QP Code: 831006 **Reg. No…….**

Eighth Semester B. Pharm Degree Supplementary Examinations
November 2022
Advanced Instrumentation Techniques

(2017 Scheme)

Time: 3 Hours **Max. 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 diagrams wherever necessary***

Essays **(2x10=20)**

1. Explain the principle, instrumentation and applications of differential scanning calorimetry.
2. Explain the principle of proton NMR along with the factor affecting the chemical shift.

Short Notes **(7x5=35)**

3. Explain Matrix assisted laser desorption ionization.
4. Explain the calibration of flame photometer.
5. Explain powder diffraction.
6. Explain the importance of C-13 NMR in structured elucidation of compound.
7. Explain the calibration of GC.
8. Explain liquid-liquid extraction.
9. GC-MS/MS.

Answer Briefly **(10x2=20)**

10. Calibration of IR spectrophotometer.
11. Application of Radio immuno assay.
12. Application of X-ray in structural elucidation.
13. Spin-spin coupling.
14. Applications of differential thermal analysis.
15. Time of flight analyses in mass spectrometry.
16. Application of LC-MS/MS.
17. Fragment peaks in mass spectra.
18. List out the applications Mass Spectrometry.
19. List out validation parameters as per ICH guidelines.

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