

SUPPLEMENTARY
MASTER OF PHARMACY (M. PHARM.) (CBCS-2019 COURSE)
M.Pharm. Sem-I PHARMACEUTICS :SUMMER- 2022
SUBJECT : MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Day : Monday

Date : 12/9/2022

S-20709-2022

Time : 10:00 AM-01:00 PM

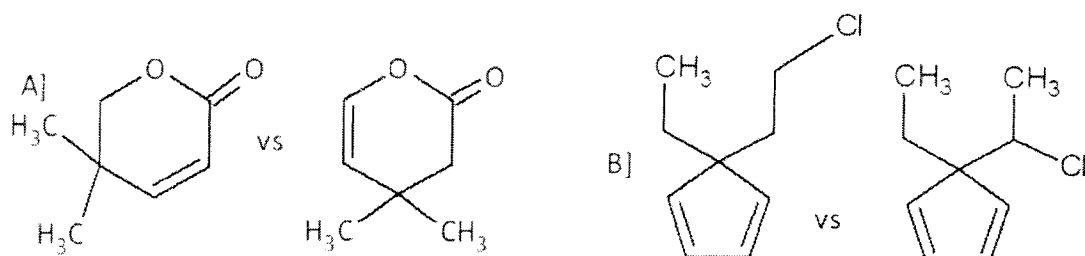
Max. Marks : 75

N.B.:

- 1) **Q. No.1 and Q. No.5 are COMPULSORY.** Out of the remaining answers any TWO questions form section-I and II each.
- 2) Answer to both sections should be written in SEPARATE answer books.
- 3) Figure to the RIGHT indicate FULL marks.

SECTION-I

- Q.1** Discuss electron impact and MALDI ionization techniques in MS. (08)
- Q.2** How will you differentiate the following pairs of isomers using H-NMR spectrometry? (15)



- Q.3** Elaborate types of fundamental vibrations in IR along with factors effecting in it. Discuss choice of solvents and solvent effect UV Visible spectroscopy. (15)
- Q.4** Write notes on ANY TWO of the following: (15)
- a) Explain fingerprinting in IR region.
 - b) Principles and instrumentation of AAS.
 - c) Principles and pharmaceutical applications of potentiometry.

SECTION-II

- Q.5** Provide overview of Immunological assays techniques and describe various aspects of ELISA technique. (07)
- Q.6** Principle, Instrumentation, working conditions, factors affecting separation and application of Gel Electrophoresis. (15)
- Q.7** What are various thermal techniques? Describe in details principle, instrumentation and experimental parameters of DTA. (15)
- Q.8** Write notes on ANY TWO of the following: (15)
- a) Types and working of potentiometric electrode.
 - b) Types of crystals and applications of X-ray diffraction
 - c) TGA