Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

ME- SEMESTER II - EXAMINATION - SUMMER 2015

Subject Code: 2724009 Date:03/06/ 2015

Subject Name: Cleaner Production in Rubber Industries

		PM – 5:00 PM Total Marks	: 70
Instru	2. M	ttempt all questions. [ake suitable assumptions wherever necessary. gures to the right indicate full marks.	
Q.1	(a)	Discuss in detail about the internal barriers to Cleaner Production (CP).	07
Q.1	(b) i	Answer the following Write down the elements of cleaner production. Also give benefits to Cleaner Production.	04
	ii		03
Q.2	(a)	Write about the check lists of good house keeping.	07
Q.2	(b) i ii	Draw flow diagram of crepe rubber processing. List the major environmental issues related to Natural Rubber (NR) processing sector.	04 03
Q.2	(b) i ii	OR Answer the following Draw flow diagram of latex concentrate processing. Differentiate Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD).	05 02
Q.3	(a)	How the block rubber industries with low water consumption differ from those of high water consumption?	07
Q.3	(b) i	What do you mean by CT-Criteria? Write down the CT-criterion 6 for latex industry. Write a brief note on centrifuge.	04 03
Q.3	(a)	OR How the block rubber industries with low fuel consumption differ from those of high fuel consumption?	07
Q.3	(b) i	Explain the pretreatment and primary treatment respectively to treat waste water coming from rubber industries.	04 03
Q.4	(a)	Discuss in detail about potential of Cleaner Production in Natural Rubber latex processing.	07

Q.4	(b)	Answer the following	
	i	Explain the pre cleaning operation of rubber scrap to produce block rubber.	04
	ii	List out the areas of reclaimed rubber industry where we find water consumption.	03
		OR	
Q.4	(a)	Discuss in detail about current situation and limitations of waste water treatment of Natural Rubber latex processing with advantages and disadvantages of available technologies.	07
Q.4	(b)	Answer the following	
	i	Write about the waste water generation sources of Reclaimed Rubber industry. Also mention the types of contaminants present in it.	05
	ii	Write down the full form of given terms: (i)RSS (ii) ADS	02
Q.5	(a)	Discuss in detail about the anaerobic process used to treat rubber waste water.	08
Q.5	(b)	With schematic representation, write a short note on facultative ponds. OR	06
Q.5	(a)	With labeled diagram, discuss the different types of aerobic treatment units used to treat rubber waste water.	07
Q.5	(b)	Answer the following	
	i	Write down the main typical issues associated with pond technology.	04
	ii	Write a brief note on polishing pond.	03