

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

[MPHARM 0122]

**JANUARY 2022
(APRIL 2021 EXAM SESSION)**

Sub. Code: 2951

**M.PHARMACY DEGREE EXAMINATION
SEMESTER-I (PCI New regulations 2016)
PHARMACEUTICAL ANALYSIS - MPA
PAPER I – MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES
*Q.P. Code : 262951***

Time : Three hours

Answer ALL Questions

Maximum : 75 Marks

I. Elaborate on:

(2 x 20 = 40)

1. a) Explain different types of ionization techniques in Mass Spectrometry. Draw and label a single quadrupole mass instrument.
b) Discuss the Woodward Fieser rule and its application.
2. a) Discuss the theory of fluorescence and factors affecting fluorescence.
b) Write the instrumentation and applications of fluorimetry.

II. Write notes on:

(7 x 5 = 35)

1. Calculate the vibrational modes for linear molecule ethane C_2H_6 and nonlinear molecule C_6H_6 .
2. Differentiate dispersive I.R from F.T. IR.
3. Write short notes on Spin-Spin coupling.
4. Derive Beer lamberts law.
5. The molar absorption co-efficient of tyrosine in water is $1280 M^{-1} cm^{-1}$ at 280 nm. Calculate the concentration of tyrosine solution in water if the absorbance of the solution is 0.34 measured in a 1 cm path length cell.
6. Enumerate the detectors used in Gas chromatography. Explain any one in detail.
7. Write a note on Bragg's law.
