M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE SYSTEM) : WINTER - 2017

SUBJECT: ADVANCED PHARMACEUTICAL ANALYSIS

Day : **Wednesday**
Date : **03/01/2018**

Time: **10.00 AM to 01.00 PM**
Max. Marks: 60.

W-2017-3855

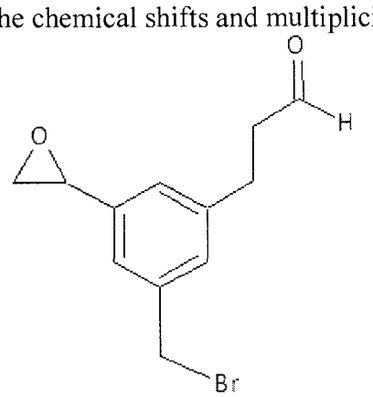
N.B.:

1) Attempt any **THREE** questions from each section.
2) Both the sections should be written in **SEPARATE** answer books.
3) Figures to the **RIGHT** indicate full marks.

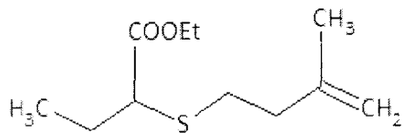
SECTION-I

Q.1 Give the chemical shifts and multiplicities of all protons in the given structures. **(10)**

a]



b]



Q.2 Assign the correct structure to the given structural data. **(10)**

MF: - $C_4H_4N_2$

IR: - [KBr] 3000, 2249 cm-1

PMR: - ppm 2.7 [s]

CMR: - ppm 119 [s, ab in DEPT 135°], 16 [-ve phase]

EIMS: - m/z 80, 53 [100 %], 40.

Q.3 Discuss the instrumentation involved in GLC. **(10)**

Q.4 Write short notes on any **TWO** of the following: **(10)**

a) GC-MS
b) Instrumentation of HPLC
c) Steps involved in HPTLC Technique

SECTION-II

Q.5 Describe in detail instrumentation of supercritical fluid chromatography. **(10)**

Q.6 Write detailed note on: **(10)**

a) Types of ELISA techniques and their comparison.
b) Various aspects of ion pair chromatography

Q.7 Describe theory, instrumentation and applications of DSC. **(10)**

Q.8 Write short notes on any **TWO** of the following: **(10)**

a) Radioimmunoassay
b) Chiral chromatography
c) Principle and applications of XRD

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