

Sl.No: M21138

Course Code: MPL101T

**VINAYAKA MISSION'S RESEARCH FOUNDATION
(DEEMED TO BE UNIVERSITY), SALEM**

**M.PHARM. DEGREE EXAMINATION – September 2021
First Semester**

BRANCH: PHARMACOLOGY

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Time : Three hours

Maximum: 75 marks

**(Draw neat labeled diagrams wherever necessary
your answer should be specific to the questions asked)**

SECTION –A

I. Answer any **THREE** questions: **(3 x 15 = 45)**

1. Write in detail about the principle, instrumentation and applications of UV-spectroscopy.
2. Outline the principle, instrumentation and application of NMR spectrophotometer.
3. Explain the theory, design and working and applications of HPLC.
4. Write in detail about the working principles, instrumentation and pharmaceutical applications of IR spectrophotometer.

SECTION –B

II. Answer any **THREE** questions: **(3 x 10 = 30)**

5. Describe about the sampling techniques involved in IR spectroscopy.
6. Write down the principles, instrumentation and applications of DTA.
7. Write down the various ionization techniques involved in mass spectroscopy.
8. Define Bragg's law. Write in detail about applications of X-Ray diffraction studies.
