

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.Pharm. - SEMESTER-VI • EXAMINATION – SUMMER-2017**

**Subject Code: 2260003****Date: 03/05/2017****Subject Name: Pharmaceutical Analysis-IV****Time: 10:30 AM to 01:30 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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|-------------|---|-----------|
| <b>Q.1</b>  | (a) Discuss the generation of X-rays and explain Bragg's law.                               | <b>06</b> |
|             | (b) Discuss instrumentation and applications of X-ray diffraction.                          | <b>05</b> |
|             | (c) Write a short note on "Raman Spectroscopy."   | <b>05</b> |
| <b>Q.2</b>  | (a) Explain briefly the following terms   | <b>06</b> |
|             | (i) GC-MS   |           |
|             | (ii) LC-MS  |           |
|             | (iii) LC-MS/MS  |           |
|             | (b) Explain in detail "The applications of Radio Nuclides."                                 | <b>05</b> |
|             | (c) Explain the Radioactive Decay and the various units of Radioactive Decay.               | <b>05</b> |
| <b>Q.3</b>  | (a) Explain various detectors used in HPLC.   | <b>06</b> |
|             | (b) Explain Principle and applications of HPLC.   | <b>05</b> |
|             | (c) Describe the different pumps used in HPLC.  | <b>05</b> |
| <b>Q.4</b>  | (a) Write a short note on GLP.  | <b>06</b> |
|             | (b) Explain in detail about GATT & TRIPS.   | <b>05</b> |
|             | (c) Write an informative note on ISO.   | <b>05</b> |
| <b>Q.5</b>  | (a) Explain instrumentation and applications of HPTLC.                                      | <b>06</b> |
|             | (b) Write a short note on "ELISA."  | <b>05</b> |
|             | (c) Define and explain Patent. Discuss the various steps involved in patent filling.        | <b>05</b> |
| <b>Q. 6</b> | (a) Discuss the principle and applications of Gas Chromatography.                           | <b>06</b> |
|             | (b) Write a short note on "The Detectors used in GC."                                       | <b>05</b> |
|             | (c) Discuss Derivatizations in GC.  | <b>05</b> |
| <b>Q.7</b>  | (a) Discuss various parameters used for Analytical Method Validation as per ICH guidelines. | <b>06</b> |
|             | (b) Explain briefly   | <b>05</b> |
|             | (i) Nephelometry  |           |
|             | (ii) Turbidimetry   |           |
|             | (c) Write a short note on   | <b>05</b> |
|             | (i) Ion Exchange Chromatography   |           |
|             | (ii) Affinity Chromatography  |           |

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