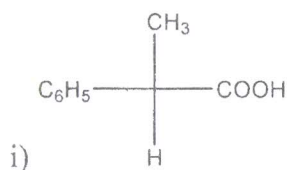
- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining solve **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the section should be written in **SEPARATE** answer books.

SECTION - I

Q. 1 Attempt **ANY FIVE** of the following: **(10)**

- a) Draw Newmann projection for :
 - i) 2,3-dichlorobutane
 - ii) 2-bromo-1-chloropropane
- b) Why F_2 is not practical for radical reaction?
- c) Differentiate between enantiomers and diastereomers.
- d) Explain the plane of symmetry with suitable example.
- e) Explain the termination of radical chain reaction.
- f) Explain working of polarimeter with diagram.

Q. 2 Assign R and S configuration to **ANY FOUR** **(10)**



Q. 3 a) Explain the methods of generation of free radicals. **(07)**

b) Why chair cyclohexane is more stable? **(03)**

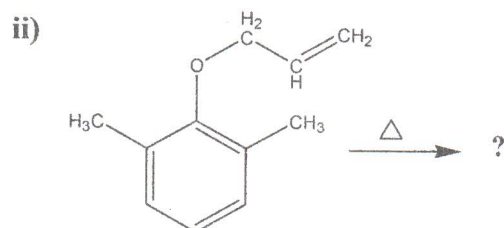
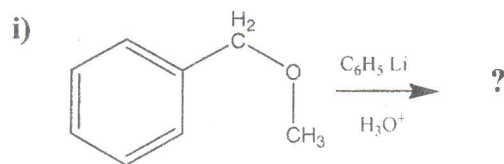
P. T. O.

- Q. 4** Write note on **ANY TWO** of the following: **(10)**
- Malonic ester synthesis
 - Gabriel synthesis
 - Schmidt reaction

SECTION – II

- Q. 5** Attempt **ANY FIVE** of the following: **(10)**
- Hofmann rearrangement is associated with urea derivatives as side product. Explain.
 - What is role of moist AgO in W. M. rearrangement?
 - Comment on stereochemistry associated with Beckmann rearrangement.
 - What is Neber rearrangement?
 - Write in brief about Wolf rearrangement.
 - Explain in short Curtius rearrangement.

- Q. 6** Predict the product and give the mechanism of following reactions: **(10)**



- Q. 7**
- Explain mechanism, orientation and stereochemistry of Dakin oxidation. **(07)**
 - Explain the rearrangement of Pinacole – Pinacolone. **(03)**
- Q. 8** Write short notes on **ANY TWO** of the following: **(10)**
- What is the role of bromine in Hofmann rearrangement
 - Lossen rearrangement
 - Sommelet rearrangement