Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **BE - SEMESTER-VII EXAMINATION - WINTER 2015**

S	Subject	Code: 173502 Date:12/12/2015	
T	_	Name: Safety and Hygiene in Chemical Industries 0:30am to 1:00pm Total Marks: 70	
11		Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	What is Flammability diagram? Discuss steps involved in construction of it with neat and clean diagram.	07
	<b>(b)</b>	Write a brief note about:  I. Threshold limit values II. MSDS	07
Q.2	(a) (b)	Discuss the factor affecting to the atmospheric dispersion of toxic materials. Explain various fire and explosion characteristics of materials.  OR	07 07
	<b>(b)</b>	Define: a) Vapor cloud explosion (VCE), b) BLEVE, c) Dust explosion, d) Vented explosion, e). Deflagration, f). Detonation, g). Confined VCE.	07
Q.3	(a)	What do you mean by Isopleths? Explain steps to determine isopleths with neat and clean diagram.	07
	<b>(b)</b>	Discus Puff and Plume Model for dispersion. How it is useful in case of Toxic release?	07
0.2	(-)	OR	07
Q.3	(a) (b)	What is dense gas? Discuss Britter and McQuaid dense gas dispersion model. Write a short note on evaluation of toxic effect.	07 07
Q.4	(a)	What is the significance of ERPG? Give stepwise method to determine Chemical Exposure Index?	07
	<b>(b)</b>	Which are the different type's quantitative methods for risk analysis? Discuss Fault Tree Analysis as a tool for identifying Hazard.  OR	07
Q.4	(a)	List out the methods used for qualitative risk analysis? Explain HAZOP in detail.	07
•	<b>(b)</b>	Describe various methods used for accident and loss measurement.	07
Q.5	(a)	What are the modes of entry of toxic chemicals into human body and ways of eliminating each of them from biological organisms?	07
	<b>(b)</b>	Discuss causes and lessons of Flixborough disaster with suitable diagram.  OR	07
Q.5	(a) (b)	With a neat and clean diagram explain dose vs response curve. Write a short note on Bhopal gas tragedy.	07 07

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