Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – 8- EXAMINATION –WINTER - 2018

Subject Code: 280004 **Date: 22/11/2018**

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.**

Q-1	**(a)**	Describe generation and characteristic of X-rays. Explain principle of X-Ray Diffractometer.	**[6]**
	(b)	Describe applications of X-ray diffraction.	**[5]**
	(c)	Explain in brief technique of GC-MS.	**[5]**
Q-2	**(a)**	Write a note on stationary phases in normal and reversed phase HPLC	**[6]**
	(b)	Discuss detectors used in HPLC.	**[5]**
	(c)	Explain the principle, instrumentation and applications of super critical fluid chromatography.	**[5]**
Q-3	**(a)**	Explain the principle of Gas chromatography. Explain the terms (i) GSC (ii) GLC.	**[6]**
	(b)	Enlist the detectors used in GC and discuss construction and working of any one.	**[5]**
	(c)	Enumerate principles of chromatography. Discuss size exclusion chromatography.	**[5]**
Q-4	**(a)**	Give advantage and limitation of HPTLC.	**[6]**
	(b)	Discuss purposes & techniques of chemical derivatization in HPLC& GC with illustration.	**[5]**
	(c)	Write full form of TRIPS and GATT. Give requirement of TRIPS.	**[5]**
Q-5	**(a)**	Write a note on Good Laboratory Practice (GLP).	**[6]**
	(b)	What is IPR. Explain each with example.	**[5]**
	(c)	What are types of patent applications?	**[5]**
Q-6	**(a)**	Describe Radioimmuno assay.	**[6]**
	(b)	Give a brief account on ELISA technique.	**[5]**
	(c)	Write a brief note on Liquid scintillation systems.	**[5]**
Q-7	**(a)**	Define and explain analytical method validation as per ICH guideline. Explain: how precision of assay method are determined?	**[6]**
	(b)	What is the basic difference between nephlometry and turbidimetry? Describe applications of nephlometry and turbidimetry.	**[5]**
	(c)	Explain requirement of ISO 9001-2000.	**[5]**