Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm SEMESTER– VI • EXAMINATION – WINTER -2024

Subject Code: 2260003 Date:27/11/2024

Subject Name: Pharmaceutical analysis IV

Time: 02:30pm to 05:30pm Total Marks: 80

Instructions:

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

Q.1	**(a)**	Explain the principle and instrumentation of Super Fluid Chromatography.	**06**
	(b)	Write a note on Raman spectroscopy.	**05**
	(c)	Explain following terms: (Any five) (a) Retention time (b) Retention Volume (c) Resolution (d) Dead time (e) HETP (f) Capacity factor (G) Asymmetric factor	**05**
Q.2	**(a)**	List ideal requirements of detector for HPLC and explain UV-Visible detector in HPLC	**06**
	(b)	Explain isotope dilution analysis and liquid scintillation counter.	**05**
	(c)	Write a note on ion exchange and size exclusion Chromatography.	**05**
Q.3	**(a)**	Explain principle, instrumentation and application of HPLC.	**06**
	(b)	Explain in brief about GC-MS.	**05**
	(c)	Draw Schematic diagram of HPTLC. Give its applications.	**05**
Q.4	**(a)**	Differentiate: 1. Reverse and Normal phase chromatography 2. HPTLC and HPLC 3. Capillary and Open tubular column	**06**
	(b)	Discuss the instrumentation of Gas chromatography. Add a special note on detectors used in gas chromatography.	**05**
	(c)	Explain principle, advantage, limitation and application of HPTLC.	**05**
Q.5	**(a)**	Write a brief note on nephelometry.	**06**
	(b)	What is Radio Immuno Assay? Write a brief note on ELISA.	**05**
	(c)	What is Nuclear Chemistry? Write a note on Neutron Activation Analysis.	**05**
Q. 6	**(a)**	Describe application of X -ray crystallography in detail.	**06**
	(b)	Write a note on GATT & TRIPS.	**05**
	(c)	Describe different steps of filling patent in detail.	**05**
Q.7	**(a)**	What is analytical method validation? Describe different validation parameters according to ICH guideline.	**06**
	(b)	Explain requirement and interpretation of ISO 9001:2000.	**05**
	(c)	Explain factors affecting UV spectroscopy.	**05**

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