

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

[M.PHARM 0922]

**SEPTEMBER 2022
(APRIL 2022 EXAM SESSION)**

Sub. Code: 2955

**M.PHARMACY DEGREE EXAMINATION
SEMESTER - II (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER I – ADVANCED INSTRUMENTAL ANALYSIS**

Q.P. Code : 262955

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Outline the principle behind NMR spectroscopy. Elaborate on factors which influence chemical shift .
b) Discuss NOESY techniques in NMR.
c) Discuss in detail about ¹³C-NMR.
2. a) Explain the working of Mass spectroscopy.
b) Explain the Liquid Chromatography - Mass Spectroscopy LC-MS..
c) Discuss in detail about FAB mass spectrometry.

II. Write notes on:

(7 x 5 = 35)

1. Discuss the working principle and application of ion pair chromatography.
2. Write an account on pumps used in HPLC.
3. Discuss in detail about capillary electrophoresis CE characteristics.
4. Write a brief notes on ESI mass spectrometry.
5. List the applications of preparative HPLC.
6. Discuss in detail about MS/MS system mass spectrometry.
7. Write about the instrumentation of super critical fluid chromatography.
