

QP CODE: 111331

Reg. No:.....

**First Semester M.Pharm Degree Supplementary Examinations  
February 2022**

**M.Pharm (Pharmaceutical Chemistry)**

**Paper I: Modern Pharmaceutical Analytical Technique (MPA101T)**

**(2017 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. Describe in detail the difference between the theory of IR spectroscopy and FT-IR Spectroscopy. Explain the sampling techniques in IR and also specify the applications of IR – spectroscopy.
2. Describe the principle and instrumentation of double beam Spectrofluorimeter and Write theory of Fluorescence with neat diagram.
3. Describe the working principle, instrumentation and applications of HPLC

**Short Notes**

**(9x5=45)**

4. Discuss the principle and instrumentation of Capillary Electrophoresis.
5. Thermogravimetric Analysis (TGA).
6. With neat labeled diagram, explain the instrumentation of flame emission spectroscopy.
7. Discuss in detail about Column Chromatography.
8. Coupling Constant.
9. Name the various detectors used in Gas Chromatography. Explain any one in detail.
10. Describe the working principle of quadrupole and time of flight mass analyzers
11. Describe Bragg's Law and its application to pharmaceuticals.
12. C<sup>13</sup>-NMR

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