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Library
Pharmaceutical Technology
Brainware University
Borasat, Kolkata-700125

BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – M.Pharm(PC)-2025

Course Name – Advanced Spectral Analysis

Course Code - MPC201T

(Semester II)

Full Marks : 75

Time : 3:0 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Short Answer Type Questions)

5 x 5=25

1. Explain the importance of blocking agents in an ELISA assay. (5)
2. Explain how colorimetric detection is applied in ELISA, and what are the alternatives to this detection method. (5)
3. Discuss the limitations of ^{13}C NMR and their overcome using advanced techniques like HECTOR and INADEQUATE. (5)
4. Explain the significance of the n+1 rule in ^1H NMR spectroscopy. (5)
5. Decide the principle of Raman spectroscopy. (5)

OR

Justify the challenges of Raman spectroscopy. (5)

Group-B

(Long Answer Type Questions)

10 x 5=50

6. Describe the principle of chemical shift in NMR spectroscopy. (10)
7. Explain the principle of ELISA and describe the different types of ELISA and their applications. (10)
8. Compare the techniques NOESY and COSY in the structural determination of organic compounds. (10)
9. Recommend some important applications of Raman spectroscopy. (10)

OR

Summarize about instrumentation of Raman spectroscopy with a neat and clean diagram. (10)

10. Explain the principle, instrumentation and application of TGA. (10)

OR

Choose the general advantages and disadvantages of using thermal methods of analysis (DSC, DTA, TGA) in comparison to other analytical techniques. (10)
