

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. [6]
Explain the terms (i) GSC (ii) GLC.
(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. [6]
Explain: how precision of assay method are determined?
(b) What is the basic difference between nephelometry and turbidimetry? [5]
Describe applications of nephelometry and turbidimetry.
(c) Explain requirement of ISO 9001-2000. [5]