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Total No. of Pages : 01

Total No. of Questions : 06

M.Pharmacy (Pharmacognosy) (2017 & Onwards) (Sem.-1)
MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MPG-101T

M.Code : 74669

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of SIX questions.
2. Each question carry FIFTEEN marks.

Q1. Write notes on :

- a) Shielding and deshielding effects. Explain with examples. (5)
- b) Handling of liquid samples in IR. (5)
- c) Mc Lafferty rule of fragmentation. (5)

Q2. a) What is the finger print region in IR spectroscopy? Explain its importance with suitable examples. (6)

- b) Write the principle of spectrofluorimetry and atomic absorption spectroscopy. Also, discuss their applications in field of pharmacognosy. (9)

 Q3. Discuss the principle of FT- and ^1H -NMR spectroscopy. What do you understand by the terms chemical shift and spin-spin coupling? Explain various factors effecting chemical shift. (2, 3, 10)

Q4. a) Explain the principle of EI, FAB, MALDI, APCI and ESI. Discuss their advantages and disadvantages over each other. (10)

- b) Discuss the application of MS in herbal drug research. (5)

Q5. a) Differentiate GC and UPLC on the basis of their principle, sensitivity and stationary phases used. (4)

- b) Briefly explain various factors effecting resolution in TLC. (5)
- c) Explain various types of stationary phases used in HPLC. Also discuss various and recent modifications of silica as a stationary phase for HPLC. (6)

Q6. a) Explain the principle and applications of XRD and DTA. (8)

- b) Explain factor effecting resolution in Gel electrophoresis. (4)
- c) Briefly discuss various applications of DSC in pharmaceutical sciences. (3)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.