QP CODE: 111350 **Reg. No:……**

First Semester M.Pharm Degree Supplementary Examinations
February 2022

Paper I: Modern Pharmaceutical Analytical Techniques (MPT 101T)

(2019 Scheme)

Time: 3 Hours **Total Marks: 75**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***
- ***Draw table/diagrams/flow charts wherever necessary***

Essays **(3x10=30)**

1. Explain the theory of IR spectroscopy. Outline the instrumentation of FTIR and explain any two detectors used.

2. Explain shielding and de-shielding in NMR spectroscopy. Discuss decoupling technique using nuclear magnetic double resonance.

3. Discuss Van Deemter equation. Explain the various derivatization technique of GC.

Short Notes **(9x5=45)**

4. Discuss the instrumentation and factors affecting separation in zone electrophoresis and get electrophoresis.

5. Discuss any two monochromators and detectors employed in ultra violet – visible spectroscopy.

6. Add a detail note on Bravis lattice types and miller indices.

7. Explain principal and working of DTA.

8. Explain the working and principle involved in potentiometry and add a note on ion selective electrodes.

9. Explain the sample handling techniques in infra-red spectroscopy.

10. Draw the schematic diagram and discuss the working of atomic absorption spectrometer. Add a note on Hollow cathode discharge tube.

11. Explain the working of any two types of pumps and sample injection system in HPLC.

12. Define chemical shift. Explain the factors affecting chemical shift in NMR spectroscopy.

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