

M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE SYSTEM) : WINTER - 2018

SUBJECT: ADVANCED PHARMACEUTICAL ANALYSIS

Day : Wednesday
Date : 02/01/2019

W-2018-4152

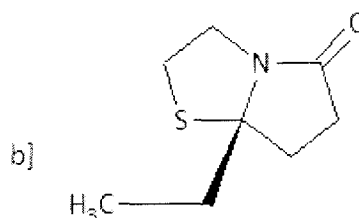
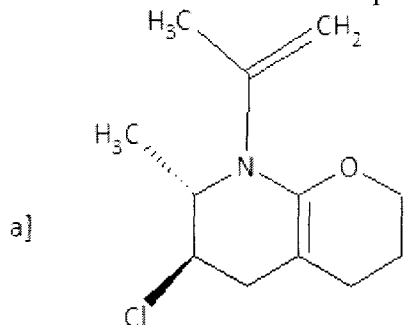
Time: 10.00 A.M. TO 01.00 P.M.
Max. Marks: 60.

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)



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

MF: - C₈H₁₃

IR: - [Film] 2996 cm⁻¹

PMR: - ppm 0.9 [s]

CMR: - ppm 35 [Ab in DEPT 135°], 26 [+ve phase in DEPT 135°]

EIMS: - 99, 57 [100 %], 41.

Q.3 Discuss the instrumentation involved in HPLC. (10)

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

- a) Detectors in GC
- b) Steps involved in practice of HPTLC
- c) HPLC columns

SECTION-II

Q.5 Describe in detail principle, instrumentation and applications of XRD techniques. (10)

Q.6 Write detailed note on: (10)

- a) Immuno-electrophoresis
- b) Various aspects of ion pair chromatography technique.

Q.7 Describe types, theory and instrumentation of DSC technique. (10)

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

- a) Working of thermo-balance and factors affecting TG curve
- b) ELISA
- c) Principle and applications of DTA

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