

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 6- EXAMINATION – WINTER - 2018

Subject Code: 2260003**Date: 20/11/2018****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) What are x-rays? How they can be generated? Derive Bragg's equation and enlist the applications of x-ray diffraction. **06**
- (b) Define and explain Radio Immuno Assay in detail. **05**
- (c) Write a short note on Nephelometry and Turbidimetry. **05**
- Q.2** (a) Define validation. Enlist validation parameters and explain each in brief. **06**
- (b) What is IPR? Give some account on steps for filling patent. **05**
- (c) Write a short note on Raman Spectroscopy. **05**
- Q.3** (a) Explain basic principle, theory and applications of ion exchange and size exclusion chromatography. **06**
- (b) Enlist the similarities and differences between HPLC & HPTLC. **05**
- (c) Write a short note on ELISA. **05**
- Q.4** (a) Discuss theory and principle of GC. Draw the instrumental diagram and explain the detectors used for GC. **06**
- (b) Explain basic principle, theory and applications of Super Critical Fluid Chromatography. **05**
- (c) Write a short note on ISO 9001:2000. **05**
- Q.5** (a) Define radioactive compound. Explain isotopes dilution analysis and liquid scintillation system. **06**
- (b) Discuss in brief GATT and TRIPS. **05**
- (c) Write a short note on GLP. **05**
- Q.6** (a) Explain the theory and principle of HPLC. Discuss in detail the instrumentation of HPLC with diagram. **06**
- (b) Discuss different mobile and stationary phases for GC. **05**
- (c) Enlist the applications of partition and adsorption chromatography. **05**
- Q.7** (a) Write a short note on mobile and stationary phases for normal and reversed phase HPLC. Enlist the applications of HPLC. **06**
- (b) Give the overview of LC-MS and LC-MS/MS. **05**
- (c) Explain the interaction of nuclear radiation with matter. What are the units of radio activity? How radio activity can be measured? **05**
