Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– III (NEW)EXAMINATION – SUMMER 2015

Subject Code:2131301 **Date: 27/05/2015**

Subject Name: Environmental Science I

Time:02.30pm-05.00pm **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)	Give differences between temporary hardness and permanent hardness.		**07**
(b)	Write a note on conductivity meter with neat & clean diagram.		**07**
Q.2(a)	Write uses of following glass wares. (i)measuring cylinder(ii)pipette(iii)Burette(iv)Desiccator(v)Test tube(vi)Reagent bottle(vii)Air condenser		**07**
(b)	How will you determine TS, TDS and TSS in waste water?		**07**
	OR		
(b)	Write a note on Zeolite method for removal of Hardness with Chemical reactions.		**07**
Q.3(a)	Write a short note on application of pH data in environmental of engineering field. Also determine pH of following solution.(i)0.02N HCl(ii)0.02M HCl (iii)0.02N H_2SO_4(iv) 0.02M H_2SO_4		**07**
(b)	Give the difference between volumetric analysis & gravimetric analysis.		**07**
	OR		
Q.3(a)	Give difference between accuracy and precision with appropriate examples.		**07**
(b)	Explain in detail different kinds of errors occurring in determination various parameter.		**07**
Q.4(a)	Explain with suitable examples.(i) molarity(ii) molality(iii)Normality(iv)ppm		**07**
(b)	Discuss characteristics of primary standard substances and secondary standard substances with examples.		**07**
	OR		
Q.4(a)	What is pH scale? Describe the procedure of calibration of pH meter.		**07**
(b)	Explain Henry's Law & Dalton's Law.		**07**
Q.5(a)	Explain oxidation-reduction method in volumetric analysis with suitable example.		**07**
(b)	Discuss precipitation titration and Mohr's method.		**07**
	OR		
Q.5(a)	How will you prepare (i) 200ml 0.02N H_2SO_4, from given 36N H_2SO_4 solution. (ii)750ml 0.5MHCl from given 17 N HCl solution.		**07**
(b)	With neat & clean diagram explain Distillation process.		**07**

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