Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**B. Pharm. – SEMESTER – VIII • EXAMINATION – WINTER • 2014**

**Subject Code: 280004** **Date: 02-12-2014**

**Subject Name: Pharmaceutical Analysis-IV**

**Time: 02:30 pm - 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.**

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|---|---|---|---|
| **Q.1** | **(a)** | Define analytical method validation. Tabulate validation requirements for various analytical categories as per ICH guideline. Explain: how precision of assay method are determined? | **06** |
| | **(b)** | What are the different instruments used for measurement of radioactivity? Give a brief account of them. | **05** |
| | **(c)** | What is the basic difference between nephlometry and turbidimetry? Describe applications of nephlometry and turbidimetry. | **05** |
| **Q.2** | **(a)** | Explain the principle, instrumentation and applications of super critical fluid chromatography. | **06** |
| | **(b)** | Explain principle of X-Ray diffraction. | **05** |
| | **(c)** | Explain in brief technique of GC-MS. | **05** |
| **Q.3** | **(a)** | Describe liquid scintillation system for radionuclide. Write applications of Radionuclides. | **06** |
| | **(b)** | Explain Bragg's law and write a note on applications of X-ray diffraction. | **05** |
| | **(c)** | Write a brief note Raman spectroscopy. | **05** |
| **Q.4** | **(a)** | Describe instrumentation for gas chromatography. | **06** |
| | **(b)** | Give principle of ion-exchange chromatography. | **05** |
| | **(c)** | Describe advantages, disadvantages and applications of HPTLC. | **05** |
| **Q.5** | **(a)** | Enumerate principles of chromatography. Discuss size exclusion chromatography. | **06** |
| | **(b)** | Enlist the detectors used in GC and discuss construction and working of any one. | **05** |
| | **(c)** | Explain requirement of ISO 9001-2000. | **05** |
| **Q. 6** | **(a)** | Compare HPLC and gas chromatography. Describe principle and applications of HPLC. | **06** |
| | **(b)** | Write in detail on detectors of HPLC. | **05** |
| | **(c)** | Give a brief account on ELISA technique. | **05** |
| **Q.7** | **(a)** | Describe the principle, technique and applications of affinity chromatography. | **06** |
| | **(b)** | Write a note on Good Laboratory Practice (GLP). | **05** |
| | **(c)** | Explain in brief GATT and TRIPS. | **05** |

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