

**PHARMACEUTICAL ANALYSIS - II**

**Time: 3 Hours**

**Total Marks: 100**

- Answer all Questions.
- Draw diagrams and equations wherever necessary.

**Essay**

**(3x10=30)**

1. Explain the theory, instrumentation and applications of infrared spectrophotometry
2. Explain the principle of separation in gas chromatography. Classify the detectors used in gas chromatography. Describe the construction and working of any one.
3. Explain the theory and apparatus used in polarography in detail.

**Short notes**

**(14x5=70)**

4. Preparation of a column in column chromatography
5. Detection in TLC.
6. Explain the mechanism of operation of an ion exchange column.
7. Differentiate TLC and HPTLC.
8. Explain the working and limitations of standard hydrogen electrode.
9. Apparatus used in conductometric titrations
10. Applications of thermal analysis
11. Explain the working principle of instrument used in nephelometric analysis.
12. Construction and working of dropping mercury electrode.
13. Explain the theory of UV – visible spectrophotometry.
14. Light sources and detectors used in spectofluorimeter.
15. Theory of NMR spectroscopy.
16. Explain any one ionization technique in mass spectrometry
17. List the analytical method validation parameters as per ICH guidelines.

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