Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV EXAMINATION – SUMMER 2016

Subject Code:141304 **Date:10/06/2016**

Subject Name:Water Pollution & Control

Time:10:30 AM to 01:00 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 mechanism involved in filtration process.	**07**
	(b)	Explain the sources and consequences of oil pollution.	**07**
Q.2	**(a)**	What is disinfection? Explain chlorination as a method of disinfection.	**07**
	(b)	Give the Application and classification of Grit Chamber and explain any one in detail.	**07**
		OR	
	(b)	Write a short note on Surface water pollution.	**07**
Q.3	**(a)**	(i) Give the difference between High Rate Trickling Filter & Standard Rate Trickling Filter. (ii) Explain the phenomena of sloughing in a Trickling Filter.	**07**
	(b)	Explain the sources and effects of following parameters in water and waste water: (1) Color (2) Solids (3) Organic matter	**07**
		OR	
Q.3	**(a)**	Define the terms: (i) SOR (ii) Scour velocity (iii) WOR (iv) F/M ratio (v) Hydraulic loading rate (vi) Effective size (vii) Uniformity Coefficient	**07**
	(b)	Differentiate between aerobic and anaerobic treatment processes.	**07**
Q.4	**(a)**	With the help of a neat sketch explain the different treatment units of a conventional sewage treatment plant	**07**
	(b)	Describe the experimental method to determine the optimum dose of coagulant in the laboratory	**07**
		OR	
Q.4	**(a)**	What is the Equalization? What is its importance in wastewater treatment?	**07**
	(b)	(i) What is water softening? Explain softening by chemical precipitation (ii) Give the classification of screens.	**07**
Q.5	**(a)**	Explain the construction and working of Rotating Biological Contractor along with a neat sketch.	**07**
	(b)	(i) Enlist and explain the functional zones of sedimentation tank. (ii) Differentiate between discrete settling and flocculent settling.	**07**
		OR	
Q.5	**(a)**	What is Thermal Pollution? Explain the harmful effects of thermal pollution.	**07**
	(b)	How can thermal pollution be prevented and controlled?	**07**

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