

THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

[BPHARM0422]

**APRIL 2022
(SEPTEMBER 2021 SESSION)**

Sub. Code: 2087

**B.PHARMACY DEGREE COURSE (SEMESTER EXAMINATIONS)
PCI Regulation 2017 SEMESTER VIII
PAPER XI - ADVANCED INSTRUMENTATION TECHNIQUES
Q.P. Code: 562087**

Time: Three hours

Maximum: 75 Marks

I. Elaborate on: Answer any TWO questions. (2 x 10 = 20)

1. Explain the working principle and construction involved in GC-MS/MS.
2. Discuss the Different types of Analysers used in mass spectroscopy.
3. Write the principle and instrumentation of DTA with a neat diagram.

II. Write notes on: Answer any SEVEN questions. (7 x 5 = 35)

1. Explain the Relaxation process in NMR.
2. Write the Calibration procedure for flame photometer.
3. Explain about ICH guidelines used in method validation parameters.
4. Write the short notes on Applications in SPE.
5. Discuss the Chemical shift in NMR.
6. Explain the fragmentation rules in mass spectroscopy briefly.
7. Write the Calibration procedure for IR spectroscopy.
8. Explain the instrumentation of HPTLC-MS.
9. Explain the factors affecting DSC curve.

III. Short answers on: Answer ALL questions. (10 x 2 = 20)

1. Ring rule.
2. Parent ion.
3. Define calorimetry.
4. LOD and LOQ.
5. Long term Stability.
6. Accuracy and Precision.
7. Prospective validation.
8. Give any two differences between Calibration and validation.
9. Define Chemical ionization.
10. Give any two advantages of fast-atom-bombardment interface.
