

Malay

Exam Date & Time: 28-Dec-2018 (09:30 AM - 12:30 PM)

## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal Academy of Higher Education, Manipal MPharm Theory End-Semester Examinations.  
Course Code PQA-MIP101T/PQA-MPA10T, Course Title: Modern Pharmaceutical Analytical  
Techniques

Date: 28-12-2018

Modern Pharmaceutical Analytical Techniques [PQA-MIP101T]

Marks: 75

Duration: 180 mins.

### SECTION - A

Answer all the questions.

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

- 1) Write a note on developing techniques in paper chromatography (10)
- 2) Explain solid, liquid and gas sample handling in IR spectroscopy in detail (10)
- 3) Explain the instrumentation for double beam UV Visible spectrometer (10)
- 4) Discuss the information obtained from the proton NMR spectrum (10)
- 5) What are mass analyzers? Classify them with suitable examples and explain (10)

### SECTION - B

Answer all the questions.

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

- 6) Explain different thermal events observed in a typical thermogram (5)
- 7) Write a note on UV - Visible detector used in HPLC (5)
- 8) List the physicochemical factors affecting the fluorescence. Write the limitations of flame photometry (5)
- 9) List the capillary electrophoresis methods. Explain the research applications of ELISA in brief (5)
- 10) Explain the Rejuvenation glass electrode in brief. List the applications of X-ray diffraction studies (5)

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