

GUJARAT TECHNOLOGICAL UNIVERSITY
PHARM.D YEAR-3 EXAMINATION – SUMMER - 2025

Subject Code: 838802**Date: 03-05-2025****Subject Name: Pharmaceutical Analysis****Time: 10:30 A.M. TO 1:30 P.M.****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
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|-----|--|-----------|
| (a) | Explain Beer-Lambert's Law with its Deviation. | 06 |
| (b) | Explain Jablonski Diagram with factor affecting Fluorescence Intensity. | 04 |
| (c) | Discuss the following terms: Hyperchromic shift, Bathochromic shift, Reverse phase HPLC and HETP | 04 |
- Q.2**
- | | | |
|-----|---|-----------|
| (a) | Draw a Schematic diagram of HPLC. Enumerate different pumps and explain anyone in detail. | 06 |
| (b) | Differentiate between HPLC and HPTLC. | 04 |
| (c) | Explain Various detectors used in Gas Chromatography. | 04 |
- Q.3**
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|-----|---|-----------|
| (a) | Discuss ionization techniques of mass spectroscopy. | 06 |
| (b) | Explain Dropping Mercury Electrode. | 04 |
| (c) | Write a note on NMR. | 04 |
- Q.4**
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|-----|---|-----------|
| (a) | What is ICH? Give an overview on quality guidelines of ICH. | 06 |
| (b) | Define chromatography. Discuss different principles of separation in chromatography | 04 |
| (c) | Write a note on different development techniques of paper chromatography. | 04 |
- Q.5**
- | | | |
|-----|---|-----------|
| (a) | Explain Scattering and diffraction by bragg's equation. | 06 |
| (b) | Explain types of conductometric titration. | 04 |
| (c) | What is the difference between DSC and DTA? | 04 |
- Q.6**
- | | | |
|-----|---|-----------|
| (a) | Enlist Detectors used in UV spectroscopy and explain any one in detail. | 06 |
| (b) | Describe Principle and instrumentation of AAS. | 04 |
| (c) | Explain instrumentation and application of flame photometry. | 04 |
- Q.7**
- | | | |
|-----|---|-----------|
| (a) | Explain the principle of separation for | 06 |
| | 1. Thin layer chromatography | |
| | 2. Affinity chromatography | |
| (b) | Write a note on amperometric titration. | 04 |
| (c) | Explain the principle of separation of electrophoresis. Classify different electrophoresis methods. | 04 |
