Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – III • EXAMINATION – WINTER • 2015

Subject Code: 230002 **Date: 01-01-2016**

Subject Name: Pharmaceutical Engineering - II

Time: 10:30 am - 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.**

Q.1	(a)	Define Supercritical Fluid (SCF), Critical temperature (Tc) and Critical pressure (Pc). Give any two example of SCF with its properties.	**06**
	(b)	Explain Supercritical Fluid in Extraction.	**05**
	(c)	Write a note on RESS technology.	**05**
Q.2	(a)	Define Pellets. Explain the factors affecting pellets properties.	**06**
	(b)	Write a note on ram extruder.	**05**
	(c)	Write a note on hot melt extrusion.	**05**
Q.3	(a)	What is control chart? Explain the elements of control chart.	**06**
	(b)	What are the various types of control charts? Discuss in brief.	**05**
	(c)	Write a note on interpretation of control charts.	**05**
Q.4	(a)	Write a short note on Angle of Repose, Carr's Index and Hausner Ratio.	**06**
	(b)	Define critical orifice diameter. Describe flow through an Orifice Method.	**05**
	(c)	Discuss the factors influencing the flow of powders.	**05**
Q.5	(a)	Explain the regulatory requirements of content uniformity as per USP.	**06**
	(b)	Write sampling techniques for content uniformity.	**05**
	(c)	How do you achieve content uniformity in pharmaceuticals?	**05**
Q. 6	(a)	Give pharmaceutical application of Extrusion.	**06**
	(b)	Explain the role of MCC in pelletization.	**05**
	(c)	In constructing control chart, how to establish Control Chart limits?	**05**
Q.7	(a)	Explain statistical treatment for finding content uniformity.	**06**
	(b)	Explain GAS (Gas antisolvent Technology) in detail.	**05**
	(c)	Explain solid dispersion and inclusion complexes in detail.	**05**

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