

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2017

Subject Code: 2173602
Date: 02/11/2017
Subject Name: Process Technology of Drugs & Intermediates(Department Elective - VII)
Time: 10:30 AM TO 01:00 PM
Total Marks: 70
Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Briefly explain the safety considerations in Process designing.	03
	(b) What are GMPs? Why GMPs are to be followed in Pharmaceutical industries?	04
	(c) Describe in detail the factors influencing enzyme activity.	07
Q.2	(a) What are the classifications of raw materials? Briefly explain.	03
	(b) Discuss fractional distillation as a purification method.	04
	(c) Explain the different types of Process validations.	07
	OR	
	(c) Describe two API syntheses in detail where use of PTC is advantageous.	07
Q.3	(a) Briefly explain the source of Enzymes.	03
	(b) Define a reagent. List out the properties to be considered while selecting a reagent.	04
	(c) List out different types of documents required under GMP and discuss any three of them?.	07
	OR	
Q.3	(a) Explain the Use of Calorimetry in addressing reaction safety.	03
	(b) Write a brief note on Marckwald principle & Reciprocal resolutions with example	04
	(c) Explain the techniques for identifying exotherm & gas evolution.	07
Q.4	(a) List out the factors in selecting a solvent.	03
	(b) Discuss Ultra filtration & microfiltration.	04
	(c) Discuss the importance of using solvents in detail	07
	OR	
Q.4	(a) List out the selection criteria for resolving agents.	03
	(b) Discuss rate of reaction with polarity. Illustrate with suitable examples	04
	(c) What are DQ, IQ, OQ, CQ & PQ and why are they required in Pharmaceutical industry as part of GMP ?	07
Q.5	(a) Write a note on super critical liquid as solvent	03
	(b) Write a note on Simulated Bed Chromatography. Write its advantages.	04
	(c) Explain Michealis-Menton kinetics in enzyme catalysis.	07
	OR	
Q.5	(a) Briefly explain the classifications of separation process based on nature or physical mechanism of separation.	03
	(b) What is the principle of Chromatography?. Briefly explain column chromatography.	04
	(c) What are the principal factors to be considered when selecting filtration equipment. Briefly explain with diagram (1). Plate & Frame filters, (2). Rotary drum filter	07