

Seat No.: _____
No. _____

Enrolment

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-III • EXAMINATION – SUMMER 2014

Subject Code: 131301

Date: 30-05-2014

Subject Name: Environmental Science-I

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) Find the PH of following solutions: 07
(i) 0.2M HCl, (ii) 0.2N HCl, and (iii) 0.2N NaOH
(b) Write a short note on “Standard Methods for water and wastewater analysis” 07
- Q.2** (a) Define atomic weight and equivalent weight. Calculate molecular weight of $MgSO_4$ and H_2SO_4 07
(b) What do you mean by Distilled water & Demineralized water? Write the method for preparation of demineralized water. 07
- OR**
- (b) Explain Henry’s Law in detail. 07
- Q.3** Write the uses of following instruments 14
(i) High volume Air Sampler (ii) Hot Air Oven, (iii) BOD Incubator (iv) TOC analyzer, (v) High Performance Liquid Chromatography, (vi) Stack Monitoring Kit, (vii) Auto Exhaust Analyzer
- OR**
- Q.3** Write the uses and capacity of following glass wares: 14
(i) Volumetric flask, (ii) Measuring flask, (iii) Desiccators, (iv) COD flask, (v) Brown colour Reagent Bottle, (vi) Condenser, (vii) Distillation flask
- Q.4** (a) Write the significance of PH data in water and wastewater treatment. 07
(b) Explain the sources of Turbidity in River Water. 07
- OR**
- Q.4** (a) Write the importance of calibration of glass wares and instruments. 07
(b) Explain methods for washing of laboratory wares. 07
- Q.5** (a) Write a short note on Spectrophotometer with figure. 07
(b) Enlist glassware for titration process and list the available capacities. 07
- OR**
- Q.5** (a) Differentiate chemical and microbiological analysis. 07
(b) Write a short note on conductivity meter with figure 07
