

**QP CODE: 111329**

**Reg. No:.....**

**First Semester M.Pharm Degree Supplementary Examinations March 2020**

**M.Pharm (Pharmaceutical Analysis)**

**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. Elaborate the principle, instrumentation and experimental parameters of thermal technique.
2. Predict the mass spectra fragmentation pattern of Benzamide ( $C_6H_5CONH_2$ ) and Benzyl alcohol ( $C_6H_5CH_2OH$ ).
3. Enumerate the theory, instrumentation and applications of X-ray crystallographic technique

**Short Notes**

**(9x5=45)**

4. Give an account of detectors used in gas chromatography
5. Outline the principle and applications of FT-NMR
6. Compare and contrast normal & reverse phase high performance liquid chromatography
7. Explain briefly about paper electrophoresis.
8. Explain the terms: Chromophore, Auxochrome, Bathochromic Shift, Hypsochromic Shift
9. What advantages do FTIR spectrophotometer offer over dispersive instruments. Give application of FTIR in pharmaceutical formulations.
10. Explain the relationship between chemical structure, pH and fluorescent intensity.
11. Describe briefly about the principle and applications of differential thermal analysis.
12. Outline the principle construction of time of flight mass analyzer.

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