Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - WINTER • 2014

	•	Code: 151301 Date: 26-11-2014	
Tir	•	Name: Elements of Chemical Engineering 0.30 am - 01.00 pm Total Marks: 70 ns:	
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Describe classification of reactions. Explain variables that affecting the rate of reaction.	07 07
Q.2	(a) (b)	Enlist various definitions of reaction rate. Distinguish below terms: 1) Single and multiple reactions. 2) Elementary and non elementary reactions.	07 07
		OR	
	(b)	Define:1) Molecularity 2) Rate constant 3) Order of reaction	07
Q.3	(a) (b)	Short note: Temperature dependency from Arrhenius' law. Give a brief note on temperature dependency from thermodynamics.	07 07
		OR	
Q.3	(a) (b)	Briefly explain temperature dependency from collision theory. On the basis of applications give a note on batch reactor.	07 07
Q.4	(a) (b)	Shortly explain relationship between F and E curves. Experimental methods (Non chemical) for finding E. Explain	07 07
		OR	
Q.4	(a) (b)	With advantage and disadvantage explain plug flow reactor. Draw a neat figure of mix flow reactor and describe.	07 07
Q.5	(a) (b)	Define terms with equations: 1) Space Time 2) Space Velocity State various thermodynamics laws and explain concept of heat transfer in thermodynamics.	07 07
		OR	
Q.5	(a) (b)	Draw a neat sketch of plug flow reactors in parallel with proper explanation. Figure out equal size mixed flow reactors in series and explain	07 07
