

Question Paper

Exam Date & Time: 02-May-2019 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.

MPharm - Pharmaceutical Chemistry

MPharm Second Semester- End-Semester Examination- May 2019

Date: 02/05/2019

Advanced Spectral Analysis [PCH-MPC201T]

Marks: 75

Duration: 180 mins.

SECTION - A

Answer all the questions.

Answer the following (10 marks x 5 = 50 marks)

- 1) What are metastable ions? When do they appear and what is their importance in Mass spectra. (10)
- 2) Write a note on: (i) Rule of 13 (ii) Shielding and deshielding (iii) Isotopic peaks (iv) Precessional Frequency (10)
- 3) Write the principle, instrumentation and application of LC-NMR (10)
- 4) Explain the different types of columns in Chromatography techniques (10)
- 5) What is Woodward Rule Fisher Rule for α, β -carbonyl compounds? Explain in brief ATR-IR (10)

SECTION - B

Answer all the questions.

Answer the following (5 marks x 5 = 25 marks)

- 6) Explain NOE and NOESY techniques in NMR. (5)
- 7) Compare and contrast between Electron Impact (EI) and Chemical Ionisation (CI) techniques in Mass Spectroscopy. (5)
- 8) Write a note on Coupling constant and its importance. (5)
- 9) Discuss Ultra and Nano liquid chromatography (5)
- 10) Write a note on CE-MS interface (5)

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