

Shree Manibhai Virani and Smt. Navalben Virani Science College (Autonomous), Rajkot
 Affiliated to Saurashtra University, Rajkot

SEMESTER END EXAMINATION APRIL - 2018

M.Sc. Industrial Chemistry

16PICCC17 – ADVANCE ORGANIC CHEMISTRY

Duration of Exam – 3 hrs

Semester – IV

Max. Marks – 70

Part A (5x2= 10 marks)

Answer **ALL** questions

1. Define Enantiomers & Diastereomers with example.
2. Give classification of stereoisomers with example.
3. Define Sustainable development and Green chemistry.
4. Give principle of Friedel Crafts Alkylation reaction.
5. Define and enlist oxidizing and reducing reagents.

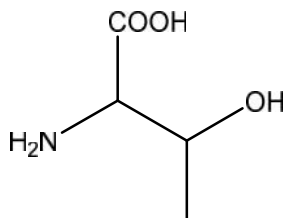
Part B (5x5 = 25 marks)

Answer **ALL** questions

- 6a. Describe stereochemistry of Allenes and Spiranes with examples.

OR

- 6b. Draw the following structures in Wedge-dash formula and assign configuration.



2-amino-3-hydroxybutanoic acid

- 7a. Define asymmetric induction and describe Prelog's rule.

OR

- 7b. Explain stereochemistry of 1,2-Dimethyl cyclohexane.

- 8a. Define twelve principles of Green chemistry.

OR

- 8b. Write principle of Strecker and Dieckmann reactions.

- 9a. Write in detail Heck reaction.

OR

- 9b. Write in detail Negishi coupling reaction.

10a. Discuss sodium cyano borohydride reagent in detail.

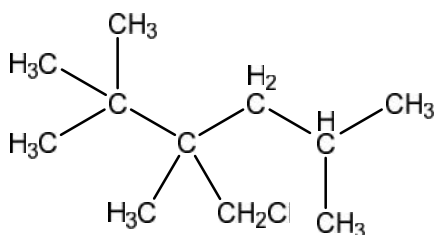
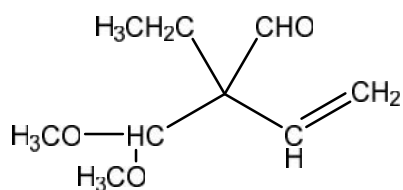
OR

10b. Discuss $\text{Ti}(\text{NO}_3)_3$ reagent in detail.

Part C (5x7 = 35 marks)

Answer **ALL** questions

11a. Draw fisher projection and Dash Wedge formula of following compounds and assign RS configurations.



OR

11b. Define atropisomerism and stereochemistry of Ansa and paracyclophanes.

12a. Discuss stereochemistry of cyclohexene and cyclohexanone.

OR

12b. Discuss stereochemistry of Biphenyl compounds.

13a. Discuss Microwave assisted Ugi coupling reaction.

OR

13b. Define ionic liquid and discuss Diels alder reaction using IIs.

14a. Write in detail Sonogashira coupling reaction.

OR

14b. Write in detail Suzuki reaction

15a. Explain in detail DIBAL reagent.

OR

15b. Explain in detail Sharpless epoxidation.