Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. - SEMESTER–3 • EXAMINATION – SUMMER -2018

Subject code: 230002 **Date: 02/05/2018**

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)	Discuss the regulatory requirements of content uniformity as per USP and European Pharmacopoeia.	**06**
	(b)	Enumerate sampling techniques for content uniformity.	**05**
	(c)	Define content uniformity. Enumerate significance of content uniformity.	**05**
Q.2	(a)	Enumerate and explain different techniques used for improvement of powder flow.	**06**
	(b)	Define Carr's Index and Hausner's ratio with their pharmacopoeial specifications.	**05**
	(c)	Discuss the various factors affecting powder and granule flow.	**05**
Q.3	(a)	Define Control chart. Enumerate different types of control charts and discuss any one.	**06**
	(b)	Discuss the elements of Control charts.	**05**
	(c)	Enumerate Control charts for attributes and explain c chart.	**05**
Q.4	(a)	Define HME and explain its significance in Pharmaceutical Industry.	**06**
	(b)	Define pellets. Enumerate various factors affecting pellets properties.	**05**
	(c)	What is Eudragit? Explain its role in melt extrusion technology.	**05**
Q.5	(a)	Explain the term supercritical fluid, critical temperature and critical pressure with the help of a pressure temperature phase diagram.	**06**
	(b)	Name different techniques involved in micronization employing Supercritical fluid as an antisolvent.	**05**
	(c)	Define and explain pharmaceutical application of inclusion complex.	**05**
Q. 6	(a)	Explain the process of preparing Solid dispersion using supercritical fluid.	**06**
	(b)	Write advantages and disadvantages of RESS process.	**05**
	(c)	Explain applications of supercritical fluid in extraction process.	**05**
Q.7		Write a note on following:	
	(a)	Solid dispersion	**06**
	(b)	Screw extruder	**05**
	(c)	MCC in pelletization	**05**

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