

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

[BPHARM 0921]

SEPTEMBER 2021
(FEBRUARY 2021 EXAM SESSION)

Sub. Code: 4270

B. PHARMACY DEGREE EXAMINATION
FOURTH (FINAL) YEAR – (NON-SEMESTER)
PAPER IV – MODERN METHODS OF PHARMACEUTICAL ANALYSIS
Q.P. Code: 564270

Time: Three hours

Answer ALL questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail the method development and validation parameters in HPLC.
2. a) Explain the principle and instrumentation of gas chromatography.
b) What are the different types of detectors used in gas chromatography?

II. Write notes on:

(8 x 5 = 40)

1. Draw and label a typical polarogram showing the different currents involved.
2. Draw the proton NMR spectrum of 1-Bromopropane indicating the number of signals, their relative positions and splitting pattern.
3. In mass spectrometry what is matrix assisted laser desorption ionization? Explain.
4. Outline the principle of Radio Immuno Assay.
5. Briefly explain the different types of Conductometric titrations.
6. Explain "Dead stop End Point" titration.
7. What is the principle behind IR spectroscopy.
8. Briefly explain the calibration of UV Spectrophotometer.

III. Short answers on:

(10 x 2 = 20)

1. Mention the two differences in the instrumentation of a UV spectrophotometer and a fluorimeter.
2. In mass spectrometry what is metastable ion peak?
3. In polarography what causes a maxima. How is it eliminated?
4. How will you calculate the vibrational degrees of freedom for a linear molecule and non linear molecules.
5. Mention the different types of qualification are equipment validation.
6. Distinguish between equivalent and molar conductance.
7. State Bragg's law.
8. Distinguish between Quality Assurance and Quality Control.
9. What is Reverse Phase Chromatography?
10. What is the principle behind the electrophoresis?
