8. (a) Give applications of :

(i) Thin layer chromatography

(ii) Gas chromatography.

(b) Give details of column chromatography.

12,8

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AA292

M.Sc. EXAMINATION, May 2019

(First Semester)

(B. Scheme) (Re-appear)

CHEMISTRY

CH503B

Organic Chemistry-I

(Structure and Mechanism in Organic Chemistry-I)

Time : 3 *Hours*] [*Maximum Marks :* 100

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

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

Section A

1. (a) What are antiaromatic and homoaromatic compounds ?

(b) Discuss aromaticity of nonbenzenoid compounds. **10,10**

2. Write notes on the following :

(a) Cyclodextrins

(b) Inclusion compounds

(c) Crown Ethers. **6,7,7**

Section B

3. (a) Discuss enantiotopic and diastereotopic group and faces.

(b) Write note on Cram's rule of asymmetric induction. **12,8**

4. Write notes on the following :

(a) Resolution of recemic mixture by chemical methods

(b) Optical activity of allenes

(c) Priority rules the determine sign of optical rotation. **6,7,7**

Section C

5. (a) Discuss briefly Hammett equation. How it represents linear free-energy relationship.

(b) Discuss about structure and reactions of free radicals. **12,8**

6. (a) Illustrate use of the following techniques in determination of reaction mechanism :

(i) Cross-over experiments

(ii) Product analysis.

(b) Write a note on the nitrene. **14,6**

Section D

7. (a) Write in detail about high performance liquid chromatography (HPLC).

(b) What do you mean by counter current distribution ? **12,8**