

QP CODE: 211329

Reg. No:.....

**Second Semester M. Pharm Degree Regular/Supplementary Examinations
May 2022**

M.Pharm (Pharmaceutical Analysis)

Paper I: Advanced Instrumental Analysis (MPA 201T)

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 principle, instrumentation and detectors used in HPLC
2. Explain the principle, instrumentation and applications of NMR spectroscopy
3. Explain in detail about super critical fluid chromatography

Short Notes

(9x5=45)

4. Enumerate the GC detectors and explain any two detectors
5. Ion pair chromatography
6. NOESY and COSY
7. Capillary electrophoresis
8. 1 D and 2 D NMR
9. Mass analyzers
10. LC MS
11. Principle and applications of HPTLC
12. Chemical shift and factors influencing chemical shift
