

**QP CODE: 111330**

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

**First Semester M.pharm Degree Examinations March 2019**

**M.Pharm (Pharmacognosy)**

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

**Time: 3 Hours**

**Total Marks: 75**

- Answer all Questions.
- Draw Diagrams wherever necessary.

**Essays**

**(3x10=30)**

1. Explain the principle, instrumentation, interferences and applications of flame emission spectroscopy.
2. Describe the principle, instrumentation, data interpretation and applications of high performance liquid chromatography.
3. Describe the instrumentation working conditions, factors affecting separation and applications of moving boundary electrophoresis

**Short Notes**

**(9x5=45)**

4. Principle of  $^{13}\text{C}$ -NMR.
5. Solvent requirement in NMR.
6. Mass fragmentation and its rules.
7. APPI analyzer of quadrupole.
8. Application of potentiometry.
9. Hyper DSC.
10. Principle of derivative differential thermal analysis.
11. Applications of affinity chromatography.
12. X-ray powder technique.

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