Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm - SEMESTER - VI EXAMINATION - WINTER 2025

Subject Code: 2260003 **Date: 18-11-2025**

Subject Name: Pharmaceutical Analysis IV

Time: 02:30 PM TO 05:30 PM **Total Marks: 80**

Instructions

1. Attempt any five questions.

2. Make suitable assumptions wherever necessary.

3. Figures to the right indicate full marks.

			Marks
Q.1	**(a)**	Explain following terms: (Any Six) (a) Radioactivity (b) Retention Volume (c) Resolution (d) Dead time (e) HETP (f) Capacity factor (G) Asymmetric factor	**06**
	(b)	Discuss various types of derivatization in GC. Write in detail about derivatization reaction that improves stability of molecules.	**05**
	(c)	Define GLP and enlist different principles of GLP. Explain any three principles in detail.	**05**
Q.2	**(a)**	Define Scattering. Write a note on Nephlometry.	**06**
	(b)	Define patent and discuss different steps involved in patent filling process.	**05**
	(c)	What is Nuclear Chemistry? Write a note on Neutron Activation Analysis.	**05**
Q.3	**(a)**	Define pre-conditioning. What is importance of pre-conditioning in HPTLC. Discuss sorbents used in HPTLC	**06**
	(b)	Discuss role of ISO 9001:2000 in quality management system.	**05**
	(c)	Write a note on Size Exclusion Chromatography.	**05**
Q.4	**(a)**	Discuss various validation parameters for analytical method validation as per ICH guideline	**06**
	(b)	List ideal requirements of detector for HPLC and explain UV-Visible detector in HPLC	**05**
	(c)	Write short note on RIA.	**05**
Q.5	**(a)**	What are the units for radioactivity measurement? Explain isotopes dilution analysis.	**06**
	(b)	Write a note on temperature programming in GC.	**05**
	(c)	Write a note on GATT & TRIPS.	**05**
Q.6	**(a)**	What are X rays? Derive Bragg's equation and enlist application of X ray diffraction.	**06**
	(b)	Explain in brief about LC/MS –MS.	**05**
	(c)	Explain the principle and instrumentation of Super Fluid Chromatography.	**05**
Q.7	**(a)**	Differentiate: 1. Reverse and Normal phase chromatography 2. GC and HPLC 3. Capillary and Open tubular column	**06**

(b) Write a short note on different types of ELISA technique. **05**

(c) Enlist different detector used in GC. Write a note on ECD. **05**

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