Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject code: 711802N Date: 17-06-2014

Subject Name: Industrial Wastewater Management

Time: 02:30 pm - 05:00 pm Total Marks: 70

Instructions:

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

Q.1	**(a)**	Enlist and explain the major barriers to extensive municipal or industrial water reuse.	**07**
	(b)	Explain how you will convince an industrialist to adopt pollution prevention and control in his industry.	**07**
Q.2	**(a)**	Differentiate between stream standards and effluent standards.	**07**
	(b)	What are the basic objectives and limitation of setting up a CETP	**07**
		OR	
	(b)	Enlist and explain the beneficial uses of river.	**07**
Q.3	**(a)**	Given an option which environmental sink will you prefer for discharge of treated effluent from dye and dye intermediate industry? Give explanation for your selection.	**07**
	(b)	Highlight the importance of strength reduction and enlist the measures to reduce the strength of the wastewater.	**07**
		OR	
Q.3	**(a)**	An industry is facing a problem of overloading of ETP. What measures will you suggest to reduce the volume of wastewater?	**07**
	(b)	Differentiate between industrial effluent and domestic sewage highlighting the quality and quantity both.	**07**
Q.4	**(a)**	Explain the importance of following processes in treatment of industrial wastewater: (i) Equalization and Proportioning (ii) Neutralization	**07**
	(b)	Enlist and explain the different steps for conservation of water in industries.	**07**
		OR	
Q.4	**(a)**	Write a short note on cleaner production in an industry.	**07**
Q.4	**(b)**	Explain the methodologies for pollution prevention in an industry.	**07**
Q.5	**(a)**	Discuss briefly the technical issues in water reuse system planning in an industry.	**07**
	(b)	List steps involved in the basic design of a CETP. Describe one of these in details.	**07**
		OR	
Q.5	**(a)**	Highlight the importance of ócharacterization of sourceô for water reuse. Explain the factors involved in characterization.	**07**
	(b)	Enlist different environmental sinks for discharge of liquid effluent and explain why discharge standards are different for different site.	**07**

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