

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.PHARM - SEMESTER- 3 EXAMINATION – SUMMER -2019****Subject Code: 230002****Date: 01-06-2019****Subject Name: Pharmaceutical Engineering - II****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) Define flow properties. Discuss about importance of powder flow in pharmaceuticals **06**  
(b) Explain Carr's Index / Compressibility index and give the pharmacopoeial specifications for it. **05**  
(c) Discuss on methods used for measurement of Angle of repose. **05**
- Q.2** (a) Discuss about uses of various excipients in different pelletization technique. **06**  
(b) Discuss techniques to improve powder flow. **05**  
(c) What is the importance of control charts in pharmaceutical processings **05**
- Q.3** (a) What is supercritical fluid? Enlist application of SCF **06**  
(b) What is Rapid Expansion of Supercritical Solution (RESS) technique? **05**  
(c) Explain various processes and equipments used in supercritical fluid application. **05**
- Q.4** (a) Draw schematic diagram of control chart and describe elements of control chart. **06**  
(b) Explain C chart and P chart for attributes. **05**  
(c) What are the advantages and limitations of Carbon dioxide as SCF? **05**
- Q.5** (a) Define extrusion and spheronization. Discuss about production of pellets by extrusion-spheronization **06**  
(b) Short note on M.C.C in pelletization. **05**  
(c) Write a note on Hot melt extrusion **05**
- Q. 6** (a) Define content uniformity. What are different sampling techniques for content uniformity test? **06**  
(b) Explain the rate holing and arching. Discuss its cases and remedies. **05**  
(c) Compare and contrast: Uniformity of dosage as per IP and USP. **05**
- Q.7** (a) Give Comment on-Supercritical fluid can improve bioavailability through dissolution enhancement. **06**  
(b) Discuss factors affecting pellet properties. **05**  
(c) What are the regulatory requirements for weight variation test for solid dosage form as per IP. **05**

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