

PARUL UNIVERSITY
FACULTY OF PHARMACY
M. Pharm. Winter 2022 - 23 Examination

Semester : 1
Subject Code: MPG101T
Subject Name: Modern Pharmaceutical Analysis Techniques

Date: 13/03/2023
Time: 10:00am to 1:00pm
Total Marks: 75

Instructions:

1. Figures to the right indicate maximum marks.
2. Make suitable assumptions wherever necessary.

Q.1 Essay Type Questions. (any 2 out of 3) (15 Marks Each) (30)

1. A. Explain in detail instrumentation of UV-Visible spectrophotometer.
B. What do you understand by coupling constant? Write factors affecting the chemical shift.
2. A. Discuss general rules of fragmentation in MS.
B. Enumerate different types of chromatography techniques. Write a short note on Affinity Chromatography.
3. A. Explain principle and instrumentation of paper electrophoresis.
B. Write a short note on X ray diffraction methods.
C. What are thermal methods of analysis? Discuss principle and applications of TGA.

Q.2 Short Essay Type Questions. (any 5 out of 6) (5 Marks Each) (25)

1. What is fluorescence Quenching? Discuss its importance.
2. Discuss applications of NMR.
3. Discuss in detail about Quadrupole Analyzer.
4. Write short note on stationary phase and mobile phase of Gas chromatography.
5. Write a brief note on Ion selective electrodes in potentiometry.
6. Explain Instrumentation of Atomic absorption spectroscopy.

Q.3 Short Answers. (2 Marks Each) (20)

1. What is flame emission spectroscopy?
2. What is the difference between red shift & blue shift?
3. What is the difference between shielding & deshielding?
4. What is the Zeeman effect?
5. What is the difference between MALDI & FAB?
6. What do you understand by Mc-Lafferty rearrangement?
7. What is the R_f value?
8. How is HPTLC different from TLC?
9. What is Bragg's law? Write its equation.
10. Define differential thermal analysis (DTA).