Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII(NEW) • EXAMINATION – WINTER 2016

Subject Code:2171303 **Date:21/11/2016**

Subject Name:Industrial Water Pollution & Control

Time:10.30 AM to 1.00 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)**	What is mean by industrial water pollution? Describe what happen when waste water from industries are discharge in to nearby stream.	**07**
	(b)	Write a short note on "Basic water quality parameter required for boiler feed water and cooling water."	**07**
Q.2	**(a)**	What are the advantages of using lime slurry rather than limestone beds for neutralization?	**07**
	(b)	Explain any one control measure for controlling oil spills.	**07**
		OR	
	(b)	Why there are different discharge standards for different environment sinks? Give your comments.	**07**
Q.3	**(a)**	What is usually the greatest factor influencing an industry to reuse its waste water?	**07**
	(b)	What advantages gain by installing modern methods of monitoring waste contaminants as far as strength reduction is concern?	**07**
		OR	
Q.3	**(a)**	How does segregation reduce the strength of waste water? Give an example.	**07**
	(b)	What are the three major classification of industrial waste at industrial plant for volume reduction?	**07**
Q.4	**(a)**	Name seven major methods of neutralization, both acid and alkaline wastes. Explain in detail caustic soda treatment.	**07**
	(b)	What are the four methods of mixing to effect the equalization?	**07**
		OR	
Q.4	**(a)**	What are the objectives of proportioning of industrial waste?	**07**

	(b)	Difference between “criteria” and “standards”.	**07**
Q.5	**(a)**	A city discharges 1500 liters per second of sewage into a stream whose minimum rate of flow is 6000 liters per second. the temperature of sewage as well as water is 20^0c. the 5 day B.O.D. at 20^0 c for sewage is 200 mg/l and that of river water is 1 mg/l. the D.O.content of sewage is zero, and that of the stream is 90 % of the saturation D.O. If the minimum D.O. to be maintained in the stream is 4.5 mg/l, find out the degree of sewage treatment required. Assume the de-oxygenaration coefficient as 0.1 and re oxygenation co-efficient as 0.3.	**07**
	(b)	What is evaporation? How it is useful for treatment for strong industrial waste.	**07**

OR

Q.5	**(a)**	Derive the equation for steady state concentration of pollutant in a lake.	**07**
	(b)	Write a short note on “concept of CETP”.	**07**