

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm - SEMESTER VI- EXAMINATION – WINTER -2020

Subject Code:2260003**Date: 07/01/2021****Subject Name: Pharmaceutical Analysis IV****Time: 2:00 PM TO 4:00 PM****Total Marks: 54****Instructions:**

1. Attempt any **THREE** questions from Q-1 to Q-6.
2. **Q.7** is compulsory to attempt.
3. Make suitable assumptions wherever necessary.
4. Figures to the right indicate full marks.

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|-------------|---|-----------|
| Q.1 | (a) Write an explanatory note on RIA and ELISA. | 06 |
| | (b) Give an overview of LC-MS and LC-MS/MS. | 05 |
| | (c) Write a detailed note on filing of Indian Patent Application. | 05 |
| Q.2 | (a) Define Analytical Method Validation. Enlist and explain Validation Parameters as per ICH guide lines. | 06 |
| | (b) Enlist the differences as well as similarities between TLC and HPTLC. | 05 |
| | (c) Write a detailed account on Partition and Adsorption Chromatography. | 05 |
| Q.3 | (a) Explain the generation of X-rays. Derive Bragg's Law equation. Enlist the application of X-rays diffraction. | 06 |
| | (b) What is Radioactive substance? Explain Isotopes Dilution Analysis & Liquid Scintillation Systems. | 05 |
| | (c) Write an explanatory note on ISO 9001:2000. | 05 |
| Q.4 | (a) Explain the principle of GSC and GLC. Draw the diagram of GC instrument. Discuss different mobile and stationary phases used for GC. | 06 |
| | (b) Give an overview of Raman Spectroscopy. | 05 |
| | (c) Which are the units for Radioactivity measurement? How we can measure the Radioactivity? Enlist the applications of Radio nuclides. | 05 |
| Q.5 | (a) What is Guard Column? Explain the theory & principle of HPLC. Draw the labeled diagram of HPLC instrument. Explain the mobile & stationary phases for Normal and RP-HPLC. | 06 |
| | (b) Write a detailed note on Nephelometry & Turbidimetry. | 05 |
| | (c) Give some account on any two detectors for GC. | 05 |
| Q. 6 | (a) Discuss the basic principle & theory of Ion-exchange as well as Size exclusion Chromatography along with their applications. | 06 |
| | (b) Explain in detail the Super Critical Fluid Chromatography. | 05 |
| | (c) Give some account on GATT and TRIPS. | 05 |
| Q.7 | (a) Write a detailed note on GLP. | 06 |
| | OR | |
| | (a) Give an overview of GC-MS and compare HPLC with GC. | 06 |
| | OR | |
| | (a) Enlist the applications of GC and HPLC. | 06 |
