Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII(NEW) EXAMINATION – SUMMER 2019

Subject Code:2171303 **Date:14/05/2019**

Subject Name:Industrial Water Pollution & Control

Time:02:30 PM TO 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)**	Difference between effluent standards and stream standards.	**03**
	(b)	Enlist the different steps for conservation of water in industries.	**04**
	(c)	Justify "why there are different discharge standards for different environmental sinks".	**07**
Q.2	**(a)**	Difference between "criteria" and "standards".	**03**
	(b)	Explain how industrial wastewaters differ from domestic wastewater.	**04**
	(c)	What are the three major classification of industrial waste at industrial plant for volume reduction?	**07**
		OR	
	(c)	What advantages gain by installing modern methods of monitoring waste contaminants as far as strength reduction is concern?	**07**
Q.3	**(a)**	Name seven major methods of neutralization, both acid and alkaline wastes.	**03**
	(b)	Explain in detail caustic soda treatment.	**04**
	(c)	What are the advantages of using lime slurry rather than limestone beds for neutralization?	**07**
		OR	
Q.3	**(a)**	Explain the secondary and tertiary benefits of pollution control.	**03**
	(b)	Write a note on 'Waste management hierarchy'.	**04**
	(c)	What is meant by industrial water pollution? Describe what happen when waste water from industries is discharged into nearby stream.	**07**
Q.4	**(a)**	Explain with the help of an example 'population equivalent'.	**03**
	(b)	How does segregation reduce the strength of waste water? Give an example	**04**
	(c)	Write a short note on "Basic water quality parameter required for boiler feed water and cooling water."	**07**
		OR	
Q.4	**(a)**	What are the objectives of proportioning of industrial waste?	**03**
	(b)	What are the four methods of mixing to effect the equalization?	**04**
	(c)	Write down wastewater characteristic of effluent generated from textile industries. Also draw suitable wastewater treatment plant for the same.	**07**
Q.5	**(a)**	Write down the limitations of land disposal of sewage.	**03**
	(b)	Write a note on "DO sag curve".	**04**
	(c)	What is Evaporation? How it is useful for treatment of strong industrial waste.	**07**
		OR	
Q.5	**(a)**	Explain the basic objective of setting up a CETP.	**03**
	(b)	Describe limitations of CETP.	**04**
	(c)	Derive the equation for steady state concentration of pollution in a lake.	**07**