Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III(New) EXAMINATION – SUMMER 2016

Subject Code:2131301 **Date:27/05/2016**

Subject Name:Environmental Sciences I

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		**Short Questions**	**14**
	1	Define Henry's law.	
	2	Define Molarity.	
	3	Define Molality.	
	4	Define Normality.	
	5	What is Solution?	
	6	What is Precipitation?	
	7	What is Concentration?	
	8	What is Filtration?	
	9	What is Chemical bond?	
	10	What is Oxidation state?	
	11	What is Desiccation?	
	12	What is Acidity?	
	13	What is Valency?	
	14	What is Hardness for water?	
Q.2	**(a)**	What is Quantitative analysis?	**03**
	(b)	Describe Familiarization of Laboratory.	**04**
	(c)	Write a short note on Zeolite method for removal of Hardness.	**07**
		OR	
	(c)	Write a short note on Kjeldahl Method.	**07**
Q.3	**(a)**	What do you mean by Total Solids?	**03**
	(b)	Explain application of Henry's law in Environmental Engineering field.	**04**
	(c)	Differentiate between Primary standards and Secondary standards.	**07**
Q.3	**(a)**	Enlist glassware used in Laboratory.	**03**
	(b)	What is the significance of calibration of Laboratory instruments?	**04**
	(c)	Differentiate between Gravimetric analysis and Volumetric analysis.	**07**
Q.4	**(a)**	What is Equivalent weight?	**03**
	(b)	Give applications of Gravimetric analysis in Environmental Engineering field?	**04**
	(c)	Explain Mohr's method for determination of Chlorides.	**07**
		OR	
Q.4	**(a)**	Enlist Characteristics of common laboratory chemicals.	**03**
	(b)	Explain Oxidation and Reduction with suitable example.	**04**
	(c)	Explain Dalton's law in detail.	**07**
Q.5	**(a)**	Enlist various instruments used for water and waste-water analysis.	**03**
	(b)	How will you determine Total Dissolved Solids from wastewater?	**04**
	(c)	Write a short note on Conductivity Meter.	**07**

OR

Q.5	**(a)**	What is Distilled and High purity water?	**03**
	(b)	What do you mean by Precision and Accuracy?	**04**
	(c)	Write a short note on Nephelo Turbidity Meter.	**07**

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