

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

[M.PHARM 0922]

SEPTEMBER 2022  
(APRIL 2022 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) Describe the principle and working of HPLC with a neat labeled diagram.  
(b) Calculate the concentration of compound X using A (1%, 1cm)  $\epsilon$  at wave length 257nm, at a 1.5cm Cell, with absorbance 0.4527.
2. (a) With neat labeled diagram, explain the principle and instrumentation of Double beam UV Spectrophotometer.  
(b) Write a note on  $^{13}\text{C}$  NMR and spin-spin coupling.

**II. Write notes on:**

(7 x 5 = 35)

1. Write about the McLafferty rearrangement.
2. Write a note on any two mass analyzers.
3. Describe Bragg's law and applications of x-Ray diffraction.
4. Explain the sampling techniques in IR spectroscopy.
5. Give an IR interpretation for  
(i)  $\text{C}_6\text{H}_5\text{CHO}$                       (ii) 2-butanone.
6. Discuss the factors affecting fluorescence.
7. Write a note on Electrophoresis techniques.

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