Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM - SEMESTER– 3 EXAMINATION – SUMMER -2020

Subject Code: 2230002 Date:27-10-2020

Subject Name: Pharmaceutical Engineering

Time: 2:30 PM TO 5:30 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 factors affecting on selection of material for pharmaceutical plant.	**06**
	(b)	Explain Fourier's law.	**05**
	(c)	What is black body? Write a short note on Stefan- Boltzman's law.	**05**
Q.2	**(a)**	Classify the types of fluid flow and Explain basic equations of fluid flow.	**06**
	(b)	Differentiate between steady state and unsteady state.	**05**
	(c)	Write a detail note on combustion.	**05**
Q.3	**(a)**	Describe the role of stainless steel in Pharm. Industry	**06**
	(b)	Explain different types of graphical representation.	**05**
	(c)	Explain the terms dimension and units.	**05**
Q.4	**(a)**	Draw the diagram & explain in details about Liquid-Liquid heat Exchangers with spacer.	**06**
	(b)	Discuss the influence of mass transfer on unit operations.	**05**
	(c)	Explain Bernoulli's theorem in detail.	**05**
Q.5	**(a)**	Differentiate: U-tube manometer and inclined manometer.	**06**
	(b)	Discuss construction and working of single pass tubular heat exchanger.	**05**
	(c)	Discuss the experiment of Rota meter.	**05**
Q. 6	**(a)**	Write a theories of corrosion and its prevention	**06**
	(b)	Differentiate: forklifts and pallets.	**05**
	(c)	Describe with diagram Centrifugal pump.	**05**
Q.7	**(a)**	Write a note on gas laws with assumptions to be made.	**06**
	(b)	Explain briefly Bucket type steam trap.	**05**
	(c)	Write a short note on Reynold's number & its significance.	**05**

****