Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**M. Pharm. – SEMESTER – II • EXAMINATION – SUMMER • 2014**

**Subject Code: 2920107** **Date: 29-05-2014**

**Subject Name: Pharmaceutical Analysis - II**

**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)** | Discuss the principle, instrumentation and application of the GC-MS method used in pharmaceutical analysis. | **06** |
| | **(b)** | Describe and discuss: Size exclusion chromatography | **05** |
| | **(c)** | Write the theoretical considerations in Flow Injection Analysis. | **05** |
| **Q.2** | **(a)** | Discuss different standardization parameters used for evaluation of herbal drugs? | **06** |
| | **(b)** | Discuss the principle and applications of electrophoretic techniques | **05** |
| | **(c)** | Write a short note on the methods of automated analysis. | **05** |
| **Q.3** | **(a)** | Discuss importance of Reporting threshold, Identification threshold and qualification threshold as discussed in the ICH Q3 guidelines. | **06** |
| | **(b)** | Discuss UV and fluorescent analysis of powdered crude drugs and their applications | **05** |
| | **(c)** | Discuss WHO guideline about coarseness of powder material and the sieves to be used. | **05** |
| **Q.4** | **(a)** | Enlist and discuss different techniques and methods applied in the extraction and identification of phytochemicals. | **06** |
| | **(b)** | Write a short note on pharmaceutical sample preparation. | **05** |
| | **(c)** | Write a short note on amino acid sequence analysis. | **05** |
| **Q.5** | **(a)** | Discuss methods of solid state analysis of drugs. | **06** |
| | **(b)** | Write a note on proximate analysis of crude drugs | **05** |
| | **(c)** | Discuss methods of determination of total solids in asava/aristha. | **05** |
| **Q. 6** | **(a)** | What are impurities? Give types of impurities. Give general drug impurity profiling. | **06** |
| | **(b)** | What is Tryptic Mapping? Discuss the general requirements for such analysis. | **05** |
| | **(c)** | Explain application of GC MS in toxicologic and forensic studies. | **05** |
| **Q. 7** | **(a)** | Give principle and procedure involved in quantitative analysis of following drugs as per I.P. 2007: (4x4M = 16)<br>1) Ranitidine tablets. 3) Hydralazine HCl injection.<br>2) Phenytoin sodium injection. 4) Metformin HCl tablets. | **16** |

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