

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B. Pharmacy Sem-III Regular / Remedial Examination Dec. 2010**

**Subject code: 230002**  
**Subject Name: Pharmaceutical Engineering II**

**Date: 13 /12 / 2010**

**Time: 10.30 am – 01.30 pm**

**Instructions:**

**Total Marks: 80**

- 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) What is supercritical fluid? Write theory of SCFs.   | <b>06</b> |
|            | (b) Write note on RESS technology.   | <b>05</b> |
|            | (c) Explain the pharmaceutical application of supercritical fluid technology.                  | <b>05</b> |
| <b>Q.2</b> | (a) Define angle of repose and write methods for measurement of angle of repose.               | <b>06</b> |
|            | (b) Write note on factors affecting powder flow.   | <b>05</b> |
|            | (c) Define Carr's index and hausner ratio with their pharmacopoeial specification.             | <b>05</b> |
| <b>Q.3</b> | (a) What is control chart? Explain the elements of control chart.                              | <b>06</b> |
|            | (b) Give a brief account on types of control chart.  | <b>05</b> |
|            | (c) Highlight the pharmaceutical application of control chart.                                 | <b>05</b> |
| <b>Q.4</b> | (a) Explain the importance of content uniformity and give requirements of regulatory agencies. | <b>06</b> |
|            | (b) Write sampling techniques for content uniformity.  | <b>05</b> |
|            | (c) Explain statistical treatment for finding content uniformity.                              | <b>05</b> |
| <b>Q.5</b> | (a) Explain the factors affecting pellets properties.  | <b>06</b> |
|            | (b) Write the process and equipment used for hot-melt extrusion.                               | <b>05</b> |
|            | (c) Give pharmaceutical application of Extrusion.  | <b>05</b> |
| <b>Q.6</b> | (a) Explain solid dispersion and inclusion complexes in detail.                                | <b>06</b> |
|            | (b) Explain the role of MCC in pelletization.  | <b>05</b> |
|            | (c) Explain the working principle of ram extruder with well labeled diagram.                   | <b>05</b> |
| <b>Q.7</b> | (a) Explain GAS (Gas antisolvent Recrystallization) in detail.                                 | <b>06</b> |
|            | (b) Explain the cold extrusion.  | <b>05</b> |
|            | (c) What is Eudragit? Give its role in melt extrusion.   | <b>05</b> |

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