

QP CODE: 211331

Reg. No:.....

**Second Semester M. Pharm Degree Supplementary Examinations  
September 2022**

**M.Pharm (Pharmaceutical Chemistry)**

**Paper I - Advanced Spectral Analysis (MPC 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 applications of DSC and DTA.
2. Discuss in detail about the principle, instrumentation and applications of flash chromatography.
3. Explain in detail the Woodward- Fieser rule for 1,3- butadienes, cyclic dienes and  $\alpha$ ,  $\beta$ - carbonyl compounds

**Short Notes**

**(9x5=45)**

4. Radio immunoassay of digitalis.
5. Discuss the principle involved in LC-MS
6. Explain the terms 1D and 2D NMR.
7. Describe the terms meta stable ions and isotopic peaks.
8. Principle and applications of Raman spectroscopy.
9. Explain the principle involved in HPTLC.
10. Discuss the mass fragmentation rules using any two functional groups.
11. Explain NOESY and COSY
12. Mc Lafferty rearrangement

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